British Association for the Advancement of Science.

Circular No. 20, *issued by the Seismological Committee*, Professor H. H. Turner, *F.R.S.* (*Chairman*), Mr. John Milne, *F.R.S.*, *Shide, Isle of Wight* (*Secretary*).

Contents.

I. *General Notes on Registers from Similar Horizontal Pendulums* (*Milne Type*).

The following registers are continuous with those published by the Seismological Investigation Committee in their first nineteen circulars and in the Reports of the Association, 1896 to 1899.

If observers will kindly send a copy of their register, together with copies of their more important seismograms, to the Secretary of the Seismological Investigation Committee, British Association, Burlington House, London, W., as early as possible after June 30, *and again after December* 31 *of each year, the interval of time which must elapse before they receive copies of the registers of co-workers in various parts of the world will be considerably reduced.*

The time employed is Greenwich mean time (civil), expressed in hours, minutes, and in decimals of minutes. 24 or 0 hours = midnight.

Amplitude indicates half of the complete range of the maximum motion, and is expressed in millimetres. Values less than 1 millimetre refer to the thickening of the line and indicate half its width.

As 1° turn of the calibrating screw in the bed-plate of the instrument causes a tilt of 1″·9, and as this is accompanied by a measurable displacement of the outer end of the boom, it is easy to determine the angular value corresponding to a 1 millimetre displacement. This quantity should be stated at the end of each register.

II. *Registers.*

The Register from Shide, Newport, Isle of Wight, England.

Director, John Milne; *Assistants*, Messrs. Hirota and Burgess.

The following entries refer to records obtained from three pendulums, A, B, and C. The periods and "sensibilities" or deflections for 1° turn of the calibrating screw were as follow:—

A. Period 13 seconds. 1° turn = 2mm., January 1 to March 22, 1909;
,, 22 ,, ,, 9mm., March 22 to April 3;
,, 20 ,, ,, 7·5mm., April 3 to June 30.

B. Period 18 seconds. 1° turn = 6mm.

C. Period 22 or 23 seconds from Jan. 1 to May 3; 18 seconds from May 3 to June 30. This pendulum records N.S. motion and is without a calibrating screw. A and B record E.W. motion.

Ats. = Air tremors. P_2 refers to the commencement of the second phase of motion. d. = duration. a. = amplitude.

All entries refer to disturbances recorded not only at Shide, but also at one or more other stations. Records only obtained at Shide have been excluded.

No.	Date	Commencement	Max.	Max. Amplitude	Duration	Remarks
		1909				
		h. m.	h. m.	mm.	h. m.	
1674	Jan. 2	—	17 0	0·1	—	B and C. Jamaica.
1675	,, 3	15 0	15 39	0·1	1 45	A.
		15 0	15 38	0·1	2 0	B & C. With Ats.
1676		22 10	22 29	0·1	0 45	A.
		22 8	22 30	0·1	0 50	B.
		22 14	22 35	0·2	0 50	C.
1677		23 9	23 18	0·1	0 50	A.
		—	23 27	0·2	—	B. With Ats.
		—	23 15·5	—	—	C. With Ats.
1678	,, 4	15 32	—	0·1	0 30	A. Jamaica.
		15 31·5	—	0·1	0 34	B and C.
1679		21 48	—	0·1	0 12	A. B and C. light out
1680	,, 5	7 25	7 50	0·1	2 0	A.
		7 45	7 48	0·5	2 0	B.
		7 48·5	7 55	1·2	2 0	C.

The Register from Shide, Newport, Isle of Wight, England—continued.

No.	Date	Commencement	Max.	Max. Amplitude	Duration	Remarks
		H. M.	H. M.	MM.	H. M.	
1681	Jan. 6	8 17·5	—	—	0 33	A.
		8 17·5	8 21	0·3	0 28	B.
		8 17	8 20·5	0·5	0 30	C.
1682		14 41·5	14 45·5	> 0·1	0 20	B and C.
1683		15 55	—	—	0 21	,,
1684		16 44	—	0·1	0 6	,,
1685		—	21 0	—	—	A.
		20 58	21 0	0·1	0 6	B and C.
1686	,, 7	—	20 54	0·1	—	A, B and C. Jamaica.
1687	,, 8	6 0	—	—	1 15	A.
		—	6 13	0·1	—	B and C. With Ats.
1688	,, 9	18 39	—	—	0 20	A
		18 38·5	18 44	0·2	0 22	B and C.
1689	,, 10	11 9·5	—	—	2 0	A.
		11 6	—	—	2 0	B.
		11 8·5	—	—	2 0	C.
1690	,, 13	0 50·5	0 53·5	0·1	0 23	B and C.
1691	,, 15	14 17·5	—	0·1	0 18	A.
		—	14 31·5	0·2	—	B. With Ats.
		14 18·5	14 32	0·2	0 54	C.
1692		16 57	—	—	2 0	A.
		16 57·5	—	—	—	B. With Ats.
		16 57·5	17 37	0·5	—	C. With Ats.
1693	,, 19	5 1·5	5 15	0·6	1 0	A. Smyrna.
		—	5 10	0·7	—	B and C. do.
1694	,, 20	16 23	16 36	0·2	0 40	A.
		—	16 32	0·1	—	B. With Ats.
		—	16 36	0·2	—	C. ,,
1695	,, 21	3 26·5	3 30	0·1	1 7	A.
		3 33·5	3 50	0·1	1 10	B.
		3 33	3 47	0·3	1 7	C.
1696		—	18 53	0·1	—	A, B and C. Jamaica.
1697		21 58	22 8	0·1	1 3	A.
		—	22 4	0·1	—	B.
		21 58	22 6·5	0·2	1 0	C.
1698	,, 22	2 33	2 38·5	0·1	1 30	A.
		—	2 38·5	0·2	—	B and C.
1699		13 30	13 41	0·1	0 48	A, B and C.
1700		21 32·5	—	—	0 30	A.
1701	,, 23	2 55·5	3 16·5	8·5	4 0	A and B. Persia.
		2 55·5	3 13·5	7·0	4 0	C. ,,
1702		15 25	—	—	0 6	A. Jamaica.
		15 24·5	15 26	0·1	0 15	B and C.
1703	,, 24	4 51	—	—	0 7	A. B and C slight.
1704		6 20	—	—	0 17	,,
1705		18 11	18 22	0·1	0 21	B. A changing paper
		18 12	18 21	0·1	0 30	C.
1706	,, 26	15 25·5	—	—	0 10	A, B and C
1707	,, 29	1 18	2 1	0·1	1 30	A.
		1 13	2 1·5	0·5	2 0	B.
		1 15	2 1·5	0·5	2 0	C.
1708		13 47·5	14 3·5	0·1	1 6	A.
		13 47·5	14 5	0·2	2 0	B.
		13 48·5	14 5·5	0·2	2 0	C, also other small tremors
1709	,, 30	4 50	—	—	0 50	A, B and C.
1710		—	12 43	—	—	A, B and C. Jamaica.

The Register from Shide, Newport, Isle of Wight, England—continued.

No.	Date	Commencement	Max.	Max. Amplitude	Duration	Remarks
		H. M.	H. M.	MM.	H. M.	
1711	Jan. 30	20 53	—	—	0 7	A. Messina earthquake; also earthquake at Jamaica.
		20 46·5	—	—	0 20	B. Messina earthquake; also earthquake at Jamaica.
		20 47	—	—	0 20	C. Messina earthquake; also earthquake at Jamaica.
1712	Feb. 1	—	3 5·5	0·1	—	A. Jamaica
		—	3 1·5	0·1	—	B and C. ,,
1713		—	10 14	0·1	—	A, B & C. ,,
1714		—	12 56	0·1	—	C. ,,
1715	,, 2	—	16 3	0·1	—	A. ,,
		—	16 0·5	0·2	—	B and C. ,,
1716	,, 4	11 46	11 53	0·1	0 23	A.
		11 46	12 1	0·2	1 0	B.
		11 44	12 3	0·2	1 0	C.
1717	,, 5	14 12	14 24	0·5	0 43	A.
		14 13	14 24	0·1	0 45	B and C. C a.=0·3
1718	,, 9	11 30	11 45	4·0	1 40	A.
		11 26	11 45	4·0	1 50	B.
		11 26	11 45	5·0	1 50	C.
1719		14 49	15 0	1·5	1 45	A.
		14 46	15 0	2·0	1 45	B and C.
1720	,, 10	—	7 46	0·1	—	A. Jamaica.
		—	7 43	0·2	—	B and C. ,,
1721		19 51	20 12	1·0	2 0	A.
		19 51	20 10·5	1·0	3 0	B and C.
1722	,, 11	—	5 24	0·1	—	A. Jamaica.
		—	5 32	0·1	—	B and C. ,,
1723		—	15 39	0·5	—	A, B and C.
1724	,, 13	—	5 17·5	1·0	—	A. B & C light out.
1725		6 14	6 27	0·5	0 45	A. B & C light out. Sotchi, Suchum.
1726		19 31·5	19 35	0·2	0 18	A. Messina.
		19 31	19 34	0·2	0 23	B.
		—	19 36	0·2	—	C. With Ats.
1727	,, 14	—	15 54	0·6	—	A. S. Bulgaria?
		15 49	15 53	0·6	1 0	B and C. ,,
1728	,, 15	1 16	1 31	0·4	0 45	A. B & C light out.
1729		9 39	9 47·5	0·6	0 35	A.
		—	9 45·3	0·6	—	B. Light bad.
		—	9 45	1·0	—	C. Light bad.
1730	,, 16	8 19	8 45	0·5	1 22	A.
		8 18·5	8 45	0·6	1 22	B and C.
1731		17 5	17 10	0·5	0 30	A.
		17 3	17 10	0·5	0 30	B and C.
1732	,, 18	16 57·5	17 0	0·1	0 9	A.
		16 56	17 0	0·1	0 14	B and C.
1733	,, 19	10 17	10 21·5	0·2	0 30	A.
		10 17	10 22	0·3	0 50	B.
		10 15·5	10 21	0·5	0 50	C.
1734	,, 20	—	22 41·5	0·1	—	A.
		22 26	22 40·5	0·3	1 0	B.
		22 23	22 39	0·5	1 0	C.
1715	,, 22	9 53	10 6·5	0·6	2 0	A.
		9 52·5	10 6	0·7	2 30	B.
		9 53·5	10 10	0·6	2 30	C.
1736		14 30	14 38	0·5	1 0	A.
		14 21	14 37	0·6	1 30	B and C.
1737		21 58	22 3·5	0·1	0 35	A.
		21 53	22 2	0·3	0 45	B and C.

The Register from Shide, Newport, Isle of Wight, England—continued.

No.	Date	Commencement	Max.	Max. Amplitude	Duration	Remarks
		H. M.	H. M.	MM.	H. M.	
1738	Feb. 26	16 59	17 46	0·5	2 0	A. West Indies?
		16 58·5	17 38	1·0	3 0	B do. C off scale.
1739	,, 27	10 8	10 10·5	0·1	0 10	A.
		10 4	10 10·5	0·5	0 17	B and C.
1740		—	11 28	0·1	—	B and C. Jamaica.
1741	Mar. 1	—	8 55	0·1	—	A. B & C light out.
1742		11 58	12 1	0·1	0 10	A.
		11 59	12 1·5	0·1	0 20	B and C.
1743		15 2	15 13·5	0·2	0 40	A.
		15 1	15 13	0·3	0 49	B and C.
1744	,, 2	7 49	7 54	0·1	0 12	A and B.
		7 52	7 54	0·1	0 8	C.
1745		—	9 38	0·1	—	A, B & C. Jamaica.
1746	,, 4	7 25	7 27	0·1	0 7	A & C. For B, a. = 0·2, d. = 8m.
1747	,, 5	12 12	12 16·5	0·1	0 13	A.
		12 4·5	12 15·5	0·1	0 23	B and C.
1748		12 35	12 37·5	0·1	0 25	A. B and C, a. = 0·2, d. = 26m.
1749	,, 6	9 6	9 14	0·1	—	A, B and C. Jamaica.
1750	,, 7	—	9 13	0·1	—	,, ,,
1751		18 59	19 30	0·5	1 10	A.
		18 58	19 12	0·5	1 10	B.
		18 45·5	19 15	0·6	1 10	C.
1752		20 45·5	20 48·5	0·2	0 22	A.
		20 36·5	20 48·5	0·2	0 36	B.
		20 36·5	20 47·5	0·2	0 50	C.
1753	,, 8	11 44·5	12 9	0·2	2 35	A.
			12 46			
		11 27	12 4·5	0·2	3 0	B.
			12 54	0·4		
		11 27	12 4·5	0·2	3 0	C.
			12 48·5	0·5		
1754	,, 9	8 29	8 31·5	0·1	0 15	A.
		8 28	8 30·5	0·2	0 22	B.
		8 28·5	8 30	0·1	0 18	C.
1755	,, 11	0 4	0 55	0·5	2 0	A, B and C.
1756		21 22	21 28·5	0·2	0 40	A.
		21 18	21 28·5	0·3	0 42	B.
		21 17·5	21 26·5	0·4	0 46	C.
1757	,, 12	1 15	1 20·5	0·2	1 10	A.
		1 10·5	1 20·5	0·3	1 30	B.
		1 11	1 19	0·4	1 30	C.
1758	,,12-13	23 32	0 18	1·4	3 0	A. Origin 1100 miles
		23 31·5	0 16	1·5	3 0	B. off Awa-Kazusa,
		23 31·5	0 17·5	2·0	3 0	C. Japan.
1759		3 29	—	—	0 30	A.
		3 29	3 36	0·1	0 30	B.
		3 24·5	3 31	0·1	0 35	C.
1760		14 42	15 32	1·5	3 10	A.
		14 42	15 30	2·0	3 20	B.
		14 41·5	15 23·5	3·5	3 20	C.
1761	,, 15	—	0 59	0·1	—	A and B. Jamaica.
1762	,, 16	9 11	9 29	0·1	1 0	A.
		9 10	9 30	0·1	1 0	B and C.
1763	,,17-18	23 13	23 24	0·5	3 0	A.
			0 3·5			

The Register from Shide, Newport, Isle of Wight, England—continued.

No.	Date	Commencement	Max.	Max. Amplitude	Duration	Remarks
		H. M.	H. M.	MM.	H. M.	
1763	Mar.17-18	23 12·5	0 12·5	1·0	3 15	B.
		23 12·5	0 2	1·0	3 20	C.
1764	,, 19	7 13	7 16	0·1	0 16	A.
		7 10	7 16	0·1	0 16	B.
		7 11	7 19	0·1	0 27	C.
1765		19 6·5	19 10	0·1	0 20	A.
		19 6	19 9	0·1	0 24	B and C.
1766	,, 22	5 7·5	5 32	0·3	1 0	A.
		5 6	5 29	0·5	1 15	B.
		5 5	5 30	0·6	1 17	C.
1767		20 27	21 0	0·8	1 12	A.
		20 27	21 3	0·8	1 30	B and C.
1768		22 30	23 4	0·1	1 45	A. B and C light bad.
			23 41	0·3		
1769	,, 27	14 34	14 39	0·5	0 17	A. B and C light out.
1770	,, 29	—	11 19	—	—	B and C. Jamaica.
1771	April 3	2 44	2 46	0·6	0 12	A.
		2 43	2 46	0·6	0 20	B & C. d. for C=15m.
1772	,, 10	5 45	6 48	2·5	3 0	A.
		5 45·5	6 52	1·0	3 15	B.
		5 45	6 47	4·2	4 0	C.
1773		18 42	19 21	1·2	—	A.
		18 42·5	19 23·3	1·2	—	B.
		18 42·5	19 19·5	1·2	—	C.
1773a	,, 10	—	20 25	4·0	—	A.
		—	20 29·5	2·0	—	B.
		—	20 24·7	2·6	—	C.
1774	,, 11	4 17	4 29·5	1·0	—	A and B. With Ats.
		4 15	4 26	1·2	—	C. ,,
1775		14 11	14 50	0·5	1 10	A.
		14 15·5	14 55	0·5	1 30	B.
		14 12	14 50	0·6	1 30	C.
1776		20 33·5	20 45	0·2	0 45	A.
		20 35	20 45	0·1	0 45	B.
		20 38	20 44	0·2	0 50	C.
1777	,, 12	2 4	2 39	0·5	1 40	A.
		1 44·5	2 31	0·3	2 15	B.
			2 50	0·5		
		1 43·5	2 30	1·1	2 15	C.
			2 50	0·5		
1778		4 40 to			—	Lima.
		10 45	—			
1779		—	20 23	0·1	—	B & C. A not working.
1780	,, 13	23 16	23 37·5	0·5	1 5	A.
		23 14·5	23 36·5	0·3	—	B.
		23 17·5	23 38	0·5	1 10	C.
1781	,, 14	20 2	20 50	1·2	2 0	A & B. N.E. Formosa.
		20 2	20 51	2·0	2 0	C.
1782	,, 18	1 5·5	1 10	0·2	0 20	A and B.
		0 55·5	1 1	0·2	0 25	C.
1783	,, 19	—	1 18	0·1	—	A and C. Jamaica.
1784	,, 22	1 17·5	1 22	0·2	0 33	B. A not working.
		1 16·5	1 20	0·2	0 15	C.
1785	,, 23	17 45	17 47	3·0	1 30	A. Near Lisbon.
		17 44·5	17 47·8	2·5	1 30	B. ,,
		17 44	17 47·5	3·0	1 30	C. ,,

The Register from Shide, Newport, Isle of Wight, England—continued.

No.	Date	Commencement	Max.	Max. Amplitude	Duration	Remarks
		H. M.	H. M.	MM.	H. M.	
1786	April 25	1 44	1 48·5	0·3	0 33	A.
		1 42	1 48·5	0·4	0 40	B.
		1 42	1 50·5	0·5	0 33	C.
1787		22 47	22 59	0·5	0 38	B. A not working.
		22 44	22 50	0·5	0 43	C.
1788		—	23 49·5	1·2	—	B. A not working.
		23 29 ?	23 49·5	1·2	1 30?	C.
1789	,, 26	21 28	—	—	0 25	A. GermanCamaroons?
		21 28	21 38	0·1	0 23	B. ,, ,,
		21 28	21 36	0·2	0 30	C. ,, ,,
1790	,, 27	13 3	14 1	6·0	3 45	A.
		13 2	14 2	2·6	4 10	B.
		13 2	14 0	4·0	4 10	C.
1791	,, 29	—	23 37	1·2	—	A. Large Ats.
		—	23 47	1·0	—	B. ,, ,,
		—	23 45·5	1·2	—	C. ,, ,,
1792	May 2	—	8 42	0·1	—	A, B, and C.
1793		19 10	19 45	0·4	2 0	,, ,,
1794		—	23 0	0·1	—	,, ,,
1795	,, 5	2 56	3 10	0·3	1 0	A and B.
		2 55	3 13	0·5	1 0	C.
1796	,, 6	3 21	3 26·5	0·2	0 40	B and C. A not working.
1797	,, 8	2 27	2 27	0·3	0 30	B and C. A not working.
1798		—	5 12	0·2	—	B. } Messina?
		—	5 7	0·2	—	C. }
1799		—	6 20	0·5	—	B and C. ,,
1800	,, 10	13 30	13 42·5	0·2	0 22	} ,, ,, } 14.6 to 14.32 movement on B and C.
1801		21 8	21 13	0·1	0 27	A.
		21 6	21 11	0·2	—	B.
		21 8	21 11	0·2	—	C.
1802	,, 11	14 34·5	14 37	0·2	1 0	B. A very slight.
		14 34·5	14 40	0·2	1 5	C.
1803		20 10	20 18	0·1	0 20	A and B.
1804		—	22 48	0·1	—	A and C.
1805	,, 12	0 19·5	0 30	0·5	2 45	A.
		0 17	0 30	0·5	2 45	B.
		0 16	0 30	0·5	2 45	C.
1806		—	5 29	0·2	—	A, B, and C.
1807	,, 13	14 1	14 1·5	0·3	0 11	,, ,,
1808		14 15	14 20	0·2	1 15	,, ,,
1809	,, 14	—	0 44	0·2	—	B and C. Jamaica.
1810		—	16 42	0·1	—	,, ,,
1811	,, 17	—	1 6	0·1	—	A, B, and C. ,,
1812		8 16	8 27·7	2·5	3 30	A and B.
		8 16·2	8 26·5	1·5	3 30	C.
1813	,, 18	17 15	17 27	1·0	—	A, B, and C.
1814		18 46	18 54	1·0	0 30	A.
		18 41	18 53	1·2	1 5	B.
		18 47	18 53	1·2	1 20	C.
1815	,, 20	9 10	9 14	0·2	—	A. B and C light bad.
1816	,, 21	7 28·5	8 4·5	0·2	0 25	A, B, and C. d. for B and C = 42m.
1817		—	12 29	0·1	—	A, B, and C.

The Register from Shide, Newport, Isle of Wight, England—continued.

No.	Date	Commencement	Max.	Max. Amplitude	Duration	Remarks
		H. M.	H. M.	MM.	H. M.	
1818	May 21	16 5	16 8·5	0·1	0 18	A, B, and C. d. for B = 28m., d. for C = 36m.
1819		—	{ 23 26	0·1	—	A, B, and C.
			{ 23 33	0·1	—	,, ,,
1820	,, 23	—	4 10	0·1	—	} ,, ,,
		—	4 35	0·1	—	}
1821		—	6 17	0·3	—	A.
		—	6 15	0·4	—	B.
		—	6 11	0·3	—	C.
1822		—	6 52	0·1	—	A, B, and C. Jamaica.
1823		11 34	11 43·5	0·5	0 31	A.
		11 30·5	11 43	0·6	0 37	B and C.
1824		—	{ 19 14	—	—	} A, B, and C.
			{ 19 34			}
1825	,, 25	4 35	{ 5 30	0·2	2 5	,, ,,
			{ 5 40	0·5		
			{ 6 9·5	1·0		
1826	,, 26	—	3 24	1·2	—	,, ,,
1827	,, 28	—	0 59	0·1	—	,, ,,
1828	,, 29	11 11	11 14	0·1	0 10	B and C. d. for C = 10m. Jamaica.
1829		—	{ 11 27 to 11 55	—	—	} A. B. and C. Jamaica.
1830		—	13 48	0·1	—	A.
		—	13 50	0·1	—	B.
		—	13 48·5	0·1	—	C.
1831	,, 30	—	6 28	1·0	—	A, B, and C.
1832		21 20	{ 21 33	0·5	3 0	A.
			{ 22 14	1·0		
		21 20·5	{ 21 34	0·5	3 0	B.
			{ 22 18	1·0		
		21 21·5	{ 21 33	0·3	3 0	C.
			{ 22 19	1·0		
1833	,, 31	6 3	6 5	0·5	0 17	A, B, and C.
1834		—	6 29	0·2	—	,, ,,
1835		7 0	7 5	0·5	0 38	,, ,,
1836		9 40	9 45	0·3	0 22	,, ,,
1837	June 1	8 2	8 7	0·1	0 15	,, ,,
1838		10 48	10 52	0·1	0 15	,, ,,
1839	,, 1	—	12 2	0·1	—	,, ,,
1840		14 6 to 16 18	—	—	—	—
1841	,, 2	—	3 49	0·1	—	A, B, and C.
1842		—	8 31	0·2	—	,, ,,
1843		—	10 33	0·2	—	,, ,,
1844	,, 3	18 58·5	19 54	10·0	5 0	A.
		18 58·5	19 40	5·0	5 0	B.
		18 58·5	19 52	8·0	5 0	C.
1845	,, 4	—	16 21·5	0·2	—	A, B, and C.
1846	,, 5	—	19 34	0·1	—	A and B.
		19 33	19 39	0·1	0 16	C.
1847	,, 6	—	3 11	0·1	—	A, B, and C.
1848		5 25·5	6 7·5	0·6	2 8	A. B and C, light out.
1849	,, 7	—	11 19	0·1	—	A, B, and C.

The Register from Shide, Newport, Isle of Wight, England—continued.

No.	Date	Commencement	Max.	Max. Amplitude	Duration	Remarks
		H. M.	H. M.	MM.	H. M.	
1850	June 7	20 56	21 7	0·1	1 10	A.
		20 52	21 7	0·2	1 28	B.
		20 55	21 4	0·1	1 5	C.
1851	„ 8	6 0	6 45	6·0	4 15	A.
		6 0	6 44	1·2	4 15	B.
		6 0	6 45.5	3·5	4 30	C.
1852	„ 9	0 49	1 26.5	1·2	2 54	A.
		0 48.5	1 25.5	0·6	2 45	B.
		0 47	1 26	0·7	2 53	C.
1853		12 3	12 11	0·1	0 30	A, B, and C.
1854	„ 10	8 32	8 38	0·5	0 30	A, B, and C. d. for B and C = 45m.
1855	„ 11	21 8	21 12	2·5	1 15	A.
		21 9.5	21 11.5	2·5	1 15	B.
		21 8.5	21 12	2·5	1 25	C.
1856	„ 12	7 24	7 51	0·2	—	A, B, and C. Spain and Portugal?
1857		9 48	9 51	0·1	0 18	A, B, and C.
1858		—	11 40	0·1	—	„ „
1859		21 0	22 0	0·7	3 0	A and C." B Light out
1860	„ 13	19 37	19 50	0·2	1 0	A, B, and C.
1861	„ 14	8 16	8 52	0·3	1 6	„ „
1862		—	10 37	0·1	—	„ „
1863		16 0	16 12	0·2	0 4	„ „
1864		—	19 36	0·1	—	A and B.
1865	„ 15	—	5 55	0·1	—	A, B, and C.
1866	„ 15	—	6 47	0·1	—	„ „
1867		7 1	7 6	0·5	0 43	„ „
1868		—	9 45	0.1	—	„ „
1869		11 31	11 41	0·1	0 28	„ „
1870		13 34	13 37	0·2	0 25	„ „
1871		—	14 44	0·1	—	„ „
1872		—	21 57	0·1	—	„ „
1873		23 36·5	23 45·5	1·0	1 0	„ „
1874	„ 16	—	4 34	0.1	—	„ „
1875		—	5 55	0·1	—	„ „
1876		6 41	6 48	0·1	0 20	„ „
1877		—	9 10	0·1	—	„ „
1878		9 55	9 56	0·1	0 12	„ „
1879		11 36	11 41	0·1	0 14	„ „
1880		—	13 38	0·1	—	„ „
1881	„ 17	—	4 50	0·1	—	„ „
1882		—	6 55	0·1	—	„ „
1883		—	14 58	0·1	—	„ „
1884		15 56	16 2	0·1	0 22	„ „
1885		—	22 50·5	0·1	—	„ „
1886	„ 18	—	8 40	0·1	—	„ „
1887	„ 19	—	14 30·5	0·1	—	„ „
1888		17 57	18 0	0·2	0 25	„ „
1889	„ 21	6 23	6 25	0·1	0 14	„ „
1890		—	11 5	0·1	—	„ „
1891	„ 22	—	0 24	0·1	—	„ „
1892		11 35	11 49	0·1	0 30	„ „
1893		13 21	13 33	0·3	—	„ „
1894		—	14 2	1·0	—	„ „
1895		—	18 24	0·1	—	„ „

Register from Shide, Newport, Isle of Wight, England—continued.

No.	Date	Commencement	Max.	Max. Amplitude	Duration	Remarks
		H. M.	H. M.	MM.	H. M.	
1896	June 23	—	5 2	0·1	—	A, B, and C.
1897		9 31	9 36	0·1	0 15	„ „
1898		11 11	11 15	0·1	0 37	„ „
1899		—	21 5·5	0·1	—	„ „
1900	„ 24	0 58	1 6	0·1	0 15	„ „
1901		7 44	7 49	0·3	0 26	„ „
1902		9 20	9 32	0·1	0 30	„ „
1903		10 12	10 20	0·2	0 31	„ „
1904	„ 24	—	14 58	0·1	—	„ „
1905	„ 25	4 39	4 42	0·1	0 20	„ „
1906		5 19	5 21	0·2	0 20	C.
1907		14 37	14 40	0·1	0 16	A. B, and C.
1908	„ 26	9 5	9 11	0·1	0 17	C.
1909		—	20 16	0·1	—	A, B, and C.
1910	„ 27	7 34·5	8 47·5	1·2	3 25	A.
			9 9	1·0		
		7 35·5	8 47·5	1·0	3 45	B.
			9 9	1·0		
		7 35·5	8 53	1·0	3 45	C.
			9 4	1·0		
1911	„ 29	—	2 37	0·1	—	A, B, and C. Jamaica.
			2 46	0.1	—	
1912		9 49	9 58	0·1	1 0	A, B, and C.
1913	„ 30	4 0	4 5	0·1	0 15	„ „
1914		4 41	4 56	0·1	1 20	„ „

Register from The National Physical Laboratory, Kew Observatory. Director, R. T. GLAZEBROOK, *D.Sc., F.R.S.*; *Superintendent*, C. CHREE, *LL.D., F.R.S.*; *Observer*, E. G. CONSTABLE.

B.O.T. = Broadening of trace.

No.	Date	Commencement	Max.	Max. Amplitude	Duration	Remarks
			1909			
		H. M.	H. M.	M.M.	H. M.	
874	Jan. 2	14 0·5	—	—	0 3	B.O.T.
		15 27·5	—	—	0 3	,,
875	,, 3	22 40·5	—	—	0 4	,,
876	,, 4	22 27	—	—	0 5	,,
877	,, 5	7 49.5	—	—	0 6	,,
878	,, 6	15 48	—	—	0 15	,,
879	,, 6	17 57·5	—	—	0 12	,,
880	,, 9	18 52·5	—	—	0 5	,,
881	,, 15	14 35	—	—	0 9	,,
882	,, 20	16 31.5	—	—	0 5	,,
883	,, 21	22 28.5	—	—	0 8	,,
884	,, 23	2 57.2	3 16·9	7·0	1 48	
885	Feb. 4	11 52.5	—	—	0 5	B.O.T.
886	,, 9	11 37·2	11 49·2	1·0	0 28	
887	,, 9	15 8	—	—	0 10	Seismic character doubtful.
888	,, 10	20 10	—	—	0 5	B.O.T.
889	,, 14	15 53·7	15 59	0·5	0 11	
890	,, 15	1 30·5	—	—	0 5	B.O.T.
891	,, 15	9 45·5	—	—	0 15	,,
892	,, 16	8 43	—	—	0 7	,,
893	,, 18	16 57·5	—	—	0 6	,,
894	,, 22	9 57	10 6·5	0·5	0 46	Ill-defined.
895	,, 26	17 33·5	—	—	0 12	B.O.T.
896	Mar. 6	15 7·5	? —	—	0 5	,,
		15 52·5	? —	—	0 5	
		17 22	—	—	0 5	
897	,, 7	19 25·5	—	—	0 10	,,
898	,, 11	0 47·3	0 59	0·7	0 22	
899	,, 11	21 44·5	—	—	0 5	B.O.T.
900	,,12-13	23 44·8	0 14·8	1·5	1 25	
901	,, 13	14 58	15 20·5	1·5	0 55	Times somewhat approximate.
902	,, 16	19 31	? —	—	0 9	B.O.T.
903	,, 18	0 23·5	—	0·3	0 30	Ill-defined.
904	,, 19	18 59·5	—	—	0 8	B.O.T.
905	,, 22	20 53·3	20 58.7	0·5	0 27	Ill-defined.
906	,, 27	11 21	? —	0·5	0 12	Seismic character doubtful.
		12 11·5	? —		0 12	
907	April 3	2 44	—	—	0 7	B.O.T.
908	,, 10	6 39	6 56·5	0·5	1 14	Ill-defined.
909	,, 10	19 2·2	19 18·7	0·8	0 55	
910	,, 10	20 7·3	20 28·5	1·5	1 17	
911	,, 11	4 25·5	—	—	0 8	B.O.T.
912	,, 11	14 30·5	—	—	0 57	
913	,, 23	17 45·8	17 47·5	2·2	0 40	Abnormal movement.
914	,, 25	23 44·5	—	—	0 8	B.O.T.
915	,, 27	13 40·5	14 1·5	1·0	0 43	
916	,, 29	23 35·2	23 44.2	0·5	0 24	
917	May 2	8 50·2	—	—	0 6	B.O.T.
918	,, 2	22 23·3	—	—	0 12	,,
919	,, 7	12 47·4	? 12 48.5	0·5	0 7	Character doubtful.
920	,, 7	About 12h. 47m. to 18h. 20m. (?) a long series of small movements. ? Ats.				
921	,, 10	14 2	—	—	0 19	B.O.T.
922	,, 11	14 26	—	—	0 30	,,
923	,, 12	0 28	—	—	0 29	,,
924	,, 12	15 52·5	—	—	0 19	,,
925	,, 13	13 54	—	—	0 12	,,
926	,, 14	16 38	—	—	0 10	,,
927	,, 15	9 58·5	10 3	0·3	0 10	
928	,, 17	8 16	8 25·6	1·5	2 13	Max. movement, unusually abrupt.
929	,, 18	17 23	—	—	0 14	B.O.T.
930	,, 21	8 9	—	—	0 13	,,
931	,, 21	12 32	—	—	0 16	,,
932	,, 21	16 0.5	—	—	0 7	,,
933	,, 21	22 32·5	—	—	0 6	,,
934	,, 23	11 24	—	—	0 25	Seismic character doubtful.

Register from the National Physical Laboratory, Kew Observatory—continued.

No.	Date	Commencement	Max.	Max. Amplitude.	Duration	Remarks
		H. M.	H. M.	M.M.	H. M.	
935	May 25	6 3	6 9·5	0·3	0 10	
936	,, 26	3 10·5	3 23	0·5	0 16	
937	,, 28	9 25	—	—	0 9	B.O.T.
		11 20	—	—	0 8	
938	,, 30	6 23·5	6 31	1·0	0 19	
939	,, 30	14 38·5	? —	—	0 10	B.O.T.
940	June 1	8 19·5	—	—	0 6	,,
941	,, 1	11 1·5	—	—	0 14	,,
942	,, 1	12 49	—	—	0 22	,,
943	,, 1	14 9·5	—	—	0 8	,,
944	,, 3	19 0·8	19 47·3	3·6	3 40	
945	,, 4	16 35·5	—	—	0 13	B.O.T.
946	,, 5	13 41	13 45.4	0·7	0 21	Seismic character somewhat doubtful.
947	,, 6	13 2	—	—	0 12	B.O.T.
948	,, 8	6 11·4	6 50.9	3·7	2 12	
949	,, 9	1 20·3	1 29·2	0·5	0 43	
950	,, 11	21 11	21 11·3	1·3	0 18	Abnormal movement.
		22 19·5	—	—	0 9	B.O.T.
951	,, 12	7 29	—	—	0 22	B.O.T.
952	,, 12	11 57	—	—	0 10	,,
953	,, 12	16 5	? 16 23·5	0·6	0 38	Seismic character doubtful.
954	,, 12	21 57·5	22 16	0·4	0 31	Ill-defined.
955	,, 14	8 39	—	—	0 6	B.O.T.
956	,, 15	9 26	—	—	0 10	,,
957	,, 15	13 21·5	—	—	0 18	,,
		14 36	—	—	0 12	
958	,, 15	23 41	—	—	0 9	
959	,, 16	7 15	—	—	0 33	,,
		9 31	—	—	0 15	,,
960	,, 16	13 25·5	—	—	0 9	,,
961	,, 17	7 15·5	? —	—	0 20	,,
962	,, 17	22 13	—	—	0 18	,,
963	,, 24	7 19	—	—	0 6	Character doubtful.
		10 18·5	—	—	0 6	
	,, 24	14 23·5	—	—	0 5	B.O.T.
964	,, 27	8 13·5	8 58	0·5	1 9	Ill-defined.

Scale—March 30. 1mm. = 0″·55 of arc.
April 28. ,, = 0″·54 ,, ,,
June 23. ,, = 0″·55 ,, ,,

? Refers to movements not corroborated from other stations.

Register from Liverpool Observatory, Bidston. Director, W. E. PLUMMER.

No.	Date	Commencement	Max.	Max. Amplitude	Duration	Remarks
			1909			
		H. M.	H. M.	MM.	H. M.	
1193	Jan. 3	23 17·2	23 21·4	0·1	0 13	—
1194	,, 5	7 51·4	7 58·8	0·2	0 17	—
1195	,, 6	—	20 30	—	—	—
1196	,, 8	6 12·7	6 19	—	0 16	Small
1197	,, 15	17 37	17 44·3	0·2	0 27	—
1198	,, 19	5 0·9	5 11·3	0·3	0 52	—
1199	,, 20	16 37	16 41·3	0·1	0 27	—
1200	,, 23	3 0	3 18·1	12·3	2 10	—
1201	,, 24	17 54	18 0·9	0·1	0 17	—
1202	,, 29	1 51·4	2 3·1	0·2	0 27	—
1203	Feb. 9	11 36·7	11 49	2·2	0 41	—
1204	,, 9	14 53·2	15 1·5	1·0	0 39	—
1205	,, 9	—	19 15	—	—	Doubtful.

Register from Liverpool Observatory, Bidston—continued.

No.	Date	Commencement	Max.	Max. Amplitude	Duration	Remarks
		H. M.	H. M.	MM.	H. M.	
1206	Feb. 10	20 7·7	20 13·3	0·6	0 23	—
1207	,, 14	15 52·7	15 56	0·9	0 14	—
1208	,, 15	1 31·9	1 38·7	0·3	0 40	—
1209	,, 15	9 45·1	9 52.2	0·2	0 18	—
1210	,, 16	8 41	8 50·4	0·3	0 22	—
1211	,, 16	17 5·5	17 9·3	0·5	0 15	—
1212	,, 19	10 20	10 26	0·2	0 18	—
1213	,, 22	9 58·2	10 8	0·7	1 22	—
1214	,, 22	14 33·9	14 40·7	0·5	0 25	—
1215	,, 22	21 57·2	22 0·4	0·2	0 13	—
1216	,, 26	17 20·4	17 38·7	0·6	1 2	—
1217	Mar. 7	19 7·2	19 12·8	0·2	0 17	—
1218	,, 7	20 47·3	20 54·0	0·1	0 21	—
1219	,, 8	12 43·1	12 48·0	0·3	0 54	—
1220	,, 11	0 48·2	0 55·7	0·5	0 26	—
1221	,, 12	23 42	23 48·1	0·2	0 13	—
1222	,, 13	0 3·7	0 13·2	0·9	0 56	—
1223	,, 13	14 53·8	15 32·4	3·4	2 40	—
1224	,, 22	20 54	20 58·2	0·6	0 30	—
1225	,, 22	23 44·7	23 48·8	0·4	0 18	—
1226	Apr. 3	2 40·8	2 44	0·3	0 13	—
1227	,, 10	6 23·6	6 46·5	1·2	1 42	—
1228	,, 10	19 1·7	19 13	0·4	0 51	—
1229	,, 10	20 12·6	20 27	1·0	1 12	—
1230	,, 11	4 27·2	4 33	0·5	0 25	—
1231	,, 11	14 46·1	15 3·5	0·3	0 37	—
1232	,, 12	2 38·7	2 49	0·3	0 59	—
1233	,, 12	—	20 22	—	—	Lamp failing.
1234	,, 22	1 18	1 29	—	0 25	Small.
1235	,, 23	17 46·8	17 59·5	4·4	0 41	—
1236	,, 25	1 46·2	1 50	0·3	0 13	—
1237	,, 25	22 48·3	22 55·7	0·3	0 30	—
1238	,, 25	23 32·5	23 49·3	0·6	0 43	—
1239	,, 27	13 11·4	14 4·1	1·1	2 6	—
1240	,, 29	23 11·6	23 44·7	0·7	1 24	—
1241	May 2	8 32·9	8 41·7	—	0 24	Trace disturbed by watch-winding.
1242	,, 2	19 14	—	—	0 51	—
1243	,, 5	3 2·1	3 7·0	0·2	0 17	—
1244	,, 6	3 22·7	—	—	—	—
1245	,, 8	—	2 25	—	—	—
1246	,, 10	—	13 40	—	—	—
1247	,, 10	21 9·7	21 14·5	0·2	0 20	—
1248	,, 12	0 48·2	0 51·3	0·4	0 37	—
1249	,, 13	14 20	14 30·7	0·2	0 36	—
1250	,, 14	—	16 42	—	—	—
1251	,, 17	8 16·2	8 56·8	2·5	2 21	—
1252	,, 18	17 16·3	17 24·8	0·6	0 32	—
1253		18 44·2	18 50·5	0·4	0 19	—
1254	,, 20	—	9 36	—	—	—
1255	,, 21	—	8 1	—	—	—
1256		—	12 36	—	—	—
1257		—	23 24	—	—	—
1258	,, 23	—	4 8	—	—	—
1259		6 10·7	6 15	0·2	0 8	—
1260		11 29·7	11 34·3	0·2	0 13	—
1261		—	19 16·4	—	—	—
1262	,, 25	5 50·2	6 7·1	0·4	1 1	—
1263	,, 26	3 8·2	3 20·5	0·5	0 55	—
1264	,, 28	—	1 0	—	—	—
1265	,, 29	—	11 44	—	—	—
1266	,, 30	6 25·7	6 33·8	0·6	0 22	—
1267	,, 30	21 32·2	22 13·3	0·4	1 20	—
1268	,, 31	—	6 40	—	—	—
1269		—	9 45	—	—	—
1270	June 1	—	12 6	—	—	—
1271		—	14 12	—	—	—
1272	,, 2	—	3 50	—	—	—
1273		—	8 31	—	—	—
1274		—	10 33	—	—	—
1275	,, 3	19 3·0	19 51·3	3·0	2 27	—
1276	,, 4	—	16 23	—	—	—
1277	,, 6	—	3 10	—	—	—
1278		5 52	5 56	—	—	—
1279	,, 7	—	11 18	—	—	—

Register from Liverpool Observatory, Bidston—continued.

No.	Date	Commencement	Max.	Max. Amplitude	Duration	Remarks
		H. M.	H. M.	MM.	H. M.	
1280	June 8	6 4·7	6 35·6	4·0	2 23	—
1281	,, 9	0 55	1 26·7	0·9	1 20	—
1282		—	12 11	—	—	—
1283	,, 10	—	9 0	—	—	—
1284	,, 11	21 10	21 12·9	1·1	0 11	—
1285	,, 12	—	7 51	—	—	—
1286	,, 12	—	9 51	—	—	—
1287	,, 12	—	11 42	—	—	—
1288		21 48·8	22 3·9	0·5	0 40	Time uncertain.
1289	,, 13	—	19 50	—	—	—
1290	,, 14	10 35·2	10 37·6	0·3	0 7	—
1291	,, 14	—	16 12	—	—	—
1292	,, 15	—	6 2	—	—	—
1293	,, 15	—	6 47	—	—	—
1294	,, 15	—	7 6	—	—	—
1295	,, 15	—	11 37	—	—	—
1296	,, 15	—	14 44	—	—	—
1297	,, 15	23 41·8	23 45·2	0·3	0 26	—
1298	,, 16	—	6 52	—	—	—
1299		—	9 7	—	—	—
1300		—	11 41	—	—	—
1301		—	13 38	—	—	—
1302	,, 17	—	4 48	—	—	—
1303	,, 17	—	14 54	—	—	—
1304	,, 17	—	16 2	—	—	—
1305	,, 17	—	22 50	—	—	—
1306	,, 19	—	14 30	—	—	—
1307		—	18 4	—	—	—
1308	,, 22	—	0 24	—	—	—
1309		—	11 49	—	—	—
1310		13 31·1	14 3	0·5	1 8	—
1311	,, 23	—	5 0	—	—	—
1312		—	9 40	—	—	—
1313		—	11 15	—	—	—
1314		—	17 14	—	—	—
1315		—	21 5	—	—	—
1316	,, 24	—	1 4	—	—	—
	,, 24	—	7 49	—	—	—
1317	,, 24	9 22·2	9 40·1	—	0 49	Small.
1318		—	10 20	—	—	—
1319	,, 25	—	4 48	—	—	—
1320		—	14 38	—	—	—
1321	,, 26	—	9 30	—	—	—
1322	,, 26	—	20 22	—	—	—
1323	,, 27	8 20·6	8 49·5	0·6	1 39	—
1324	,, 29	—	4 58	—	—	—
1325	,, 30	—	4 5	—	—	—

Register from Royal Observatory, Edinburgh.
Director, F. W. Dyson, M.A., F.R.S.

No.	Date	Commencement	Max.	Max. Amplitude	Duration	Remarks
		H. M.	H. M.	MM.	H. M.	
		1909				
1	Jan. 3	22 20·5	—	—	—	Tiny notch.
2	,, 3	23 24·5	—	—	0 9	Thickenings.
3	,, 5	7 56	—	—	0 22	,,
4	,, 6	8 27	—	—	0 10	Very slight.
5	,, 6	14 41	—	—	0 8	,,
6	,, 6	15 56	—	—	—	Very small notches.
7	,, 7	6 6	—	—	0 9	Slight thickening.

Register from Royal Observatory, Edinburgh—continued.

No.	Date	Commencement	Max.	Max. Amplitude	Duration	Remarks
		H. M.	H. M.	MM.	H. M.	
8	Jan. 10	11 16	—	—	0 3	Slight thickening.
9	,, 19	5 12	5 13	0·5	0 5	—
10	,, 20	16 24	—	—	0 4	Slight thickening.
11	,, 23	2 56·0	3 21	7·5	1 53	—
12	,, 24	17 57	—	0·2	0 5	—
13	,, 29	1 55	—	—	0 12	Slight thickening.
14	,, 30	4 49·5	—	—	0 5	Small notches and slight thickenings.
15	,, 30	20 35	—	—	0 8	Almost imperceptible notches.
16	Feb. 1	12 2·5	—	—	0 3	Slight thickening.
17	,, 9	11 33·5	11 48·5	1·2	0 50	—
18	,, 9	14 49·5	15 4	0·3	0 29	—
19	,, 10	20 9·5	20 16·5	0·3	0 22	—
20	,, 11	15 37	—	—	—	Little notch.
21	,, 14	15 55·5	15 56·5	0·5	0 7	—
22	,, 15	1 15	—	—	0 20	Slight thickening.
23	,, 15	9 43	9 50·5	0·3	0 14	—
24	,, 16	8 39	—	—	0 16	Slight thickenings.
25	,, 16	17 3·5	—	—	0 15	,,
26	,, 20	22 40	—	—	0 9	Small notches.
27	,, 22	9 50·5	10 6·5	0·8	1 37	—
28	,, 22	14 32·5	14 41	0·3	0 23	—
29	,, 22	21 58	—	—	0 5	Thickening.
30	,, 26	17 9	17 36·5	0·7	0 48	—
31	Mar. 1	12 4	—	—	—	Slight tremor.
32	,, 6	23 26	23 45	0·2	0 45	—
33	,, 9	8 21	—	—	—	}
		8 41	—	—	—	Tiny notches.
		8 58	—	—	—	}
34	,, 10	23 58·5	—	—	—	Slight notch.
35	,, 11	0 36·5	0 54·5	0·2	0 39	—
36	,, 11	8 24	—	—	0 44	Slight tremor.
37	,, 12–13	23 41	0 14·5	0·9	1 26	—
38	,, 13	14 42·5	15 23	1·1	1 48	—
39	,, 14	1 38	—	—	0 44	Line slightly rough.
40	,, 15	3 19	—	—	2 54	Line very rough.
41	,, 17–18	23 25	0 15·5	0·4	1 39	—
42	,, 22	5 22	—	—	0 6	Slight thickening.
43	,, 22	20 42·5	21 0·5	0·2	0 42·5	—
44	,, 22	23 53	23 57	0·2	0 11	-
45	,, 25	9 10	9 52	0·35	2 12	—
46	,, 28	18 17·5	19 7	0·3	3 28	—
47	,, 29	7 7·5	—	—	2 40	Line rough.
48	,, 31	13 0·9	—	—	0 11·2	Slight tremor.
49	April 2	11 13·6	—	—	0 57	Very slight tremors.
50	,, 3	2 41·2	2 42·7	0·5	0 5	—
51	,, 10	5 52·3	6 53·2	0·9	2 46	—
52	,, 10	18 54·5	20 27·3	1·4	3 5	—
53	,, 11	4 27·6	—	—	0 23	Slight tremor
54	,, 11	14 21·1	—	—	1 14	,,
55	,, 11	20 37·3	—	0·2	0 31	,,
56	,, 12	1 45·7	2 49·5	0·2	2 0	,,
58	,, 13	22 59·3	23 33	0·2	0 49	—
59	,, 14	1 25·4	—	—	0 3	Very slight tremor.
60	,, 14	20 6·5	20 50·5	0·7	1 20	—
61	,, 22	1 20·8	—	—	0 2	Very slight tremor.
62	,, 23	17 46·9	17 49·9	0·6	0 57	—
63	,, 25	1 40·1	1 47·9	0·3	0 44	—
64	,, 25	22 23	23 44·5	0·3	2 36	—
65	,, 26	21 34·3	—	—	0 7	Very slight tremor.
66	,, 27	13 13·4	14 2·7	1·0	2 46	—
67	,, 29	23 7·7	23 39·8	0·5	2 28	—
68	May 2	7 28·4	—	—	1 51	Very slight tremors.
69	,, 2	19 35·7	—	—	0 33	,, ,,
70	,, 5	3 2·1	—	—	0 22	,, ,,
71	,, 6	3 27·7	—	—	0 5	,, ,,
72	,, 10	21 1·5	21 11·3	—	0 29	,, ,,
73	,, 11	14 16·4	14 32·6	0·2	1 0	—
74	,, 12	0 18	0 29·3	0·3	2 36	—
			0 59·5			
75	,, 13	14 0·6	—	—	1 10	Very slight
76	,, 17	1 10	—	—	0 1	Very small tremor.
77	,, 17	8 15·5	8 55·7	2·5	2 36	—
78	,, 17	21 23·7	—	0·2	—	—

Register from Royal Observatory, Edinburgh—continued.

No.	Date	Commencement	Max.	Max. Amplitude	Duration	Remarks
		H. M.	H. M.	MM.	H. M.	
79	May 18	1 58·2	—	—	0 5	Faintest possible tremor.
80	,, 18	17 11·6	17 25·1	0·5	1 12	—
81	,, 18	18 38·9	18 51·6	0·3	0 40	—
82	,, 23	5 52·2	—	—	1 5	Very slight.
83	,, 23	11 30·3	—	—	0 15	,,
84	,, 25	5 7·2	6 12·6	—	2 6	,,
85	,, 26	2 33·3	3 19·5	0·3	2 13	....
86	,, 30	6 20	6 30·7	1·1	0 58	—
87	,, 30	21 21·4	22 19·1	0·2	2 29	—
88	June 1	12 2	—	—	—	Doubtful.
89	,, 3	18 57·8	19 42·2	3·5	4 52	—
90	,, 4	16 21·8	—	—	—	Doubtful.
91	,, 5	19 34	—	—	—	,,
92	,, 6	5 19·6	6 14·7	0·2	1 48	—
93	,, 7	21 4·4	—	—	0 2	Very small tremor.
94	,, 8	6 0·8	6 42·6	2·4	3 6	—
95	,, 8–9	23 51·6	1 24·1	0·7	3 16	—
96	,, 11	21 12·4	21 13·4	1·2	0 43	—
97	,, 13	19 50	—	—	—	Very small tremor.
98	,, 14	8 51·3	—	—	—	,, ,,
99	,, 14	19 36·5	—	—	0 9	Slight tremors, doubtful.
100	,, 18	11 15·1	11 21·9	0·2	0 25	—
101	,, 19	17 59·8	—	—	0 8	Slight tremor.
102	,, 21	6 21·1	—	—	0 3	,, ,,
103	,, 22	13 52·6	14 0·9	0·2	0 38	—
104	,, 23	11 15	—	—	—	Almost imperceptible tremor.
105	,, 23	—	16 13·5	—	—	Very slight tremor.
106	,, 25	5 20·7	—	—	—	Almost imperceptible tremor.
107	,, 27	7 42·7	8 49·3	0·3	2 22	—
108	,, 30	4 56·2	—	—	—	Almost imperceptible tremor.

1908, Dec. 29. 1° of footscrew = 3·45mm. at end of boom.
1909, Mar. 13. 1° ,, ,, = 3·6 ,, ,,
,, 26. ,, ,, = 3·7 ,, ,,
May 21. ,, ,, = 3·5 ,, ,,

Mean 3·56mm.
1mm. of amplitude = 0·″537
On March 30, the long scale photographic recording section was mounted.

Register from the Coats Observatory, Paisley.
Observer to the Board of Directors, DONALD MACLEAN.

No.	Date	Commencement	Max.	Max. Amplitude	Duration	Remarks
			1909			
		H. M.	H. M.	MM.	H. M.	
481	Jan. 3	21 17	21 33	0·3	0 53	—
482	,, 4	—	21 41	0·2	—	—
483	,, 5	—	7 32·5	0·2	—	—
484	,, 5	—	8 3·6	0·2	—	—
485	,, 6	—	15 23	0·1	—	—
486	,, 6	—	20 28·2	0·3	—	—
487	,, 20	—	16 42·5	—	—	Record faint. Time uncertain.
488	,, 20	—	20 8·5	0·2	—	—
489	,, 21	—	2 14·5	0·1	—	—
490	,, 22	—	13 33	0·1	—	—
491	,, 23	3 0	3 22	8·3	>2 0	End obscured by Ats.
492	,, 26	—	15 28	—	—	Wavy movements.
493	,, 29	—	0 12	0·2	—	—

Register from the Coats Observatory, Paisley—continued.

No.	Date	Commencement	Max.	Max. Amplitude	Duration	Remarks
		H. M.	H. M.	MM.	H. M.	
494	Jan. 29	—	1 13·2	—	—	Thickening of line.
495	,, 29	13 26·5	13 29·3	0·3	0 9	—
496	,, 30	—	12 56·5	0·1	—	—
497	Feb. 1	—	13 17	—	—	Thickening of line.
498	,, 2	—	16 14·2	0·2	—	—
499	,, 4	—	10 34·5	0·2	—	—
500	,, 4	—	10 40·5	0·2	—	—
501	,, 4	—	10 47	0·1	—	—
502	,, 4	—	11 39·2	0·1	—	—
503	,, 4	—	14 19	0·2	—	—
504	,, 5	—	14 8·2	0·3	—	—
505	,, 7	—	15 27	0·2	—	—
506	,, 7	—	17 1·2	0·2	—	—
507	,, 7	—	20 15·6	0·2	—	—
508	,, 7	—	22 34·3	0·3	—	—
509	,, 9	11 22·0?	11 57·8	2·1	>0 38	—
510	,, 9	14 55·5	15 1	0·6	0 17	—
511	,, 9	16 21·5	16 26	0·3	0 12	—
512	,, 10	20 7·0	20 12·5	0·5	0 23	—
513	,, 11	—	15 25	0·2	—	—
514	,, 13	—	6 31	—	—	—
515	,, 14	15 54·5	15 56·2	0·8	0 20	—
516	,, 15	9 46	9 51	0·3	0 16	—
517	,, 16	17 4·5	17 8·5	0·4	0 14	—
518	,, 19	—	13 24	0·2	—	Doubtful—perhaps Ats.
519	,, 22	10 1	10 4·2	0·5	0 7	—
520	,, 22	14 31·2	14 39	0·5	0 21	—
521	,, 26	17 8·5	17 25·2	0·6	0 48	—
522	Mar. 1	—	15 31·5	0·1	—	—
523	,, 4	—	19 30·4	0·1	—	—
524	,, 7	—	9 25·5	0·4	—	—
525	,, 7	—	19 16	0·3	—	—
526	,, 7	—	20 38·2	0·2	—	—
527	,, 8	—	11 27·5	0·2	—	—
528	,, 11	0 37·2	0 52·4	0·5	0 24	—
529	,, 13	0 3·5	0 15·3	1·4	>0 40	—
530	,, 13	14 52	15 27	2·4	2 48	—
531	,, 17-18	23 19	0 7·5	0·7	3 28	—
532	,, 19	—	7 7·4	0·1	—	—
533	,, 19	—	7 41	—	—	Thickening of line.
534	,, 22	5 14	5 28·5	0·3	0 24	—
535	,, 26	—	17 20	0·1	—	—
536	April 2	16 28·5	16 32·3	0·2	0 22	—
537	,, 3	2 37	2 42	0·5	0 15	—
538	,, 10	6 25	6 47·2	1·4	1 50	—
539	,, 10	18 58	19 6·7	0·3	0 50	—
540	,, 10	20 6	20 25·5	3·1	1 10	—
541	,, 14	19 47	20 56·3	0·8	>0 57	—
542	,, 22	—	1 7	0·6	—	—
543	,, 23	17 43·5	17 49·5	6·7	0 40	—
544	,, 25	—	1 46	0·2	—	—
545	,, 27	13 5	14 1·3	1·3	>2 5	—
546	,, 29	—	23 45·5	1·0	—	The commencement and end lost in Ats.
547	May 2	8 26·2	8 29·5	0·2	0 27	—
548	,, 10	—	13 38·5	0·3	—	—
549	,, 10	—	14 25·3	0·2	—	—
550	,, 11	—	14 45·5	0·2	—	—
551	,, 12	—	5 47·6	0·2	—	—
552	,, 13	—	14 25	0·1	—	—
553	,, 14	—	16 40·2	0·2	—	—
554	,, 17	8 16·5	8 55·5	3·7	3 9	—
555	,, 18	—	17 22·5	0·5	—	—
556	,, 18	—	18 49	0·3	—	—
557	,, 20	—	9 1	0·2	—	—
558	,, 21	—	7 17	0·1	—	—
559	,, 21	—	16 5·5	0·2	—	—
560	,, 21	—	23 37	0·3	—	—
561	,, 23	—	6 21·5	0·3	—	—
562	,, 23	—	11 6·5	0·2	—	—
563	,, 23	—	11 30·3	0·2	—	—
564	,, 23	—	19 9·4	0·2	—	—
565	,, 25	—	6 32·5	0·1	—	—
566	,, 26	—	3 54·5	0·1	—	—
567	,, 27	—	14 9	0·2	—	—

Register from the Coats Observatory, Paisley—continued.

No.	Date	Commencement	Max.	Max. Amplitude	Duration	Remarks
		H. M.	H. M.	MM.	H. M.	
568	May 27	—	15 20·5	0·2	—	—
569	,, 28	—	0 58	0·1	—	—
570	,, 28	—	6 48·2	0·2	—	—
571	,, 29	—	9 8	0·1	—	—
572	,, 29	—	10 22·5	0·2	—	—
573	,, 29	—	11 21	0·2	—	—
574	,, 29	—	11 57·5	0·2	—	—
575	,, 29	—	13 59	0·3	—	—
576	,, 30	6 24·3	6 32·7	0·5	>0 25	—
577	,, 31	—	8 29·2	0·2	—	—
578	,, 31	—	9 43·5	0·1	—	—
579	,, 31	—	15 12	0·1	—	—
580	,, 31	—	15 35	0·1	—	—
581	,, 31	—	18 6·5	0·1	—	—
582	June 1	—	8 5	—	—	—
583	,, 1	—	8 51	—	—	—
584	,, 1	—	9 34·2	—	—	—
585	,, 1	—	10 46	—	—	—
586	,, 1	—	12 5	—	—	—
587	,, 1	—	13 9·3	—	—	—
588	,, 3	18 59	19 52·5	1·4	>1 37	—
589	,, 4	—	16 20	—	—	—
590	,, 6	—	3 10	0·1	—	—
591	,, 7	—	11 23·5	—	—	—
592	,, 8	6 5·4	6 44·2	0·8	1 32	—
593	,, 8	—	15 19	0·1	—	—
594	,, 9	—	11 50	—	—	—
595	,, 9	—	12 13·5	—	—	—
596	,, 11	21 11·3	21 13·5	1·3	0 15	—
597	,, 12	—	5 22·5	—	—	—
598	,, 12	—	14 57	—	—	—
599	,, 13	—	19 56·5	—	—	—
600	,, 13	—	20 1·4	—	—	—
601	,, 14	—	10 35·5	0·2	—	—
602	,, 14	—	16 17	0·2	—	—
603	,, 16	—	9 18·2	0·1	—	—
604	,, 16	—	11 26·5	—	—	—
605	,, 16	—	11 40	—	—	—
606	,, 16	—	13 29·5	—	—	—
607	,, 16	—	13 38	—	—	—
608	,, 17	—	7 57·5	—	—	—
609	,, 17	—	15 44	0·1	—	—
610	,, 17	—	16 3·1	—	—	—
611	,, 17	—	16 9	—	—	—
612	,, 18	—	8 41·2	—	—	—
613	,, 19	—	9 54	0·1	—	—
614	,, 19	—	14 24·1	—	—	—
615	,, 19	—	14 36·5	—	—	—
616	,, 19	—	18 4·3	—	—	—
617	,, 19	—	19 17	—	—	—
618	,, 21	—	13 29·5	0·2	—	—
619	,, 22	—	7 16	—	—	—
620	,, 22	—	11 34·2	—	—	—
621	,, 22	—	11 39·5	0·1	—	—
622	,, 22	—	11 45	—	—	—
623	,, 22	—	12 26·5	—	—	—
624	,, 22	—	14 8·5	0·2	—	—
625	,, 22	—	14 46	0·3	—	—
626	,, 22	—	17 57·5	0·2	—	—
627	,, 22	—	18 1·3	—	—	—
628	,, 23	—	9 37·2	—	—	—
629	,, 23	—	11 14	—	—	—
630	,, 23	—	21 6·5	—	—	—
631	,, 24	—	0 57	—	—	—
632	,, 24	—	7 39·6	—	—	—
633	,, 24	—	9 23	—	—	—
634	,, 24	—	10 26·3	—	—	—
635	,, 25	—	3 54	—	—	—
636	,, 25	—	4 14	—	—	—
637	,, 25	—	14 38·2	—	—	—
638	,, 26	—	20 23·5	—	—	—
639	,, 27	—	8 19·6	0·3	—	—
640	,, 27	—	17 11	0·2	—	—
641	,, 28	—	15 43	0·1	—	—

Register from the Coats Observatory, Paisley—continued.

No.	Date	Commencement	Max.	Max. Amplitude	Duration	Remarks
		H. M.	H. M.	MM.	H. M.	
642	June 28	16 50·2	16 57	0·3	0 16	—
643	,, 29	—	2 34·5	—	—	Small, perhaps Ats.
644	,, 29	—	9 48·3	—	—	—
645	,, 30	—	0 5·5	0·2	—	—
646	,, 30	—	4 5	—	—	—
647	,, 30	—	4 39	0·2	—	—

Paisley records were at times much interfered with by air tremors, it is therefore likely that certain entries are non-seismic in character.

Also it may be noted that when two or more entries are only reported by an interval of a few minutes they may refer to the same disturbance.—J.M.

Register from Frensham Hall, Haslemere, Surrey, England.
Observer, SAML. KEVAN.

No.	Date	Commencement	Max.	Max. Amplitude	Duration	Remarks
		1909				
		H. M.	H. M.	MM.	H. M.	
279	Jan. 3	23 27	23 30	0·3	1 42	—
281	,, 13	0 12	0 15	0·2	1 14	Doubtful tremors.
283	,, 23	3 2·6	3 13·7	10·0	1 40	W. of Persia, etc.
			3 17·2	9·0		
			3 19	6·0		
288	Feb. 9	11 30·7	11 48·1	2·4	0 54	—
289	,, 15	9 46·2	9 49	0·5	0 13	—
291	,, 22	9 52·2	10 8·3	0·7	1 18	—
292	,, 26	17 10	17 36·2	0·4	0 49	—
295	Mar. 11	0 41·6	24 59	1·2	0 35	—
	,, 12	23 47·4	0 17	2·1	1 6	—
	,, 13	14 42·8	15 23·2	2·6	1 10	—
296	,, 17	23 21·2	0 17	0·6	1 22	Calabria.
300	April 3	2 45·7	2 46·3	0·5	0 10	—
301	,, 10	6 24·5	7 1·6	0·8	1 48	Sweden?
302	,, 10	18 51·2	19 18·5	1·8	1 7	—
	,, 10	20 1	20 26·1	4·0	1 29	Peru.
303	,, 14	8 14·7	8 50·6	0·8	0 58	—
305	,, 23	17 45·1	17 46·8	4·0	0 31	Spain and Portugal.
306	,, 27	13 39	14 0	1·2	0 58	—
	,, 29	23 19·2	23 38·6	1·3	0 38	—
310	May 17	8 17	8 28·7	2·5	2 43	—
313	,, 30	6 15·7	6 31·8	1·4	1 14	—
	,, 30	21 18	21 35	0·4	2 50	Other doubtful movements.
	June 3	18 56·8	19 45·9	3·5	3 56	Java.
315	,, 8	6 12·3	6 40·5	1·6	2 36	—
316	,, 11	21 11·6	21 12	2·5	0 13	South of France.
317	,, 12	21 38	21 58·5	0·5	0 51	—
		23 41	23 45·8	1·0	0 12	—
320	,, 27	8 9·1	8 35·6	0·8	1 36	—
	,, 28	15 43·7	15 45·2	0·4	0 25	—

Boom period = 18 seconds.
,, ,, = 20 ,, since June 12.

Register from the Observatorio de Marina de San Fernando, Spain.
Director, Commodore T. DE AZCÁRATE.

No.	Date.	Commencement.	Max.	Max. Amplitude.	Duration	Remarks.
		1909				
		H. M.	H. M.	MM.	H. M.	
964	Jan. 5	7 44·9	7 46·9	0·3	0 11·8	Small movement.
968	,, 10	7 41·1	—	—	1 7·9	Tremors.
969	,, 23	3 2·4	3 12·1	3·5	1 48·7	Burudjird (Persia).
			3 15·9	7·5		
			3 19·9	3·0		
970	,, 24	15 1·1	15 1·1	0·5	0 1·5	Small movement.
976	Feb. 9	11 37·1	11 46·6	0·95	0 36·8	—
977	,, 9	14 56·6	—	—	0 28	Small movements.
980	,, 14	15 49·4	15 51·2	0·5	0 3·8	Small movement.
981	,, 16	17 12·7	—	—	0 12·5	Very small movements.
982	,, 22	9 52·7	11 17·2	0·6	0 41·7	—
983	,, 22	14 33·7	—	—	0 17·7	Very small movements.
986	,, 26	17 24·2	17 36·2	0·5	0 40	—
990	Mar. 7	19 1.4	—	0·3	0 13·3	Small movements.
991	,, 8	12 41·9	12 54	0·6	0 49·1	—
			13 13·9			
993	,, 11	0 43·7	0 57·7	1·05	0 43·8	—
995	,, 12	23 52	—	—	—	—
	,, 13	—	0 28·8	2·0	1 11·7	
996	,, 13	14 54	15 31·2	3·75	2 38·2	—
			15 38·2	4·5		
998	,, 17	23 23·2	—	—	—	—
	,, 18	—	0 18	0·85	2 6·2	
999	,, 22	5 31·1	—	—	0 10·2	Tremors.
1000	,, 22	20 56·6	21 7·1	0·9	0 28·5	—
1001	,, 22	23 33·1	23 43·1	0·7	0 32·8	—
1005	April 10	6 3·4	6 52·8	2·4	1 55·6	—
			7 24·8	3·6		
1006	,, 10	19 3·3	19 26·3	2·0	3 18·5	—
			20 37·8	2·5		
1007	,, 11	4 24·8	4 28·8	0·6	0 9·8	—
1009	,, 11	14 54·8	14 56·8	0·5	0 22·8	Small movements.
1010	,, 12	2 24·8	2 44·8	0·3	1 0	,, ,,
1012	,, 13	23 42·8	—	—	0 15·3	Tremors.
1013	,, 14	20 18·5	20 57·8	0·6	1 6·3	—
1015	,, 23	17 41·6	17 43·6	7·0	0 56	Lisbon-Madrid.
			17 51·1	5·0		
1017	,, 27	13 17·6	14 4·6	2·0	2 7	—
1018	,, 28	23 8·1	23 31·6	2·0	1 0	—
			23 37·6			
1019	May 2	19 39·6	—	—	0 42	Small movements.
1020	,, 10	19 1·2	—	—	0 2·3	Very small movement.
1021	,, 12	0 44·6	—	—	0 36·6	Tremors.
1022	,, 17	8 15·7	8 28	3·0	0 28·8	—
1023	,, 18	18 52·5	18 57	—	0 11·8	Small movement.
1024	,, 25	6 1·0	6 19·4	0·4	0 54	Small movements.
1027	,, 30	21 36·2	22 21	0·4	1 38	,, ,,
1029	June 3	19 8·4	19 51·4	2.25	2 8·8	—
1030	,, 8	6 23·4	6 33·6	1·2	0 29·5	—
1031	,, 11	21 12·8	—	—	0 5	Aix (France).

1mm. = ″·40. Period = 11s.

Register from the University, Valletta, Malta.
Observer, C. LEACH.

No.	Date	Commencement	Max.	Max. Amplitude	Duration	Remarks
			1909			
		H. M.	H. M.	MM.	H. M.	
	Jan. 1-3	—	—	—	—	Continuous tremors.
177	,, 4	?	15 47·5	0·5	?	—
			21 51	0·3	?	Continuous tremors.
			22 54	0·3	?	,, —
178	,, 5	7 33·2	7 48·2	0·5	0 41	—
179	,, 6	8 23·5	8 39·5	0·3	?	—
180	,, 7	7 34	7 48·7	0·5	0 35	—
181	,, 9	?	22 47·5	0·5	—	Tremors for several hours.
182	,, 10	17 9	18 19	0·5	?	,, ,,
	,,14-15	—	—	—	—	Tremors.
183	,, 19	13 3	?	0·5	2 9	—
184	,, 23	2 54·5	3 10	10·0	?	Luristan, Persia.
	,, 25	—	—	—	—	Series of tremors.
185	,, 28	5 42	5 53	0·5	0 55	—
	,,29-31	—	—	—	—	Tremors.
	Feb. 1-5	—	—	—	—	Continual tremors.
186	,, 6	11 12·5	11 20	0·5	0 20·8	—
187	,, 6	?	20 31	0·3	?	Felt in Italy.
188	,, 9	14 42·5	14 55	1·0	?	End lost in changing paper.
189	,, 10	19 54·5	20 07	0·5	0 27	—
190	,, 12	?	2 46·7	1·0	?	—
191	,, 13	19 23·7	19 32	0·5	0 32·8	—
192	,, 14	14 30	?	0·3	?	—
193	,, 15	9 25·5	9 40·2	0·5	1 34·5	—
	,,16-18	—	—	—	—	Boom working stiffly; probably insects.
194	,, 22	9 23·5 or 9 47	10 5·5	1·5	?	Beginning masked by tremors.
	,,23-24	—	—	—	—	Shutter closed slit.
195	,, 26	17 10·2 or 17 4	17 43	0·7	?	West Indies.
196	Mar. 3	19 4·5	?	0·3	1 7·5	—
197	,, 3	23 34	23 47·7	0·3	0 51·2	—
198	,, 5	?	12 33·5	0·3	?	Felt in Italy.
199	,, 7	18 45	19 6	0·1	0 27	—
201	,,12-13	23 30	0 24·5	1·5	2 28	Japan.
202	,, 13	14 42·7	15 28·5	2·0	?	Good record.
203	,, 16	19 18	19 21·2	2·5	—	Doubtful; insects?
204	,, 17	23 21·5	23 29·5	1·0	?	Ending in tremors.
	,,23-25	—	—	—	—	Continuous tremors.
205	,, 27	13 2	13 22	1·0	2 28	—
			14 31·5			
206	,, 31	?	5 16	0·5	?	Max. of several tremors.
207	April 10	5 53	7 19·7	2·0	?	End lost in changing paper.
208	,, 10	18 57·7	20 32·5	3·0	3 35·7	—
	,, 22	1 20	?		?	Tremors till the 23rd.
209	,, 23	17 41	17 48·5	1·5	2 11	—
211	,, 27	13 2	13 22	1·0	2 39·5	—
			13 27			
212	,, 29	23 25	23 27·5	—	0 56·5	—
214	May 12	0 29·5	1 15	1·0	1 58·5	—
215	,, 16	22 21	22 21	0·5	0 6·5	—
216	,, 17	8 14·5	9 3·7	2·5	3 44	—
217	,, 23	6 30·5	?	0·3	0 28·2	—
218	,, 24	11 46·3	11 47·3	4·0	0 13·7	Spain.
219	,, 30	6 9	6 21·7	1·0	0 42·5	—
220	June 1	9 3·2	9 12·2	0·3	0 15·3	—
221	,, 2	8 39	8 46	0·3	?	—
222	,, 3	7 30	?	0·5	?	—
	,, 4-5	—	—	—	—	Boom touching box.
223	,, 8	6 4·2	6 53	6·0	1 27·8	Chili.
224	,, 9	0 51·7	1 33·3	1·7	1 49	—
225	,, 10	4 54·5	—	0·3	0 10·5	—
226	,, 10	5 10	5 15	1·0	0 31	—
227	,, 11	21 10	?	0·5	0 14	French earthquake.
228		21 45	21 51·2	0·5	0 18	—
229		22 9·3	?	0·5	0 17·5	—
230	,, 12	21 33	21 46	1·0	1 35	—
231	,, 14	15 50	16 17	1·5	1 2·5	—

Register from the University, Valletta, Malta—continued.

No.	Date	Commencement	Max.	Max. Amplitude	Duration	Remarks
		H. M.	H. M.	MM.	H. M.	
232	June 15	23 33·7	23 37	0·5	0 11·8	—
233	,, 22	13 53·5	14 10	1·0	1 6·5	—
234	,, 27	8 34	8 56·5	1·0	1 26	—

Period, January 1 to June 10 = 18secs. 1° = 6·5mm. 1mm. = 0″·29.
,, June 11-27 = 20 ,, 1° = 6mm. 1mm. = 0″·3.

Register from the Syrian Protestant College Observatory, Beirût, Syria.
Observer, ALFRED H. JOY, *M.A.*

No.	Date	Commencement	Max.	Max. Amplitude	Duration	Remarks
			1909			
		H. M.	H. M.	MM.	H. M.	
371	Jan. 5	7 47	7 57	0·3	0 26	—
372	,, 23	2 53	2 58	31·4	2 23	—
373	Feb. 2	19 44	19 49·5	—	0 20	Mere thickening.
374	,, 9	11 26	11 28	15·0	0 43	—
375	,, 9	14 42	14 44	4·5	0 35	—
376	,, 10	2 11	2 11·5	—	0 4	Thickening.
377	,, 10	19 50	19 52	3·5	0 27·5	—
378	,, 13	5 59	6 4	1·0	0 21	—
379	,, 14	4 18	4 19	—	0 5	Thickening.
380	,, 15	9 38·5	9 58	0·6	0 20·5	—
381	,, 18	18 2	18 3	—	0 11	Thickening.
382	,, 22	9 42	10 7	0·5	1 27	—
383	,, 22	14 17	14 19	2·5	0 35	—
384	Mar. 5	12 21	12 21·5	0·7	0 3	—
385	,, 6	11 45·5	11 46·5	0·4	0 8·5	—
386	,, 11	0 32	0 49	—	0 39	Thickening.
387	,,12-13	23 40·5	0 12	1·0	1 7·5	—
388	,, 13	14 42	15 18·5	1·0	2 48	—
389	,,17-18	23 16	23 51	1·2	1 28	—
390	,, 26	10 10	11 2	0·5	2 6	—
391	April 10	5 46	7 6	0·5	2 13	—
392	,, 10	18 59	19 24	1·1	0 52	—
393	,, 10	19 57	21 18	1·4	1 21	—
394	,, 10	22 2	—	—	0 12	Thickening.
395	,, 11	4 5·5	4 7·5	0·3	0 27	—
396	,, 11	14 47·5	14 49	0·3	0 16·5	—
397	,, 14	20 4	20 43	0·3	0 47	—
398	,, 27	13 7	14 27	0·5	1 55	—
399	,, 29	23 2	23 23	0·3	0 48	—
400	May 3	0 24	—	—	0 3	Thickening.
401	,, 17	8 20	8 32	1·8	1 59	—
402	,, 24	4 4	—	—	0 3	Thickening.
403	,, 30	6 22	6 24	0·4	0 15	—
404	,, 30	21 24	21 27	0·3	0 59	—
405	June 3	18 40	19 23·5	7·0	2 57	—
406	,, 4	23 11	—	—	0 6	Thickening.
407	,, 6	5 59	—	—	0 11	,,
408	,, 8	6 4	7 2	2·0	2 9	—
409	,, 9	0 57	1 42	0·5	1 19	—
410	,, 11	9 29	—	—	0 18	Thickening.
411	,, 12	21 37	21 40	0·2	0 30	—
412	,, 16	23 39	—	—	0 15	Thickening.
413	,, 22	14 13	14 18	0·2	0 15	—

Register from Ponta Delgada, St. Miguel, Azores.
Director, Lieutenant-Colonel F. A. Chaves.

No.	Date	Commencement	Max.	Max. Amplitude	Duration.	Remarks
			1909			
		H. M.	H. M.	MM.	H. M.	
318	Jan. 15	17 32·5	—	—	4 0	I. of Mercalli's scale. Thickening of line.
319	,, 23	3 04·5	3 11·4	1·0	0 49·3	I. of Mercalli's scale.
321	Feb. 5	13 11	—	—	0 02	I. of Mercalli's scale. Thickening of line.
322	,, 9	11 40	—	—	0 10·5	,, ,,
	,, 13	17 41	—	—	0 05·3	,, ,,
	,, 14	15 49·4	15 52·7	2·6	0 42·6	I. of Mercalli's scale.
323	,, 22	9 39·8	9 56·2	1·0	0 52·2	,,
327	Mar. 17	22 39	—	—	0 43	I. of Mercalli's scale. Thickening of line.
329	April 3	2 51·6	—	—	0 03	,, ,,
330	,, 10	5 49·8	18 05·3	—	0 24·2	,, ,,
332	,, 23	17 45·6	—	0·7	0 54·1	I. of Mercalli's scale.
335	May 12	0 19	—	—	0 12	I. of Mercalli's scale. Thickening of line.
	,, 13	13 59·8	—	—	0 11·2	,,
	,, 17	8 14·3	8 30·8	3·0	1 10·4	I. of Mercalli's scale.
336	,, 19	11 30	—	—	0 04	I. of Mercalli's scale. Thickening of line.
337	,, 30	21 23·8	—	—	0 09·3	,, ,,
338	June 3	19 02	—	—	1 08	,, ,,
339	,, 8	6 00	6 11·9	1·2	0 33	I. of Mercalli's scale.

Register lost from 9h.40m. on February 10 to 16h.57m. on February 11.

1mm. = 0″·48.

Register from the Royal Observatory, Cape of Good Hope, South Africa.
Director, S. S. Hough, *M.A., F.R.S.*

No.	Date	Commencement	Max.	Max. Amplitude	Duration	Remarks
			1909			
		H. M.	H. M.	MM.	H. M.	
516	Jan. 2	9 57	9 59	0·1	0 5	—
		10 54	10 56	0·1	0 7	—
517	,, 2	—	17 1	0·1	0 4	—
518	,, 3	22 11	22 34	0·1	0 25	—
519	,, 5	7 10	7 14	0·7	0 21	—
520	,, 7	—	6 38	0·1	—	—
521	,, 8	—	8 50	0·2	0 5	—
522	,, 19	5 41	—	0·1	0 18	—
523	,, 22	13 21	—	0·1	0 10	—
524	,, 23	3 8·7	3 27·2	4·5	1 51	—
525	,, 29	1 36·5	1 45	0·3	0 17	—
526	,, 29	—	13 51·5	0·1	0 10	—
527	Feb. 2	—	4 50	0·2	0 3	Time approx. Watch stopped.
528	,, 4	—	10 41	0·1	—	—
			10 51	0·1		
			11 19	0·1		
			11 41	0·1		
529	,, 8	8 5	—	0·1	0 23	—

Register from the Royal Observatory, Cape of Good Hope, South Africa—continued.

No.	Date	Commencement	Max.	Max. Amplitude	Duration	Remarks
		H. M.	H. M.	MM.	H. M.	
530	Feb. 9	5 9·5	5 13	2·0	0 11	—
531	,, 9	11 59·5	12 7·5	0·9	0 33·5	—
532	,, 9	15 15	15 23·5	0·4	0 22	—
533	,, 16	20 31	20 36	0·3	0 23	—
534	,, 15	10 15·5	—	0·1	0 20	—
535	,, 16	8 31	—	0·1	0 5	—
536	,, 16	16 33	—	0·1	0 3	—
537	,, 17	9 13	—	0·1	0 5	—
538	,, 22	9 48·5	9 58	1·0	1 10	—
539	,, 22	15 0	15 6	0·2	0 16	—
540	,, 26	17 15	17 58·5	0·3	1 0	—
541	Mar. 7	18 15·5	18 19	0·6	0 16	—
542	,, 8	12 21	12 30	0·5	1 28	—
543	,, 9	—	8 33·5	0·1	0 3	—
544	,, 11	1 7	1 10	0·1	0 11	—
545	,, 11	20 31·2	20 31·2	0·8	0 5	—
546	,, 13	0 25	0 42·5	0·5	1 15	—
547	,, 13	14 25	15 50·5	0·9	3 15	—
548	,, 16	8 59	9 3	0·1	0 32	—
549	,,17-18	23 19	23 48	1·1	2 2	—
550	,, 19	—	6 56·8	0·1	0 5	—
551	,, 22	21 1	21 24	0·2	0 48	—
552	,, 27	13 47·3	—	0·1	0 44·7	—
553	April 2	7 50·5	7 55	1·7	0 9	! Seismic origin.
554	,, 10	5 57	6 43	0·7	2 21	—
555	,, 10	19 1	21 6	1·0	2 48	—
556	,, 11	4 38	4 41·5	0·3	0 17	—
557	,, 11	15 21	—	0·1	0 16	—
558	,, 12	2 1	2 12	0·2	0 22	—
559	,, 14	20 57	—	0·2	0 5	—
560	,, 17	—	9 7·5	0·1	0 3	—
561	,, 23	17 40	18 24	0·3	1 7	—
562	,, 25	22 46	—	0·1	1 2	—
563	,, 26	—	20 50	0·1	0 3	—
564	,, 27	13 12	13 46·5	2·5	2 42	—
565	,, 28	7 16·3	7 17	0·2	0 21·7	—
566	,,29-30	22 49	22 55	2·5	1 23	—
567	May 2	8 2·7	—	0·1	1 8·8	—
	,, 2	10 21	—	0·1	0 20	—
568	,, 2	16 3·5	—	0·1	3 34·5	With Ats.
569	,, 2	22 34·5	22 38·7	0·3	0 33	—
			23 4	0·25		
570	,, 3	0 33	0 38	0·4	0 9·5	—
571	,, 11	18 8·5	—	0·1	0 5	—
572	,,11-12	23 34	1 1·5	1·0	1 49	—
573	,, 13	14 26·7	14 33·7	0·3	0 11·3	—
574	,, 16	16 45	16 52	0·1	0 14	—
575	,, 17	8 3	8 23·5	2·5	2 12	—
576	,, 17	15 50	15 52·5	0·3	0 10	—
577	,, 18	5 32	6 22	0·5	2 11	With Ats.
578	,, 21	5 15	—	0·3	5 28	Series of well-defined vibrations with Ats.
579	,,21-22	23 42	2 35	0·2	3 6	—
580	,, 22	6 14	6 31	0·3	2 16	—
581	,, 23	8 42	8 50·5	0·4	0 28	—
582	,, 24	23 41	23 49·5	0·6	0 11	With Ats.
583	,, 26	3 6	—	0·2	0 24	—
584	,, 29	11 0	—	0·1	0 8	—
585	,, 30	6 52	6 56·5	0·35	0 19	—
586	,, 30	21 28·5	22 5·7	0·3	0 58·5	—
587	June 3	19 2	19 32·5	3·0	2 49	—
588	,, 6	16 36·2	—	0·1	0 46	—
589	,, 7	19 25	—	—	1 2	Vibration with Ats.
590	,, 8	4 56	6 29·2	4·0	3 22	With Ats.
591	,, 9	0 56	1 13	1·1	0 47·5	—
592	,, 12	17 49	17 59·7	0·1	0 7	—
593	,, 12	20 43·5	21 5·2	0·6	2 22·5	—
594	,, 13	10 29·5	—	0·1	0 35·5	—
595	,, 15	5 36	7 11	0·3	2 48	With Ats.
596	,, 16	5 41	7 0	0·3	1 50	With Ats.
597	,, 19	10 49	—	0·2	1 21	—
598	,, 24	15 55·5	16 11	0·1	2 25·5	—
599	,, 25	8 19·3	—	0·1	0 27	—
600	,, 27	7 31·8	8 30	0·7	2 34·2	—

Register from the Royal Observatory, Cape of Good Hope, South Africa—continued.

No.	Date	Commencement	Max.	Max. Amplitude	Duration	Remarks
		H. M.	H. M.	MM.	H. M.	
601	June 27	17 59·8	21 47·6	0·5	8 54·2	—
	,, 28		1 5·3	0·6		
602	,, 30	—	6 8·8	0·3	—	With Ats.

January	1mm. boon motion = 0″·29.	Boom period 22 secs.
February	,, = 0″·31.	,, 22 ,,
March	,, = 0″·33.	,, 21 ,,
April	,, = 0″·25.	,, 23 ,,
May	,, = 0″·28.	,, 22 ,,
June	,, = 0″·22.	,, 25 ,,

Register from the Royal Alfred Observatory, Mauritius.
Director, T. F. Claxton, *F.R.A.S.* *Assistant Director*, A. Walter.

No.	Date	Commencement	Max.	Max. Amplitude	End	Remarks
			1908			
		H. M.	H. M.	MM. = ″	H. M.	
673	Jan. 11	3 46·5	4 26·5	0·5 ·40	5 12·5	E.W. P_2, 4 12·5.
		3 57·5	4 14	1·0 ·25	4 50·5	N.S. P_3, 4 12.
674	,, 27	16 24·4	16 35·4	—	16 38·4	E.W. Thickening of trace.
675	,, 29	21 12·8	—	—	21 30·8	E.W. Thickening of trace.
		21 8·3	—	—	21 15·8	N.S.
676	,, 30	7 56·5	8 1·5	—	8 6·5	E.W.
677	Feb. 1	6 22·3	—	0·5 ·20	6 29·3	E.W. Register faint in N.S.
678	,, 9	18 43·8	—	—	19 4·8	Irregular thickenings in both E.W. and N.S.
679	,, 11	14 10·6	—	—	14 20·1	E.W. Slight thickening of trace.
		14 11·6	—	—	14 18·6	N.S.
680	,, 24	11 52	11 55·5	0·5 ·25	12 0	E.W. Slight in N.S.
681	Mar. 13	18 16·4	18 22·4	0·7 ·14	18 29·9	N.S. Slight in E.W.
682	,, 15	9 37	—	—	9 43·7	E.W. Isolated tremor.
		10 5·7	10 16·7	0·5 ·23	10 43.7	Very slight movements in N.S. P_2, 10 11·2
683	,, 26	23 27·4	0 31·4	—	?	E.W. Boom disturbed. Anomalous vibrations.
		23 25·4	0 28·4	5·0 ± 1.00 ±	1 32·4	N.S. 2nd Max. occurred at 0 35·9 (6·0 ± mm.) P_3, 23 47·4.
684	,, 27	5 3·6	5 21·1	1·0 ·20	5 36·5	N.S. Slight in E.W. P_2, 5 10·1. P_3, 5 17·1.
685	April 10	0 4·6	0 18·1	0·8 ·32	0 27·6	E.W. Very slight in N.S.
686	May 5	6 36·7	7 14·7	5·0 ± 1·57 ±	7 14·7	E.W. P_3, 6 51·2.
		6 37·2	6 49·7	3·0 ·60	7 12·3	N.S. P_3, 6 47·2.
687	,, 5	11 19·7	11 25·7	1·0 ·20	11 29·7	N.S. Slight in E.W. P_3, 11 23·7.
688	,, 15	9 47·3	9 53·8	0·5 ·18	10 7	E.W. Thickening of trace.
		9 46·3	—	0·5 ·10	10 1·3	N.S. Thickening of trace.
689	,, 20	4 6·6	—	—	4 9·6	E.W. Seismic origin uncertain.
690	,, 23	0 3·3	0 4·3	1·1 ·22	9 9·8	N.S. Slight and irregular in E.W. Seismic origin uncertain.
691	,, 25	9 42·5	—	0·5 ·18	9 47	E.W. Slight in N.S.
692	,, 31	20 13	20 19	1·5 ·30	20 27	N.S.
693	June 24	15 29·6	15 38·1	—	15 42·6	E.W.
694	July 8	13 44	—	—	13 56	N.S.
695	,, 15	7 47·4	7 49·9	?	7 56·4	E.W. and N.S. Anomalous movements. Seismic origin doubtful.

Register from the Royal Alfred Observatory, Mauritius—continued.

No.	Date	Commencement	Max	Max. Amplitude	End	Remarks.
		H. M.	H. M.	MM. = ″	H. M.	
696	July 26	16 18·3	16 27·8	0·5 ·18	16 23·3	E.W.
		16 19·3	16 24·8	0·5 ·10	16 31·3	N.S.
697	Aug. 12	16 16·3	—	—	16 20·3	E.W. Isolated thickenings.
		16 32·3	—	—	16 46·3	
		16 15·3	—	—	16 20·3	N.S. ,, ,,
		16 35·3	—	—	16 38·3	
698	,, 12	19 6·4	—	—	19 26·4	E.W. and N.S.
699	,, 14	1 49·5	—	—	2 17·5	,, ,,
		2 3	—	—	2 20	N.S.
700	,, 17	11 0·6	11 11·1	3·0 ·90	11 11·6	E.W.
		11 0·6	11 16·1	2·5 ·55	11 51·6	N.S.
701	,, 20	10 9·1	—	0·6 ·18	10 33·1	E.W.
		10 20·1	—	1·5 ·33	10 36·1	N.S.
702	,, 25	21 5·5	21 8·5	—	21 12	N.S.
703	Sept. 23	7 25·1	7 29·6	1·0 ·30	7 38·1	E.W. Slight in N.S.
704	,, 28	6 56	—	—	7 10	E.W.
705	Oct. 7	1 31	1 37	1·0 ·35	1 45	E.W. Slight in N.S.
706	,, 13	6 27·3	6 39·3	1·0 ·35	7 3·3	E.W. P_2, 6 34·3.
		6 26·3	6 28·3	0·5 ·11	7 5·3	N.S. Another max. at 6 34·8.
707	,, 14	15 58·5	—	—	16 6	E.W. Slight thickening of trace.
		15 53·5	—	—	16 4	N.S. ,, ,,
708	,, 19	7 47·6	7 49·6	1·0 ·35	7 55	E.W.
		7 48·6	7 57	1·0 ·21	7 54	N.S.
709	,, 24	21 35	—	—	21 36	N.S. Very slight thickening of trace.
710	,, 25	8 23·5	—	—	8 27	E.W. ,, ,,
		8 24	—	—	8 29·5	N.S. ,, ,,
711	Nov. 2	5 24	5 40	2·5 ·88	6 30	P_2, 5 31. P_3, 5 37·5.
		5 26	5 39	1·0 ·22	6 15	P_2, 5 31·5. P_3, 5 37·5.
712	,, 2	7 36	7 44·5	—	7 54·5	E.W. Thickening of trace. P_3, 7 42·5.
		7 41	7 44	—	7 50	N.S. Thickening of trace.
713	,, 6	14 54·4	—	—	15 0·4	E.W. ,, ,,
		14 53·4	14 57·4	—	15 2·4	N.S. ,, ,,
714	,, 9	16 1·1	16 5·1	—	16 12·1	E.W.
		16 1·1	16 5·1	—	16 9·1	N.S.
715	,, 11	13 14·4	—	—	13 20·9	E.W. Isolated thickening of trace.
		13 28·9	13 35·4	—	13 50·4	
		13 14·9	13 30·4	—	13 41·9	N.S.
716	,, 17	10 48·8	10 51·8	—	10 55·3	E.W.
717	,, 20	8 18·7	—	—	8 20·7	E.W.
718	,, 21	3 7·4	—	—	3 8·9	E.W.
719	,, 23	13 2·1	—	—	13 48·1	E.W. Several slight thickenings of trace.
		13 3·1	—	—	13 29·1	N.S.
720	,, 24	12 19·9	—	—	12 24·9	E.W.
		12 19·4	12 23·4	—	12 26·4	N.S.
721	,, 31	23 10·5	—	—	23 19	E.W.
722	Dec. 1	3 21	—	—	3 26	E.W. Very slight thickening of trace.
723	,, 10	10 34·7	—	—	10 36·2	E.W. ,, ,,
724	,, 12	13 14·7	13 31·7	2·0 ·62	—	E.W. P_2, 13 23·7. P_3, 13 30·7.
		13 7·7	13 20·2	1·0 ·27	—	N.S. P_2, 13 15·7. P_3, 13 26·2.
725	,, 12	19 14·4	—	—	19 49·9	E.W. Several slight thickenings of trace.
		19 14·4	—	—	19 44·9	N.S. ,, ,,
726	,, 18	15 49	15 56	1·5 ·47	16 55	E.W. P_2, 15 51.
		15 45·5	15 55	2·0 ·54	16 15·5	N.S. P_3, 15 53. Isolated thickening.
		16 22	16 27·5	—	16 35	
727	,, 23	4 30·7	4 41·2	0·4 ·12	4 50·7	E.W.

Register from Helwan Observatory, Cairo, Egypt.
Superintendent, B. F. E. KEELING.

A is mounted North and South. B is mounted East and West

No.	Date	Commencement	Max.	Max. Amplitude	Duration	Remarks
			1909			
		H. M.	H. M.	MM.	H. M.	
645	Jan. 2	13 10·4	13 12·3	0·4	0 27	A.
		13 09·2	13 11·6	0·4	0 20	B.
646	,, 3	22 18	—	0·1	1 43	A.
		22 26	—	0·2	1 37	B.
648	,, 5	?	7 ? 57	?	?	A. End 8h.52m. Beginning lost during changing of papers.
		?	8 ? 03	?	?	B. End 9h.0m.
648a	,, 6	14 51	—	0·1	0 10	A. (Doubtful.
		14 51	—	0·1	0 16	B.)
649	,, 15	16 57	—	0·1	1 12	A.
650	,, 19	5 00·6	5 08·7	0·5	0 38	A.
		5 00·8	—	0·2	0 22	B.
651	,, 23	2 51·3	2 59·5	>15·6	2 25	B. A not working. P_g, 2 54·5.
652	,, 27	1 44	—	0·1	0 3	A.
653		14 11	—	0·1	0 8	B.
654	Feb. 2	19 40·8	19 55·3	0·2	0 35	A only.
654a	,, 4	11 41	—	0·1	0 17	A.
		11 42	—	0·1	0 12	B.
655	,, 5	6 53	—	0·1	1 36	B. only.
656	,, 9	11 28·5	11 38·2	2·5	2 12	A.
		11 30·8	—	0·7	0 35	B. Boom not free.
656a	,, 9	14 41·9	14 54	0·9	1 2	A. Also B, but boom not free.
657	,, 10	19 55	20 02·8	0·8	1 5	A.
		19 57	—	—	0 33	B. Boom not free.
657a	,, 13	5 14	—	0·1	0 11	A.
659	,, 13	6 00	6 04·5	0·7	0 38	A.
		6 00	6 02·8	1·0	0 46	B.
660	,, 14	4 21	—	0·1	0 17	A only.
660a	,, 14	15 57	—	0·1	0 43	A.
660b	,, 15	1 04	1 28	0·1	—	A.
660c	,, 15	9 40	9 47	0·3	1 15	A.
661	,, 16	8 33	—	0·2	0 35	A.
		8 16	—	0·2	1 7	B.
661a	,, 19	10 01	—	0·1	0 52	A with Ats.
		10 01	—	0·1	1 9	B with Ats.
661b	,, 20	22 25	—	0·1	0 40	A.
		22 28	—	0·1	0 44	B.
663	,, 22	9 41·5	10 16	0·9	2 39	A.
		9 43·5	10 14	0·4	2 36	B.
664	,, 22	14 22·8	14 33	0·4	0 55	A.
		14 21	14 33·2	0·4	1 2	B.
665	,, 28	21 08	—	0·1	0 10	A.
		21 09	—	0·1	0 10	B.
666	Mar. 5	12 23·3	—	0·1	0 33	B. A not working.
967	,, 7	15 12	—	0·1	0 6	B only.
668	,, 7	18 41·4	19 0	0·3	1 19	A.
		18 21·5	19 13	0·3	1 24	B.
668a	,, 7	20 20	—	0·1	0 33	A.
		20 30·3	20 40	0·1	0 20	B.
669	,, 8	1 32	1 43	0·1	0 28	A.
		1 41·4	1 47	0·1	0 19	B.
670	,, 8	11 45·3	—	0·1	2 33	A.
		11 55·5	—	0·1	1 24	B.
671	,, 8	21 20·2	21 26·4	0·5	0 20	A. Very doubtful.
672	,, 11	0 08	—	0·2	1 34	A.
		0 07·3	—	0·2	1 23	B.
672a	,, 11	21 27	—	0·1	0 6	A only.
672b	,, 12	1 17	—	0·1	0 49	A only.
673	,, 12	23 32	—	0·5	3 15	A.
		23 40·8	—	0·3	1 57	B.
674	,, 13	14 41·3	14 54	0·8	3 24	A.
		14 40·6	14 52	0·7	2 57	B.
675	,, 17	23 09·5	23 54·9	1·0	2 48	A.
		23 16·3	—	0·4	3 16	B.
676	,, 19	6 52·1	—	0·2	0 36	A.
		6 53·6	—	0·4	0 23	B.
676a	,, 22	5 14	—	0·1	0 29	B. A not working.

Register from Helwan Observatory, Cairo, Egypt—continued.

No.	Date	Commencement	Max.	Max. Amplitude	Duration	Remarks
		H. M.	H. M.	MM.	H. M.	
677	Mar. 22	20 26·2	—	0·2	1 22	A.
		20 29·3	—	0·2	1 33	B.
678	,, 22	22 35·5	—	0·1	1 54	A.
		22 47	—	0·1	1 46	B.
679	April 7	20 16·4	20 23·3	0·2	0 18	A.
		20 19·2	20 21·5	0·1	0 10	B.
680	,, 10	3 47	—	0·2	3 30	A.
		3 47	—	0·2	3 18	B.
681	,, 10	19 0	20 26	1·5	3 38	A.
		18 57·6	20 40·1	0·9	3 21	B.
682	,, 11	4 5·2	4 11·6	1·0	1 30	A.
		4 7·6	4 11·6	2·8	1 14	B.
683	,, 11	14 23·7	—	0·3	1 13	A.
		14 24·6	—	0·2	1 31	B.
683a	,, 11	20 47	—	0·2	0 36	A.
		20 48	—	0·2	0 39	B.
684	,, 12	2 23·8	—	0·2	1 32	A.
		2 17·4	—	0·1	1 11	B.
685	,, 14	8 43·5	—	0·1	0 12	A.
		8 42·2	—	0·1	0 14	B.
686	,, 14	12 21·8	—	0·1	0 20	A. Probably Ats.
		12 21·3	—	0·1	0 12	B.
687	,, 14	20 5·7	20 19	0·3	1 35	A.
		20 5·4	20 16	0·3	1 27	B.
688	,, 22	6 2·8	—	0·2	0 30	B. A not working. From the 20th to 22nd the records were interrupted owing to rain coming through the roof during a storm.
689	,, 23	17 53	—	0·2	0 47	A.
		17 52·3	18 5·6	0·4	0 58	B.
689a	,, 25	22 12·6	23 8	0·2	2 1	A.
		22 42·2	—	0·1	1 25	B.
690	,, 26	20 57·2	—	0·2	1 41	A.
		20 56·1	—	0·1	0 47	B.
691	,, 27	13 2·1	13 12·6	0·6	2 55	A.
		13 2	13 15·3	0·3	2 54	B.
692	,, 29	22 55	23 25·6	2·0	1 18	A.
		22 52·5	23 25·2	1·5	2 0	B.
692a	May 1	9 22	—	0·1	0 8	A only.
692b	,, 1	17 47	—	0·1	0 7	A ,,
693	,, 2	—	End 8 26	0·2	—	A. (Lamps being changed, commence-
		—	8 27	0·1	—	B. (ment and max. lost.
693a	,, 2	18 33	—	0·1	1 56	A only.
694	,, 2	19 26·7	—	0·1	2 11	A.
		22 25·6	—	0·1	2 10	B.
694a	,, 6	15 16	—	0·1	0 4	B. Doubtful.
694b	,, 8	5 11	—	0·1	0 4	A only.
694c		6 59	—	0·1	0 6	A.
695	,, 10	20 31·6	—	0·2	1 8	B.
		20 33·3	—	0·2	1 0	A.
696	,, 11	23 52·4	—	0·1	0 21	B.
697	,, 12	0 27·2	1 22·2	0·4	2 10	A.
		0 35·2	1 12·9	0·4	2 14	B.
698	,, 12	6 17·3	—	0·1	0 30	B.
		6 17·3	—	0·1	0 31	A.
699	,, 13	14 6·2	—	0·1	0 30	B.
		14 4·7	—	0·1	0 31	A.
700	,, 17	8 18·4	9 12·0	2·0	Lost	B. A not working.
701	,, 18	4 40·1	—	0·1	2 30	A.
		4 51·5	6 18	0·2	2 46	B.
702	,, 26	2 23	2 32	0·2	4 33	A.
		2 24	—	0·1	4 48	B.
703	,, 30	6 18·2	6 27·3	0·6	1 12	A.
		6 18·6	6 29·5	0·7	1 3	B.
704	,, 30	21 19·4	21 29	0·2	2 10	A.
		21 20·2	21 42	0·2	2 20	B.
705	June 3	6 8	—	0·1	0 24	A.
		6 14	—	0·1	0 14	B.
706	,, 3	18 52·3	19 30	5·5	4 50	A.
		18 53·5	19 32	6 0	4 42	B.
706a	,, 6	5 18	—	0·1	0 53	A.
		5 34	—	0·1	0 40	B.

Register from Helwan Observatory, Cairo, Egypt—continued.

No.	Date	Commencement	Max.	Max. Amplitude	Duration	Remarks
		H. M.	H. M.	MM.	H. M.	
707	June 8	6 6·1	7 3·8	2·8	3 11	A.
		6 6·1	9 3	1·6	3 15	B.
708	,, 9	0 54	1 46	0·5	1 6	A.
		0 58	1 44	0·4	1 6	B.
709	,, 11	21 15	—	0·1	0 26	A.
		21 26	—	0·1	0 10	B.
710	,, 12	21 0	21 58	0·2	1 43	A.
		20 59·8	21 52	0·3	1 10	B.
710a	,, 15	8 0	—	0·1	0 5	B only.
		11 58	—	0·1	0 7	B only.
711	,, 15	23 35	23 42	0·4	1 53	A.
		23 34	23 44	0·3	0 42	B.
711a	,, 16	13 57	—	0·1	0 7	B only.
712	,, 17	6 55	—	0·1	0 38	A.
		6 56	—	0·1	0 35	B.
713	,, 18	6 46	—	0·1	0 40	A.
		6 35	—	0·1	1 9	B.
714	,, 18	7 52	8 25	0·2	1 18	A.
		7 52	8 27	0·2	1 4	B.
715	,, 19	17 56	18 0	0·2	0 15	A.
		17 55	—	0·2	0 11	B.
716	,, 20	6 30	—	0·1	0 27	A.
		6 32	—	0·1	0 25	B.
716a	,, 22	6 58	—	0·1	0 8	A.
		6 59	—	0·1	0 10	B.
717	,, 22	13 30	14 16	0·2	2 8	A.
		13 30·4	14 8	0·2	2 19	B.
718	,, 24	13 28	—	0·1	0 21	A.
		13 20	—	0·1	0 29	B.
718a	,, 26	9 30	—	0·1	0 4	A. Doubtful.
		9 30	—	0·1	0 4	B. Doubtful.
719	,, 27	7 34	7 42	0·3	2 42	A.
		7 33	9 20	0·3	3 18	B.
720	,, 28	19 30	—	0·1	0 20	A.
		19 30	—	0·1	0 15	B.
720a	,, 29	4 34	—	0·1	0 4	A.
		4 34	—	0·1	0 5	B.

Register from the Government Observatory, Bombay.
Director, N. A. F. Moos.

No.	Date	Commencement	Max.	Max. Amplitude	Duration	Remarks
			1909			
		H. M.	H. M.	MM.	H. M.	
397	Jan. 4	—	20 58·5	—	—	Small.
398	,, 5	—	7 55·5	—	—	Thickening of trace.
399	,, 22	12 43·5	12 52·5	0·6	0 18	Small.
400	,, 23	2 57·7	3 15·7	1·4	1 34	—
401	,, 27	—	14 40	—	—	Very small
402	Feb. 1	—	11 6	—	—	,,
403	,, 2	19 24·7	19 25·5	0·2	0 10	—
404	,, 6	—	21 23·7	—	—	Thickening of line.
405	,, 9	11 36·3	11 47	1·0	0 40	—
406		14 59·9	15 2·9	0·3	0 14	—
407	,, 15	0 55·9	1 7·7	0·3	0 18	—
408	,, 16	8 9·5	8 22·2	0·3	0 23	—
409	,, 22	9 45·5	9 50·6	0·6	1 14	—
410		—	14 41	—	—	Thickening of line.
411	Mar. 12	23 37·7	23 57·3	1·5	1 0	—

Register from the Government Observatory, Bombay—continued.

No.	Date	Commencement	Max.	Max. Amplitude	Duration	Remarks
		H. M.	H. M.	MM.	H. M.	
412	Mar. 13	14 40	15 11·9	2·0	—	End lost shifting time.
413	,, 17	23 4·7	23 28·9	2·0	1 12	—
414	,, 22	—	20 42	—	—	Thickening of line.
415	,, 27	—	13 45	—	—	,, ,, —
416	,, 29	9 9·7	9 12·5	0·2	0 10	
417	April 9	7 2·9	7 4	0·2	0 10	Small.
418	,, 10	—	5 57	—	—	Thickening of line.
419		6 23·9	6 46	0·3	0 42	Small.
420		18 56	19 28·5	0·9	—	End cannot be determined.
421		20 2·2	20 22·7	4·9	1 27	—
422	,, 11	14 42·6	14 48·7	0·8	0 23	—
423		—	20 34·4	—	—	Thickening of line.
424	,, 12	—	2 3·6	—	—	,, ,, —
425		2 42·1	2 47·9	0·4	0 11	
426	,, 14	20 2·5	20 20·5	0·2	0 34	—
427	,, 23	—	18 12	—	—	Thickening of line.
428	,, 24	—	12 21·5	—	—	,, ,,
429	,, 25	—	22 20	—	—	,, ,,
430		—	23 0	—	—	,, ,,
431		23 6·9	23 14·7	0·4	0 25	Small.
432	,, 27	13 4	13 29	0·4	1 12	,,
433	,, 29	22 58	23 5	0·5	0 30	—
434	May 2	—	7 30·3	—	—	Thickening of line.
435		—	7 34·5	—	—	,, ,,
436	,, 2	—	19 18·3	—	—	,, ,,
437		—	22 16	—	—	,, ,,
438		—	22 41·7	—	—	,, ,,
439	,, 3	—	0 14·5	—	—	,, ,,
440	,, 6	—	4 30	—	—	,, ,,
441	,, 10	20 27·6	20 30·7	0·2	0 9	Small.
442	,, 12	1 30·9	1 40·3	0·3	0 30	,,
443	,, 17	8 24·7	8 37·3	0·9	—	—
444		9 28·7	—	—	1 0	Small.
445	,, 30	21 22·1	21 42·2	0·5	0 42	,,
446	June 2	—	10 32·9	—	—	Thickening of line.
447	,, 3	18 47·2	—	—	2 26	Small.
548	,, 8	6 20·2	7 12·9	2·5	—	End lost in tremors.
449	,, 9	1 46·2	1 53·9	0·5	0 35	Small.
450		11 0	to 12 50	—	—	Tremors.
451	,, 10	—	8 1·9	—	—	Thickening of line.
452	,, 12	21 3·4	21 13·8	1·0	0 46	Small.
453	,, 13	—	20 55	—	—	Thickening of line.
454	,, 15	—	20 54·1	—	—	,, ,,
455	,, 16	—	7 24·3	—	—	,, ,,
456	,, 18	—	7 57·9	—	—	,, ,,
457	,, 28	—	8 12·9	—	—	,, ,,

Register from the Solar Physics Observatory, Kodaikânal, Madras.
Director, C. Michie Smith.

No.	Date	Commencement	Max.	Max. Amplitude	Duration	Remarks
			1909			
		H. M.	H. M.	MM.	H. M.	
1	Jan. 22	12 38·2	12 46·9	1·1	0 30	—
2	,, 23	2 56·7	3 14·6	2·0	1 44	Luristan, Persia.
3	,, 29	1 18·8	—	—	0 44	W.L.
4	Feb. 2	19 12·2	19 21·9	0·6	0 31	—
5	,, 9	11 37·2	11 56·9	1·0	1 10	—
6	,, 9	14 28	—	—	1 15	W.L.
7	,, 22	9 41·3	9 45·4	0·5	1 18	—
8	Mar. 7	18 47·4	—	—	0 19	W.L.

Register from the Solar Physics Observatory, Kodaikánal, Madras—continued.

No.	Date	Commencement	Max.	Max. Amplitude	Duration	Remarks
		H. M.	H. M.	MM.	H. M.	
9	Mar. 12-13	23 37·1	0 06·1	1·0	1 14	—
10	,, 13	14 39·8	15 12·3	0·6	—	—
			15 13·6	0·6	1 15	—
11	,, 17	10 33·1	10 39·2	0·3	0 14	—
12	,, 17-18	23 01·8	23 23·9	3·5	1 10	—
13	,, 23	20 41·2	20 48·9	0·6	0 27	—
14	April 10	5 51·5	6 47·4	0·7	2 7	—
15	,, 10	18 58·4	19 34·1	1·1	,,	These two overlap.
16	,, 10	20 07·2	20 29	2·0	1 31	
17	,, 11	14 45·4	14 53·6	0·5	0 37	—
18	,, 14	2 51·7	2 54·8	0·9	0 24	Felt in Simla.
19	,, 14	20 01·8	20 25·2	0·5	0 46	—
20	,, 25	22 08·4	—	—	1 21	W.L.
21	,, 27	12 55·6	13 38·2	0·9	1 46	—
22	,, 29	22 57·6	23 04·8	1·1	1 10	W.L.
23	May 2	7 49·7	—	—	0 34	—
24	,, 2	22 12·7	22 14·3	0·6	0 29	—
25	,, 3	0 11·2	0 13·3	0·8	0 11	—
26	,, 10	20 21·9	20 27·4	2·3	0 32	—
27	,, 12	1 35·6	1 47·4	0·5	0 45	—
28	,, 17	8 22·3	8 41·3	0·6	2 0	—
29	,, 30	21 10·5	21 36·1	0·6	1 17	—
30	June 3	,,	,,	18+	4 30±	L.W. 18 42·3. Boom reached stops 18 56·7 to 19 0·8. Gale blowing and causing the boom to be unsteady. Sumatra.
31	,, 8	6 06·2	7 19·7	1·1	2 17	—
32	,, 12	20 44·4	21 20·3	1·0	1 29	—
33	,, 18	7 46·4	—	—	0 17	W.L.
34	,, 27	7 39·2	8 25·4	0·6	1 45	—

1mm. = 0°·48.

Register from Alipore Observatory, Calcutta.
Director, GILBERT T. WALKER, *M.A., F.R.S.*

No.	Date	Commencement	Max.	Max. Amplitude	Duration	Remarks
		1909				
		H. M.	H. M.	MM.	H. M.	
605	Jan. 22	12 22·5	12 53·8	0·75	1 5·6	P_3, 12 53·5.
606	,, 30	12 56·4	15 57·4	0·50	0 5·1	—
607	Feb. 2	19 15·8	19 26	1·25	0 25·4	P_3, 19 20·9.
608	,, 9	11 37	12 2·7	2·00	1 56·2	P_3, 11 41·6.
609	,, 10	20 16·6	20 17·6	0·50	0 17·3	—
610	,, 11	4 31·5	4 35	0·50	0 8·6	—
611	,, 13	5 23·6	5 24·6	1·00	0 8·1	—
612	,, 15	9 50·3	9 53·3	2·50	1 38·1	—
613	,, 16	8 4·9	8 8·4	3·00	0 35·6	—
614	,, 16	18 40	18 40·5	0·50	0 8·1	—
615	,, 22	9 38·9	9 44·4	0·50	0 5	—
616	Mar. 12	23 27	23 55·4	1·75	1 4·1	P_3, 23 40·2
617	,, 13	14 37·9	14 48·5	1·50	1 35·9	P_3, 14 45·0
618	,, 17	23 2·8	23 9·9	1·25	1 13·6	P_3, 23 2·8
619	April 10	5 53	5 57·6	0·50	0 39·6	—
620	,, 10	18 46·8	20 15·2	5·00	2 47·2	P_3, 19 19·3.
621	,, 11	14 18·8	14 38·7	0·75	0 44·8	P_3, 14 35·1.
622	,, 14	20 0·1	20 16·4	1·75	0 48·3	P_3, 20 7·7.
623	,, 25	22 52	23 8·2	0·50	0 35·5	P_3, 23 6·1.
624	May 2	22 21·5	—	—	0 33·5	Thickening of the line.
625	,, 10	20 29·6	20 46·3	0·50	0 30·5	P_3, 20 38·2.
626	,, 11	15 31·4	15 33·5	1·00	0 7·1	—

Register from Alipore Observatory, Calcutta—continued.

No.	Date	Commencement	Max.	Max. Amplitude	Duration	Remarks
		H. M.	H. M.	MM.	H. M.	
627	May 11	16 0·9	16 5	2·75	0 11·7	—
628	,, 17	8 23·7	8 40·5	1·50	1 47·3	P_3, 8 27·3.
629	,, 19	13 36·1	...	—	0 25·4	Thickening of the line.
630	,, 20	13 41·1	13 41·6	0·50	0 5·1	—
631	,, 30	21 9·8	21 33·2	0·75	0 54·9	P_3, 21 16·9.
632	June 3	5 36·4	5 44	0·50	0 17·3	P_3, 5 40·5.
633	,, 3	18 47·8	18 59	[illegible]	2 39·1	P_3, 18 50·2. (*Time of Max. amplitude cannot be determined as the boom moved throughout the trace four times.)
			19 2·5			
			19 4·6			
			19 6·6			
634	,, 3	22 41·2	22 53·4	0·75	0 26·9	P_3, 22 51·4.
635	,, 6	3 32·3	—	—	0 14·6	Thickening of the line.
636	,, 6	5 12·8	—	—	0 47·8	,, ,,
637	,, 8	6 11·2	7 33·6	2·25	2 18·3	P_3, 7 17·8.
638	,, 9	1 51·2	2 7·4	0·50	0 45·7	P_3, 2 0·3.
639	,, 12	20 45·5	21 13·4	1·00	1 4·6	P_3, 21 11·9.
640	,, 22	13 33·3	—	—	0 28·5	Thickening of the line.
641	,, 22	14 31·8	14 36·9	0·75	0 25·9	—

On April 27 the driving clock stopped for a few hours after 3 p.m.

Sensibility throughout, 1mm. = 0°·38 of tilt.

Register from Irkutsk Magnetical and Meteorological Observatory.
Director, A. V. VOZNESSENSKY.

No.	Date	Commencement	Max.	Max. Amplitude	Duration	Remarks
		1908				
		H. M.	H. M.	MM.	H. M.	
1574	Oct. 1	9 44·5	9 45·6	0·2	0 11	—
1575	,, 4	12 34	—	—	0 11	—
1576	,, 5	2 49·1	2 49·2	0·7	0 37	—
1578	,, 5	21 22·3	21 26·1	0·3	0 19	—
1579	,, 6	13 32·6	—	—	0 11	—
1581	,, 7	1 5·6	1 24·8	0·5	>0 56	—
1582	,, 10	15 11·4	15 28·8	0·6	0 51	—
1583	,, 13	5 27·9	6 6·4	1·6	2 25	—
1584	,, 14	15 9·5	15 17·7	3·0	1 10	—
1585	,, 17	14 30·9	14 35·2	0·4	0 15	—
1586	,, 20	2 59·7	3 7·5	1·2	0 40	—
1587	,, 20	5 53·9	6 4·4	1·2	0 44	—
1592	Nov. 2	5 28·3	5 44·9	5·2	1 56	—
1593	,, 2	7 32·6	7 49·1	0·4	0 52	—
1594	,, 6	7 14·5	7 20·5	3·6	2 03	—
1595	,, 6	13 51	14 9·5	2·3	1 20	—
1596	,, 6	23 41·9	23 55	0·2	0 25	—
1597	,, 7	17 53·7	—	—	0 09	—
1599	,, 9	16 29·1	16 47·7	0·2	0 47	—
1600	,, 10	19 9·5	19 23·7	0·2	0 35	—
1601	,, 10	13 33·5	13 46·8	2·3	1 32	—
1602	,, 19	0 31·6	0 39·1	0·3	0 18	—
1603	,, 21	23 55·3	—	—	0 28	—
1604	,, 22	7 20·9	7 32·7	0·6	0 38	—
1605	,, 23	12 56	13 16·4	0·5	1 05	—
1607	,, 30	21 48·8	21 57·4	0·4	1 0	—
1608	Dec. 1	3 26·6	3 30·8	0·3	0 29	—
1610	,, 12	13 1·6	13 10·9	17·0	1 9	—

Register from Irkutsk Magnetical and Meteorological Observatory—continued.

No.	Date	Commencement	Max.	Max. Amplitude	Duration	Remarks
		H. M.	H. M.	MM.	H. M.	
1611	Dec. 12	19 3·9	19 31·4	0·8	1 29	—
1612	,, 18	15 46·3	16 13·5	1·0	1 51	—
1613	,, 22	2 57·2	3 0·3	0·6	0 18	—
1614	,, 28	4 30·6	4 55·4	6·9	5 5	—
1615	,, 31	17 47·4	—	—	0 32	—
			1909			
1616	Jan. 3	14 59·8	15 2·7	0·3	0 21	—
1619	,, 7	17 13·6	17 14·3	0·2	0 5	—
1620	,, 13	16 34·7	16 35·7	0·2	0 7	—
1621	,, 15	16 50·4	17 5·7	0·3	0 42	—
1622	,, 16	8 10·2	—	—	0 7	—
1625	,, 23	2 58·3	3 12·9	3·8	3 13	—
1626	,, 23	6 11·1	6 16·7	0·4	1 3	—
1627	,, 23	7 39·7	8 12·6	0·4	1 27	—
1628	,, 24	17 11·3	17 21·8	0·3	0 38	—
1630	,, 29	1 2·6	1 18·7	0·7	0 45	—
1631	,, 29	13 13·8	13 23	0·2	0 28	—
1637	Feb. 9	11 40·4	11 53·9	0·8	1 11	—
1638	,, 9	14 59·3	15 7·8	0·3	0 46	—
1639	,, 10	20 15·1	20 20·3	0·3	0 29	—
1641	,, 13	4 33·5	—	—	0 18	—
1642	,, 14	16 24·7	16 32·1	0·2	0 20	—
1643	,, 15	0 52·9	0 56·4	1·3	0 37	—
1644	,, 15	7 51·7	—	—	0 7	—
1645	,, 15	9 57·6	10 5·3	0·3	0 33	—
1646	,, 16	8 7·4	8 11·3	1·5	0 31	—
1647	,, 16	17 5·3	17 8·4	0·3	1 29	—
1648	,, 16	18 44·7	18 46·1	0·3	0 12	—
1649	,, 22	9 36·6	9 48·4	0·8	1 40	—
1650	,, 22	14 42·1	—	—	0 25	—
1651	,, 22	21 23·3	21 25·4	0·4	0 25	—
1653	,, 26	17 17·1	18 2·8	0·4	1 24	—
1654	Mar. 1	1 41·4	1 43·3	0·3	0 11	—
1656	,, 7	20 11·6	20 14·2	0·5	0 25	—
1657	,, 8	11 54·2	12 9·7	0·3	0 52	—
1658	,, 11	0 2	0 14	1·0	1 1	—
1659	,, 11	14 20·9	14 22·8	0·2	0 12	—
1660	,, 11	20 41·1	20 50	0·2	0 35	—
1661	,, 12	0 40·8	0 43	0·3	0 12	—
1662	,, 12	1 21·4	—	—	0 12	—
1664	,, 12	23 22·6	23 39·7	2·3	2 8	—
1666	,, 13	14 34·7	14 49·3	2·7	3 22	—
1670	,, 17	23 9·8	23 27·1	1·9	1 40	—
1671	,, 19	11 7·4	11 8·3	8·5	1 50	—
1672	,, 22	4 41·9	4 47·4	0·2	0 36	—
1673	,, 22	20 11·9	20 24·3	1·2	0 57	—

The Seismological Institute, Tokyo, Japan.
Observer, A. IMAMURA, *D.Sc.*

Time in the column "Remarks" is the commencement given by Omori H.P. seismographs.

No.	Date	Commencement	Max.	Max. Amplitude	Duration	Remarks
		H. M.	H. M.	MM.	H. M.	
			1907			
669	Jan. 2	18 41·9	18 41·9	9·5	0 7	Near Tokyo.
670	,, 4	5 27·9	5 56·2	14·0	3 4	5 28·9.
671	,, 4	16 49·2	16 49·9	1·5	0 1·5	Off S. coast of Hokkaido.
672	,, 19	13 15·2	13 18·5	1·2	0 45	13 14·4.

Register from the Seismological Institute, Tokyo, Japan—continued.

No.	Date	Commencement	Max.	Max. Amplitude	Duration	Remarks
		H. M.	H. M.	MM.	H. M.	
673	Jan. 22	0 5·2	0 5·2	0·6	0 4	—
674	Feb. 6	8 40	8 40·6	1·6	0 12	Near Bonin.
675	,, 22	11 38·7	11 40	1·3	0 23	—
676	Mar. 7	2 44·9	2 44·9	2·0	0 8	Near Tokyo.
677	,, 12	15 37·3	15 37·5	3·7	0 9	Near Tokyo.
678	,, 13	2 15·8	2 17	1·5	0 12	Off Bo-So Peninsula.
679	,, 26	0 22·3	0 24·2	3·2	0 20	—
680	,, 31	10 31·9	10 32·9	1·0	0 5	Off Iwaki.
681	April 1	22 20·2	22 20·4	1·7	0 3	—
682	,, 9	3 25·3	3 26	0·3	0 11	Inland Sea.
683	,, 15	6 19·9	7 1·3	1·6	3 20	6 19·2.
684	,, 17	1 19·3	1 26·3	0·8	0 20	—
685	,, 18	21 5·9	21 13·4	17·0	1 35	21 5·2.
686	,, 18	23 59·1	24 6·3	10·0	1 35	23 58·8.
687	,, 23	0 58·8	0 59·2	2·5	0 9	Off Iwaki.
688	,, 30	3 51·5	3 51·8	1·0	0 7	Off Hitachi.
689	May 5	8 39	—	—	—	Near Bonin Is.
690	,, 22	9 38·5	9 39·3	0·3	0 5	N.E. Japan.
691	,, 22	22 53·8	22 55·1	3·5	0 15	N.E. Japan.
692	,, 22	23 13	23 14	0·7	0 10	N.E. Japan.
693	,, 22	23 24	23 24·8	0·3	0 4	—
694	,, 25	12 1·3	12 8·8	0·5	0 45	—
695	,, 25	14 6·5	14 9·7	5·5	1 20	—
696	,, 25	16 2·3	16 3·3	0·8	0 6	—
697	,, 26	21 58·4	21 58·8	3·0	0 6	Near Tokyo.
698	,, 28	14 32·9	14 33·9	0·6	0 36	Nature doubtful.
699	June 10	23 59·5	23 59·5	0·9	0 9	Near Tokyo.
700	,, 25	2 50·1	2 55	5·7	1 0	Near Bonin Is. 2 49·1.
701	,, 25	18 1·2	18 20·6	2·5	1 35	18 1·7.
702	,, 26	4 56·3	4 59	2·2	0 16	Near Bonin Is.
703	,, 26	5 18·3	5 29	1·8	0 16	Near Bonin Is.
704	,, 26	17 21·4	17 23·7	8·4	0 50	Near Bonin Is.
705	,, 27	1 7·5	1 8·4	0·6	0 7	—
706	,, 27	22 42·5	22 53·9	1·1	1 5	22·25·5.
707	,, 29	11 33·1	11 34·3	0·6	0 18	S. part of Kinshū.
708	July 2	15 34·2	15 36·1	1·5	0 30	Near Bonin Is.
709	,, 4	15 48·7	15 51·7	2·0	0 28	—
710	,, 20	13 50·4	13 54·9	1·8	0 50	—
711	,, 27	7 23	7 24·2	1·7	0 4	Tokyo Bay.
712	,, 27	10 40·5	10 41·5	0·7	0 10	N.E. Japan.
713	Aug. 5	1 56·8	1 58·8	3·6	0 30	1 56·8.
714	Sept. 2	16 7·7	16 22·4	10·0	2 30	16 6·9.
715	,, 2	17 51·8	17 53·1	8·1	—	Masked by No. 712.
716	,, 21	19 50·7	19 51·1	12·5	0 12	Near Tokyo.
717	,, 22	12 12·4	12 17	0·7	0 27	Near Formosa.
718	,, 24	15 11·4	15 12	0·7	0 9	—
719	Oct. 1	9 16·7	9 16·9	0·6	0 6	—
720	,, 4	20 29·4	20 30·1	2·3	0 12	—
721	,, 11	14 38·3	14 57·3	1·8	0 50	14 37·7.
722	,, 13	4 46	4 46	0·3	0 2·5	Near Tokyo.
723	,, 15	0 5·3	0 6·1	1·6	0 25	Off Hitachi.
724	,, 21	4 35	5 4·3	7·7	2 10	4 33·5.
725	,, 28	12 17·3	12 17·7	1·3	0 7	Off Rikuzen.
726	Nov. 9	17 3·5	17 3·5	0·5	0 4	—
727	,, 9	17 24	17 24·2	0·3	0 2	—
728	,, 21	4 31·8	4 32	0·7	0 3·5	Near Tokyo.
729	,, 21	17 17·1	—	—	—	Boom shifted. Near Tokyo.
730	,, 22	6 31·8	6 39·6	0·5	0 25	—
731	,, 24	14 8·1	14 13·6	1·3	0 40	14 40.
732	,, 28	2 28	2 28	0·2	0 2·5	Near Tokyo.
733	Dec. 2	13 54·5	13 55·3	1·2	0 18	—
734	,, 9	15 39	15 39·5	0·6	0 5	—
735	,, 10	3 7·8	3 8	1·5	0 5	—
736	,, 25	1 16·5	—	>2·5	0 25	Off S. coast of Hokkaido.
			1908			
737	Jan. 5	15 17·2	15 17·5	4·3	0 6	Near Tokyo.
738	,, 11	3 38·9	3 49·4	2·0	1 30	S.E. coast of Formosa.
739	,, 15	12 58·1	12 58·7	13·0	1 20	Off Iwaki.
740	,, 17	16 5·2	16 5·5	3·4	0 15	Off Hitachi.
741	,, 20	11 27·3	11 27·9	0·7	0 12	Off Iwaki.
742	,, 29	7 30·4	7 30·8	0·8	0 25	Off Hitachi.
743	Feb. 5	12 7·9	12 11·9	2·3	0 35	Off Rikuzen.

Register from the Seismological Institute, Tokyo, Japan—continued.

No.	Date	Commencement	Max.	Max. Amplitude	Duration	Remarks
		H. M.	H. M.	MM.	H. M.	
744	Feb. 9	18 21·1	18 34·6	0·4	0 35	—
745	,, 12	14 23	14 23·3	0·4	0 3	—
746	,, 29	2 20·3	2 21	0·6	0 12	Kai.
747	Mar. 2	15 42·6	15 44·3	0·7	0 25	15 32.
748	,, 2	20 24·1	20 26	1·5	0 35	20 19·6.
749	,, 5	2 24	2 26·9	2·0	0 40	—
750	,, 23	12 33	12 44·5	1·3	0 38	—
751	,, 23	22 23·3	22 23·5	2·6	0 4	—
752	,, 26	23 15	23 28·7	0·7	1 40	23 15·9.
753	,, 28	20 29·8	20 30·2	0·4	0 5	—
754	,, 30	0 34·6	0 34·6	0·4	0 1	—
755	April 6	15 55·4	15 56·1	2·3	0 7	Nature doubtful.
756	,, 19	8 0·9	8 8·7	9·0	0 50	8 0·6.
757	,, 21	15 13·5	15 16·2	0·5	0 27	15 13·0.
758	May 2	3 48·2	3 48·4	0·5	0 5	—
759	,, 3	0 14·2	0 14·5	0·4	0 4	—
760	,, 3	0 54·3	0 56·8	1·8	1 10	Off S.E. coast of Kushiro. 0 50·9.
761	,, 5	6 26·6	6 34·9	2·5	1 5	6 22·1.
762	,, 12	20 7·3	20 8·5	0·6	0 9	Near Hachijo Is.
763	,, 12	20 23·7	20 24·3	>15·0	—	Near Hachijo Is. Masked by No. 764.
764	,, 12	20 37·3	20 38	>15·0	—	Near Hachijo Is. Masked by No. 765.
765	,, 12	20 57·8	20 58·5	2·5	0 12	Near Hachijo Is.
766	,, 13	16 35·3	16 35·7	1·6	0 7	,, ,,
767	,, 15	8 42·2	9 12·2	2·5	2 0	8 40·5.
768	,, 26	0 8·1	0 9	4·0	0 15	—
769	June 7	1 16·2	1 17·1	0·7	0 8	—
770	,, 9	2 57	2 57·7	5·7	0 45	Off Bo-So Peninsula.
771	,, 9	9 23·8	9 24·6	3·0	0 40	,, ,,
772	,, 16	8 33	8 35·8	0·5	0 10	Nature doubtful.
773	,, 17	1 29·4	1 29·7	1·4	0 12	Off S.E. coast of Awa.
774	,, 27	14 26·5	14 26·5	14·0	1 25	Off Choshi.
775	,, 28	3 30	3 30·5	1·6	0 20	Off Iwaki.
776	July 10	12 45·5	12 45·7	0·6	0 5	—
777	,, 15	14 11·8	14 12·1	0·7	0 5·5	—
778	Sept. 12	21 52·1	21 54·6	1·3	>16	Off N.E. coast of Honshū.
779	,, 12	22 9·3	22 12·5	1·7	0 30	,, ,,
780	,, 12	23 3	23 5·2	1·8	0 40	,, ,,
781	,, 13	0 28·2	0 29·4	0·5	0 5	—
782	,, 13	4 12·2	4 13·4	5·0	0 40	Off N.E. coast of Honshū.
783	,, 13	7 31	7 31·4	0·4	0 2·5	—
784	,, 13	14 43·2	14 43·6	0·4	0 3	—
785	,, 21	6 45·6	7 6·7	1·9	1 40	6 44·2.
786	Oct. 5	2 57·4	2 59·9	0·5	0 11	—
787	,, 7	0 55·6	1 9·1	1·1	0 50	0 54·5.
788	,, 15	3 29·5	3 34·1	0·6	0 40	Beginning doubtful.
789	,, 20	2 51·5	2 57·5	0·8	0 40	2 50·5.
790	,, 20	5 40·4	5 52·5	0·7	0 40	5 41·9.
791	,, 24	12 56·6	12 57	1·8	0 7	Off Iwaki.
792	Nov. 2	5 24·1	5 52	3·7	1 10	5 24·1.
793	,, 6	7 13·1	7 21·5	9·0	2 30	S. of Bonin Is. 7 13·1.
794	,, 6	13 52·8	14 0·3	1·7	1 10	13 52·4.
795	,, 11	13 25·2	13 26·2	2·0	1 10	13 25·3.
796	,, 15	8 20·7	8 22·2	1·2	0 35	Nature doubtful.
797	,, 19	5 11·9	6 24·3	0·8	0 55	5 10·5.
798	,, 21	23 53·5	23 55	0·5	0 10	—
799	,, 22	7 17·5	7 19·2	0·5	0 25	Off S. coast of Hokkaido.
800	Dec. 7	13 37	13 37·6	1·3	0 12	Toyama Bay.
801	,, 8	23 58·2	23 58·2	1·6	0 5	—
802	,, 11	7 11	7 11·2	1·2	0 6·5	—
803	,, 12	13 1·7	13 17	9·0	1 50	13 1·7.
804	,, 12	19 1·2	19 12·7	0·8	0 50	18 58·7.
805	,, 28	4 33·3	4 59	6·0	1 30	—
806	,, 28	8 8·6	8 8·8	5.5	0 12	Kofu.

Not observed from July 31 to Aug. 23.

Imm. Amplitude = 0″·59.

Register from the Royal Magnetical and Meteorological Observatory, Batavia. Director, W. Van Bemmelen; *Acting-Director*, C. Braak.

No.	Date	Commencement	Max.	Max. Amplitude	Duration	Remarks
			1908			
		H. M.	H. M.	MM.	H. M.	
1145	July 1	9 8·3	—	1·8	0 3	—
1146	,, 12	12 8·9	—	1·6	0 5	Felt at Buitenzorg, Java.
1147	,, 26	16 2·9	—	>34·0	0 44	S. Sumatra.
1148		17 15·7	—	>34·0	0 40	? Second shock.
1149		18 12·2	—	4·2	0 15	Third shock.
1150		21 50·2	—	2·7	0 12	Fourth shock.
1151	,, 27	7 54·7	—	0·5	0 9	Fifth shock.
1152	,, 28	8 13·9	—	0·5	0 4	Sixth shock.
1153		8 42	—	0·4	0 1	Another shock ?
1154	,, 31	14 47·5	—	0·8	0 4	Seventh shock.
1155	Aug. 8	6 20·5	—	0·3	0 3	—
1156	,, 12	16 0·4	—	1·0	0 56	Far off ?
1157		18 49·7	—	—	—	Near Ainbon.
		18 53·7	—			
1158	,, 16	1 48·4	—	0·4	0 16	Agusa Valley, Philippines.
1159		2 19·4	—	0·4	0 6	—
1160	,, 17	10 57·3	11 4·7	1·8	2 20	—
1161	,, 20	10 7·1	10 6·5	5·0	1 0	—
		10 10·3				
1162	,, 22	19 29·9	—	0·9	0 35	—
1163	,, 29	4 56·7	—	0·5	0 3	—
1164		23 54·7	—	0·9	0 4	—
1165	Sept. 1	19 32·2	—	0·7	0 4	—
1166	,, 4	1 52·7	—	0·3	0 1	—
1167	,, 5	8 39	—	0·6	0 5	—
1168	,, 7	15 4·7	—	1·0	0 8	—
1169	,, 8	8 27·6	—	0·9	0 8	—
1170	,, 9	20 21·2	±20 26·2	1·4	0 34	—
1171	,, 18	22 7·1	—	1·0	0 7	—
1172	,, 21	6 56·2	—	0·7	0 34	—
1173	,, 23	7 7·2	—	1·7	0 35	—
		7 14·7				
1174	,, 26	5 40·9	—	0·4	0 44	—
1175	Oct. 5	2 55·1	—	0·3	0 12	—
1176	,, 7	0 55·5	1 8·5	0·9	0 40	—
		1 3·5				
1177	,, 14	15 48·5	15 52·5	1·3	0 24	—
1178	,, 18	2 53·3	—	0·2	0 8	—
1179		17 16·3	—	0·5	0 17	—
1180	,, 20	2 48·5	2 58·5	1·4	0 34	Origin E.N.E. of Manila. P_2, 2 54·1.
		2 50·7				
1181		5 44·7	5 54·1	0·7	0 47	P_2, 5 49·7. Times may be 3 minutes later; same origin as 1180.
		5 47·7				
1182	,, 23	20 27·7	—	0·3	0 34	—
1183	,, 24	21 27·5	—	0·3	0 35	—
1184	,, 26	0 7·3	—	0·2	0 6	—
1185	,, 27	6 58·7	—	—	0 2	Thickening.
1186	Nov. 2	5 18·7	5 22·9	3·0	1 53	P_2, 5 20·7. Epicentre ± 1650 kms., origin ± 800 kms. West of Padang. Felt in N. Sumatra.
			5 25·7			
1187	,, 2	7 25·9	7 29·1	2·3	0 45	Same origin as 1186. Felt at Padang Fidji, near N. Sumatra.
			7 33·1			
1188	,, 4	6 54·4	6 58·4	0·7	0 10	—
1189	,, 6	7 19·9	—	1·0	1 40	Epicentre ± 7600 kms. S. of Kamchatka ?
		7 31·4				
1190	,, 10	19 8·4	—	0·4	0 24	—
1191	,, 11	3 41·5	—	0·5	0 12	N. Agusan River Valley, Philippines.
1192		13 23·8	—	1·0	1 21	Southern Panay Islands, Philippines.
		13 27·9				
1193	,, 12	16 41	—	1·5	0 34	Probably same origin as next one.
1194		21 59	—	2·1	0 39	Felt at Padang, Batu Islands.
1195	,, 15	1 31	1 36·6	10·5	0 38	P_2, 1 34·0 ? Felt all over S.W. Celebes.
		1 34				
1196	,, 21	7 39·4	—	0·8	0 10	—
1197	,, 23	12 46·3	—	5·5	0 41	Not far off.
1198		14 52·6	—	1·2	0 27	Same origin as former one.
1199	Dec. 1	3 6·6	—	2·0	0 32	—
1200	,, 12	13 1·4	—	21·0	1 28	P_2, 13 13·9. Distant ± 4,000 kms. Origin some 100 kms. N. of Calcutta.
		13 7·2				

Register from the Royal Magnetical and Meteorological Observatory, Batavia—continued.

No.	Date	Commencement	Max.	Max. Amplitude	Duration	Remarks
		H. M.	H. M.	MM.	H. M.	
1201	Dec. 12	18 56·4	—	6·5	0 56	Distant ± 2,800 kms. Origin N.W. New Guinea ?
		19 0·5				
1202	,, 18	15 46·7	—	2·6	1 18	P_2, 16 0·6. Distant ± 5,600 kms. origin N.E. frontier Beluchistan ?
		15 54				
1203	,, 26	18 20·3	—	0·6	0 4	—
1204	,, 28	4 33	—	1·7	1 57	P_2, 4 59·3. Messina.
		4 45·1				

July 1 to 15, 1mm. = 0″·50.
July 16 to 29, 1mm. = 0″·41.
July 29 to Aug. 28, 1mm. = 0″·37.
Aug. 29 to Oct. 15 1mm. = 0″·45.
Oct. 16 to Nov. 18, 1mm. = 0″·58.
Nov. 19 to Dec. 22, 1mm. = 0″·38.
Dec. 23 to 31, 1mm. = 0″·46.

Register from Toronto, Ont., Canada.
Director, R. F. STUPART, *F.R.S.C.*

No.	Date	Commencement	Max.	Max. Amplitude	Duration	Remarks
			1909			
		H. M.	H. M.	MM.	H. M.	
830	Jan. 12	0 6·1	—	6·15	0 4	Thickening. Earthquake felt in Victoria, Vancouver, and Northern Pacific coast.
831	,, 12	10 25·7	—	0·1	0 2	—
832	,, 12	12 29·7	12 34	0·3	0 22	Very small and well-defined. Persia.
833	,, 21	21 46·9	—	0·1	0 4	—
834	,, 23	3 14·1	3 44·6	1·05	1 21	Small. Persia.
835	Feb. 9	12 11 ?	—	—	?	—
836	,, 16	16 53·5	16 57·8	0·15	0 16·5	Skagway, Atlin, B.C.
837	,, 22	9 43·4	9 52·8	0·6	1 16·6	—
		9 45·6				
838	,, 26	No P.T.'s	17 0·2	1·0	0 39 ?	(L.W., 17 0.) Began gradually, max. shortly afterwards.
839	Mar. 13	0 0	—	0·3	1 2	Very small and well defined.
840	,, 13	14 47·3	—	0·3	1 41·7	—
841	April 10	5 52 ?	—	0·1	0 8	—
842	,, 10	6 20·5	6 47·8	0·4	1 11·3	Small and prolonged. Peru.
843	,, 10	19 5·8	19 20·8	3·2	1 0·5	Medium.
844	,, 10	20 10·3	20 25	0·6	1 12·5	—
845	,, 12	2 38	—	0·1	0 20·5	—
846	,, 23	18 9·7	—	0·05	0 23·0	Slight thickening. Portuguese quake.
847	,, 24	13 52·6	—	0·1	0 3·4	—
848	,, 25	1 26·9	—	0·15	0 6	—
849	May 5	2 52	—	0·15	0 3	—
850	,, 12	0 11	0 29·9	0·4	0 36	—
851	,, 13	14 0·1	—	0·15	0 6·2	—
852	,, 16	4 26·5	—	0·05	0 3·5	Slight thickening. Quake throughout Canadian N.W. Provinces.
853	,, 17	8 14 ?	8 32·7	3·9	2 8	Moderate. Peru and Chili.
854	,, 18	16 58·5	17 7·6	0·7	0 49·2	—
855	,, 18	18 30·8	—	0·05	0 29·4	—
856	,, 23	5 52·4	—	0·1	0 6	—
857	,, 27	14 3	—	0·15	0 4	—
858	June 3	19 21·5	20 8·1	1·6	1 57·5	Moderate and extended. Sumatra.
859	,, 8	No P.T.'s	—	0·7	2 3·3	L.W., 6 7·7.
860	,, 27	7 45	8 40	0·5	1 33·8	—

May 18, Attending instrument. Suspicions of a quake.

Vibration, 14·9 seconds. 1mm. = 0″·70.

Register from Victoria, B.C., Canada.
Superintendent, E. BAYNES REID.

No.	Date	Commencement	Max.	Max. Amplitude	Duration	Remarks.
			1909			
		H. M.	H. M.	MM.	H. M.	
850	Jan. 11	No P.T.'s	23 48·8	6·0	0 30	Boom suddenly vibrated, came gradually to rest. Earthquake, Vancouver and coast.
851	,, 12	10 42·6	—	0·05	2 7	—
852	,, 12	12 43·3	12 50·8	0·15	0 16·7	Persia.
853	,, 21	21 27·1	21 27·3	0·9	0 8	Sudden beginning, gradual tailing off.
854	,, 23	3 14·1	3 48·1	0·8	1 45·3	Small and extended.
855	Feb. 9	12 20·4	—	0·1	0 13·2	—
856	,, 16	16 41·8	16 44·2	4·0	0 17	Skagway, Atlin, B.C.
857	,, 22	9 36	9 47·5	1·0	0 28	—
858	,, 26	16 55·5	17 17·5	0·5	0 36	—
859	Mar. 12	23 38·4	24 15·4	0·25	1 26·6	Very small.
860	,, 13	14 39	15 0·5	0·5	1 25·5	Small and extended. Manila.
861	,, 19	22 12·3	—	0·05	0 4	Very irregular thickening.
862	,, 30	10 52·6	—	0·05	0 4·3	—
863	April 10	5 49	5 49·2	0·3	1 10	Very small and prolonged. Peru.
864	,, 10	19 2	19 15·8	3·2	2 6·4	Medium and well defined.
		19 6·6				
865	,, 12	2 34·8	—	0·05	0 5·5	—
866	,, 23	18 34 ?	—	0·05	0 3	—
867	,, 24	13 35·5	13 36·5	1·0	0 8	Very small, lasting a short time.
868	,, 25	1 9·3	1 11·5	2·0	0 9·2	—
869	May 5	2 0 ?	—	0·15	0 55	—
870	,, 9	21 34·6	—	0·1	0 5	—
871	,, 12	0 24	0 44·8	0·9	0 32·5	Small and well defined.
872	,, 13	14 13·4	—	0·1	0 12	—
873	,, 16	4 19·3	—	0·15	0 4	Thickening, gradual tailing off. Canadian N.W. provinces.
874	,, 17	8 14·8	8 28	2·0	1 43·4	Medium and extended. Peru.
875	,, 18	1 24·2	—	0·3	0 9	—
876	,, 18	11 44·9	—	0·15	0 4·8	Slight thickening.
877	,, 18	No P.T.'s	16 49	6·1	0 19·9	L.W. 16 46·7. Medium. Began suddenly.
878	,, 18	17 42·6	—	0·05	0 4·5	Slight thickening, very much like 876.
879	,, 18	No P.T.'s	18 16·2	2·5	0 16	L.W. 18 13·1.
880	,, 20	10 36	—	0·2	0 7	—
881	,, 23	6 2·8	—	0·2	0 19	Marked thickening. Chicago.
882	June 3	19 10	20 6·5	1·6	2 6 ?	Small. Sumatra.
883	,, 8	6 0	6 45·4	1·0	1 38·5	Small and extended. India.
884	,, 10	8 6·3	—	0·25	0 6	Thickening. Chili.
885	,, 27	7 38·2	—	0·35	1 16·8	—

Vibration, 15 seconds. 1mm. = 0″·76.

Register from Baltimore, Md., U.S.A.
Director, PROF. HARRY FIELDING REID.

No.	Date	Commencement	Max.	Max. Amplitude	Duration	Remarks
			1908			
		H. M.	H. M.	MM.	H. M.	
12	June 30	17 53·2	17 54	0·6	0 7	Swelling for 2 minutes.
13	July 13	21 43·4	21 54·5	0·4	0 18	—
15	Aug. 20	10 46·1	11 03·7	0·5	0 20	P_2, 10 44. P_3, 10 56·7.
16	,, 29	—	18 32·7	0·9	?	P_3, 18 23·7 ?
17	Sept. 21	6 55·9	7 10·7	2·5	1 44	P_2, 7 09·3.
18	Oct. 1	5 13·6	5 25	3·5	?	—

Register from Baltimore, Md., U.S.A.—continued.

No.	Date	Commencement	Max.	Max. Amplitude	Duration	Remarks
		H. M.	H. M.	MM.	H. M.	
19	Nov. 2	6 21·2	6 50·5	1·0	?	Beads, swelling to a max. and dying out.
20	,, 6	7 54	8 06·7	2·2	?	P_2, 8 00·4. P_3, 8 04·7.
21	,, 6	14 22·5	14 31·3	1·1	0 46	P_2, 14 26·0. P_3, 14 30·0.
22	,, 28	9 39·5	—	0·3	0 22	Swelling.
23	,, 30	21 55·5	22 03	4·0	0 5	—
27	Dec. 12	13 40 ?	14 12	2·3	?	P_2, 13 58·8. P_3, 14 09·7.
30	,, 28	4 49·6	5 0	1·7	?	P_3. 4 57·7.

Air Tremors from November 6 to 16.

No records—July 2, 18·7h. to July 3, 15h.
July 10, 20h.3m. to July 10, 16h.
July 15, 20h.1m. to July 18, 16h.
July 22, 19·3h. to July 27, 20·8h.
August 4, 18·9h. to August 7, 3h.
August 12, 2·3h. to August 14, 14h.
August 20, 18·6h. to August 21, 16·8h.
August 24, 22h. to August 26, 9h.
September 3, 15·5h. to September 4, 19·5h.
September 5, 14h. to September 6, 2h.
September 22, 0h. to September 28, 20·9h.
October 11, 2h. to October 12, 20·2h.
October 16, 14h. to October 19, 13·6h.
December 18, 16·7h. to December 19, 2·1h.
December 28, 19·5h. to December 30, 16·4h.

1909

2	Jan. 23	3 21·1	3 45·2	0·6	—	P_2, 3 35·5. P_3, 3 44·0. Luristan, W. Persia.
5	Mar. 11	0 58·5	1 01·7	0·2	0 12	—
8	,,12-13	28 58·8 ?	0 27·1	0·8	1 6	P_2, 0 09·8.
9	,, 13	14 47	16 11	0·6	2 13	—
10	April 10	19 05·5	19 20·4	1·5	—	P_2, 19 13. P_3, 19 19.
11	,, 10	20 15·5	20 31·5	0·7	—	P_3, 20 29.
12	May 17	20 12 ?	—	1·4	—	P_3, 20 20·6. Several equally large maxima for 12 minutes.
13	,, 18	17 06	17 9·7	1·0	0 30	P_2, 17 8·5.
14	June 3	19 37 ?	20 10	1·6	1 3	Sumatra.

No records—January 4, 21h. to January 11, 21h.
May 18, 11·5h. to May 16, 16·6h.
June 2, 22·1 to June 3, 15·1h.
June 5, 17h. to June 7, 19·6h.
June 7, 21·2h. to June 8, 14·5h.
June 14, 23·1h. to June 15, 14·4h.
June 19, 18·8h. to June 21, 14·8h.

Periods from June 30 to November 6, 1908, 17·8 secs.
November 6 to December 6, 1908, 15·4 secs.
December 12 to January 23, 1909, 14·5 secs.
January 23 to March 13, 1909, 13·1 secs.
April 10 to June 3, 1909, 15·5 secs.

Register from Chacarita, Buenos Ayres. Superintendent, G. W. Davis.

No.	Date	Commencement	Max.	Max. Amplitude	Duration	Remarks
						1908
		H. M.	H. M.	MM.	H. M.	
5	July 6	1 9·4	—	—	0 11·2	Slight tremor.
12	,, 13	12 23·8	12 25·4	2·0	0 5·8	P_2, 12 25.
13	,, 13	14 19·6	—	—	2 34·7	Heavy tremor.
15	,, 14	20 39·8	—	—	0 6	Slight tremor.
16	,, 15	2 17·3	—	—	0 14	—
19	,, 16	16 52·9	16 56·6	0·9	0 23·9	P_2, 16 56.
		—	17 0·4	0·6	—	—
		—	17 0·3	0·6	—	—

Register from Chacarita, Buenos Ayres—continued.

No.	Date	Commencement	Max.	Max. Amplitude	Duration	Remarks
		H. M.	H. M.	MM.	H. M.	
24	July 22	12 40	—	—	0 5·4	—
25	,, 22	15 29	—	—	0 7	—
26	,, 24	17 46·8	18 51·8	2·5	2 30	C.I.M. with shock.
29	,, 27	18 6·8	—	—	0 18	Slight tremor.
31	Aug. 1	14 34·6	—	—	0 22·2	Very slight tremor, D. to N. 5mm.
32	,, 2	23 50·1	—	—	0 3	Bending of line 5·25mm. N.
33	,, 3	1 37·7	1 38·7	0·5	1 7·1	True earthquake. P_2, 1 38·
35	,, 4	8 35	8 37·8	0·8	0 10·8	P_2, 8 37.
46	,, 16	21 26	—	—	0 8·3	Heavy tremor.
47	,, 17	10 43·7	10 50·6	6·0	7 33·1	Principal movement ends 11 9·8. P_2, 10 45.
			10 54·0	10·0		
			11 1·4	10·0		
48	,, 18	3 53·8	3 56·8	0·4	0 11	Series of heavy tremors, strong given.
49	,, 18	18 12·2	18 56·3	0·7	1 14·6	—
50	,, 19	0 42·3	0 43·8	0·7	1 34·5	—
		—	1 57·3	0·5	—	—
51	,, 19	17 46·8	17 54·8	0·5	0 30	—
55	,, 27	21 39·8	—	—	0 9·2	—
56	,, 28	0 38·2	—	—	0 38·6	Very slight tremor.
58	,, 31	13 16·8	15 53·0	—	2 45·6	Tremor at 13 30·6. D. to N. movement finishes with max. >D. to S. 0·75mm.
65	Sept. 27	21 21·1	21 21·6	1·0	0 9	Heavy tremor.
94	Oct. 22	22 1·4	22 7·8	0·5	1 15·4	Tremor.
		—	22 9·8	0·6	—	—
96	,, 23	20 16·8	—	—	—	Earthquake !
97	,, 31	15 44	15 45·7	—	0 13·8	True earthquake movement. P_2, 15 45.
			15 51·0			
107	Nov. 9	15 11·8	15 14·1	2·5	0 12·2	True earthquake movement. P_2, 15 13.
108	,, 9	19 11	19 12·2	1·0	0 2·4	—
113	,, 13	2 47·3	2 48·3	0·5	0 5·5	—
118	,, 19	15 8·9	15 9·2	0·5	0 6·9	Slight tremor.
119	,, 19	18 9·4	—	—	1 42·6	Series of heavy tremors.
121	,, 20	18 23·2	—	—	0 35·6	—
122	,, 21	1 46·8	—	—	1 58	—
123	,, 21	19 46·8	—	—	2 3	—
124	,, 22	19 19·4	—	—	0 11·4	Heavy tremor.
135	Dec. 6	18 42·1	18 45·2	2·0	0 16·7	True earthquake. P_2, 18 44.
			18 50·3	3·5		
147	,, 22	2 6·8	—	—	4 4	Series of heavy tremors.
153	,, 25	18 22·8	18 26·8	1·0	0 18	Series of heavy tremors, strongest given.
			18 30·8	1·0		
154	,, 26	10 57·8	10 58·4	0·8	0 7	Heavy tremor.
157	,, 28	5 14·8	5 27·0	6·0	8 2 ?	True earthquake; principal movement ends 5 41·3. P_2, 5 26.
			5 34·3	1·5		

No trace from —14h. 58·6m. to 17h. 15m. on July 2.
15h. 22·8m. to 17h. 36·8m. on July 24.
22h. 36·8m. on July 28. to 0h. 16·8m. on July 30.
14h. 52m. to 17h. 37m. on August 5.
4h. 38m. on August 7, to 2h. 16·8m. on August 11.
14h. 54·6m. to 15h. 40·8m. on August 13.
15h. 56·8m. to 16h. 55m. on August 16.
14h. 50m. to 15h. 24m. on August 26.
22h. 16m. on Sept. 1, to 4h. 47m. on Sept. 2.
18h. 29·8m. on Sept. 5, to 4h. 34m. on Sept 6.
15h. 41m. to 17h. 52m. on Sept. 9.
17h. 0m. to 21h. 0m. on Oct. 17.
15h. 16·8m. to 20h. 16·8m. on Oct. 23.
0h. up to 13h. 9m. on Oct. 24. Photo indistinct up to 15h. on Oct. 31.
18h. 40m. to 21h. 30m. on Nov. 4.
15h. 16m. to 17h. 51·8m. on Nov. 12.
15h. 42·4m. to 23h. 2m. on Nov. 20.
17h. 46·6m. on Dec. 8, to 2h. 16·8m. on Dec. 10.
11h. 16·8m. to 12h. 54m. on Dec. 18.
21h. 46·8m. to 23h. 16·8m. on Dec. 21.

Period of oscillations.		1mm. displacement of boom.
June 9.	16·5 secs.	0″·46.
Aug. 25.	15·8 ,,	0″·52.
Sept. 26.	16·5 ,,	0″·49.
Oct. 7.	16·0 ,,	0″·48.
Oct. 30.	17·0 ,,	0″·47.
Nov. 28.	15·5 ,,	0″·51.
Dec. 31.	16·0 ,,	0″·50.

Register from Pilar, Province of Cordoba, Argentine.
Director, W. G. Davis.

No.	Date	Commencement	Max.	Max. Amplitude	Duration	Remarks
		1908				
		H. M.	H. M.	MM.	H. M.	
730	Jan. 6	18 33	—	—	0 37	Thickenings.
743	,, 11	4 6·2	4 21·5	0·1	0 43·8	Slight.
745	,, 11	5 3·1	5 14·9	0·6	0 5·5	—
		—	5 20·5	1·0	—	—
747	,, 11	11 27·6	—	0·2	0 6	Carrot-shaped shock.
755	,, 14	15 42·3	15 44·4	0·3	0 9·1	—
756	,, 15	11 19·5	—	0·1	0 0·6	Slight thickening.
757	,, 15	14 15	—	—	1 30	Thickening.
758	,, 15	21 21·4	—	—	0 16	Slight irregularities.
759	,, 16	19 35·7	—	—	0 7·1	Irregularities.
762	,, 17	18 19·5	—	—	0 8·1	Irregularity.
763	,, 17	21 29·6	—	0·1	0 4	Thickening.
765	,, 18	12 15	22 24	0·1	0 4	Slight thickening to finish with carrot shape given as max.
773	,, 21	1 4·7	1 11·8	0·4	0 28	—
777	,, 22	5 3·7	—	0·1	0 5	Thickening.
779	,, 23	10 12·4	—	—	—	Slight D. to W. 0.5mm.
784	,, 24	22 35·7	23 18·9	0·9	1 5·1	P_2 23 13·9.
790	,, 26	10 28·9	—	0·1	—	Two slight thickenings of 3 to 4 minutes duration. P_2, 11 27·6.
798	,, 29	12 15	—	0·1	1 0	Slight thickenings.
802	,, 30	11 18·4	—	—	0 56·6	Bending of line 1mm. E.
805	Feb. 1	13 41·8	—	—	—	Slight D. to E. 0·5mm.
808	,, 1	23 27·6	23 49·5	0·4	5 17·4	—
		—	23 54	0·1	—	—
812	,, 5	11 12·9	—	0·3	0 5	—
813	,, 5	13 0	—	—	1 45	Thickening, slight.
814	,, 5	22 6·5	22 0	4·0	0 8·5	Felt in north of Republic.
820	,, 9	3 38·8	3 45·4	0·3	1 36·2	—
826	,, 10	11 33·7	—	—	—	Slight D. to E. 0·2mm.
827	,, 10	15 21·5	—	0·2	0 5	Slight carrot-shaped.
828	,, 11	13 3·2	13 25·6	0·2	1 41·8	—
832	,, 13	11 50	—	0·2	0 3	Slight carrot-shaped.
834	,, 14	8 56·6	9 2·7	1·0	4 19·4	P_2, 9 1·2.
836	,, 16	9 45	—	—	1 30	Slight thickening.
840	,, 18	8 36·7	8 39·8	0·3	0 9	Mere thickening.
843	,, 20	5 20·4	—	0·1	0 4	Thickening.
844	,, 20	12 49·5	—	—	0 25·5	Slight irregularities.
851	,, 23	12 1·7	—	—	—	Slight D. to W. 0·1mm.
852	,, 23	22 32·7	—	0·2	0 6	Carrot-shaped shock.
854	,, 25	1 55·4	—	0·1	0 5	Slight irregularity.
871	Mar. 5	2 40·3	3 43·4	0·5	2 34·7	Time uncertain.
		—	3 48·4	0·6	—	—
881	,, 9	15 34·7	—	0·2	0 4	Thickening.
883	,, 10	2 52	—	0·2	0 9	Small irregularity.
888	,, 12	11 58·1	—	0·1	0 4	Thickening.
889	,, 12	19 20	—	—	3 0	Thickening and irregularities.
891	,, 13	15 8·8	—	0·2	0 3	—
892	,, 13	17 30·6	17 40·3	0·5	0 44·4	—
895	,, 15	9 19·4	9 48·4	0·5	1 25·6	P_2, 9 21.
899	,, 16	21 1·4	—	0·2	0 2	Thickening.
901	,, 17	11 41·9	—	0·2	0 4	—
904	,, 18	16 28·6	16 29·1	—	0 7·1	Time uncertain, bad light.
910	,, 21	13 34·2	—	2·0	0 9	—
912	,, 23	—	13 5·8	—	—	Beginning lost (cleaning).
914	,, 25	19 9·3	19 14·4	0·2	0 5·7	—
915	,, 26	23 4·2	23 9·3	1·0	3 55·8	Mexico. Time uncertain; clock disturbed.
		—	23 12·4	5·0	—	—
		—	23 17·4	2·5	—	—
		—	23 21	2·0	—	—
		—	23 22	4·5	—	—
		—	23 29·6	depass	paper.	—
916	Mar. 27	4 3·7	4 18·3	0·6	2 31·3	P_2, 4 5.
917	,, 27	19 15	—	0·1	0 4	Slight thickening.
919	,, 30	3 31·7	—	—	—	D. to W. 0·5mm.
920	,, 30	4 15	—	—	—	,, ,,
921	,, 30	18 15	—	—	1 0	Thickening.
923	,, 31	13 53·4	—	—	—	D. to W. 0·25mm.

Register from Pilar, Province of Cordoba, Argentine —continued.

No.	Date.	Commencement.	Max.	Max. Amplitude.	Duration	Remarks.
		H. M.	H. M.	MM.	H. M.	
924	April 2	6 36·7	6 50	0·2	0 38·3	Four small cigar-shaped shocks.
			6 45·4	0·2	—	—
			7 1·2	0·2	—	—
			7 10·3	0·2	—	—
925	,, 2	13 35	—	—	—	D. to W. 0·5mm.
927	,, 3	1 17	—	0·1	—	Two slight beadlike movements of 1mm. duration each. P_2, 3 20·7.
929	,, 6	19 33·7	—	0·1	0 3	Slight thickening.
930	,, 6	23 35·7	—	—	3 39·4	Bending of line 1mm. E. with thickening.
931	,, 7	12 41·8	—	—	1 0	Thickening.
934	,, 11	15 36·7	—	0·1	0 0·5	Slight beadlike.
935	,, 11	17 54	—	—	0 2	Small bending of line to W.
937	,, 14	17 47·9	—	0·1	0 3	Slight carrot-shaped.
938	,, 19	8 45	—	0·2	0 6	,, ,,
940	,, 21	13 15	—	—	2 30	Heavy undulations.
942	,, 23	0 7·7	0 34·2	0·9	1 48·4	—
			0 41·1	1·0	—	—
			0 45·9	1·0	—	—
944	,, 24	21 0·1	—	0·2	0 5	—
945	,, 25	—	15 18·4	0·6	—	Beginning lost by time-break.
946	,, 26	18 14·4	—	0·1	0 10	Two small thickenings of 5 and 4 m. duration
949	May 2	1 41·8	—	0·1	0 6	Slight carrot-shaped.
950	,, 2	21 47·4	—	0·1	0 4	,, ,,
953	,, 3	17 31·7	17 36	0·6	0 33·7	—
954	,, 5	6 47·4	—	—	2 27·6	Series of thickenings.
955	,, 5	11 42·8	—	—	1 32·2	Slight thickening.
959	,, 10	18 18·4	—	0·1	—	Two slight thickenings of 3 to 4 minutes. P_2, 9 13·9.
961	,, 10	21 11·8	21 13·1	4·0	0 13·6	P_2, 21 12·8.
962	,, 12	21 11·6	—	—	—	Two slight D. P_2, 21 15.
963	,, 13	13 29·6	—	0·1	0 3	Slight thickening.
964	,, 15	9 0·1	9 39·3	0·5	2 30	P_2, 9·32.
			9 42·9	0·5	—	—
968	,, 20	9 12·2	—	—	11 0	Series of heavy thickenings, followed by T
970	,, 23	0 51·5	—	0·1	0 3	Slight thickening.
971	,, 25	14 15	—	0·1	0 9	Series of slight beadlike shocks.
972	,, 29	12 27·6	—	0·1	—	P_2, 12 33.
973	,, 29	16 32·7	—	—	0 6	Two slight thickenings.
975	June 1	1 7·2	—	0·1	0 7	Thickening.
976	,, 2	5 3·1	5 4·7	1·5	0 7	—
977	,, 4	15 7·8	—	—	0 30	—
979	,, 10	22 1	—	0·1	0 0·7	Slight beadlike shock.
980	,, 11	15 57·1	—	—	—	Slight D. to W. 0·5mm.
981	,, 11	22 12·4	—	0·1	0 0·75	Slight beadlike.
982	,, 12	2 8·7	—	—	—	D. to W. 1mm.
983	,, 12	2 9·8	—	0·1	0 0·75	Slight beadlike.
984	,, 12	13 42·9	—	—	—	D. to E. 0·5mm.
985	,, 14	21 51·5	21 53·5	0·7	0 18·1	—
986	,, 18	10 56·6	—	—	—	D. to W. 0·5mm.
988	,, 20	2 50·7	2 51·5	0·3	19 30	Beadlike shock, followed by heavy thickening.
991	,, 21	22 17·9	—	0·1	0 1	Slight beadlike.
994	,, 24	19 52·2	19 56·7	2·5	0 9	P_2, 19 54.
995	,, 25	22 8·1	—	0·2	0 2	Thickening.
997	,, 27	14 30	—	—	7 15	Slight thickening.
998	,, 28	0 16·4	—	0·2	0 8	,, ,,
1003	July 5	6 48	6 50·6	0·1	0 13·8	Two slight thickenings.
			6 53·1	0·1	—	—
1004	,, 6	1 9·4	1 15·0	0·1	0 11·7	Slight cigar-shaped.
1005	,, 7	4 39·3	4 41·3	0·1	0 6	,, ,,
1006	,, 7	11 14·8	—	—	—	Bending of line W.
1007	,, 7	15 46·9	—	—	0 8	Slight irregularity.
1009	,, 10	17 34·2	—	0·1	0 5	Slight thickening.
1010	,, 16	13 14·8	16 58·1	1·0	4 22·2	Thickening to finish. (Tacna and Arica, Iquique.) P_2, 16 58.
			17 0·1	0·6	—	—
1012	,, 20	14 24·7	14 26·0	2·0	0 12·5	P_2, 14 25.
			14 27·0	2·0	—	—
1014	,, 23	10 47·7	—	0·1	0 3	Slight thickening.
1015	,, 25	3 25·9	—	0·1	0 10	,, ,,
1017	,, 26	17 44·7	—	—	4 30	Slight thickenings.
1026	Aug. 9	17 44·5	18 27·7	1·0	1 0	D. at 18 27·7; 17 W.; P_2, 18 23.
			18 29·1	1·1	—	—

Register from Pilar, Province of Cordoba, Argentine—continued.

No.	Date	Commencement	Max.	Max. Amplitude	Duration	Remarks
		H. M.	H. M.	mm.	H. M.	
1027	Aug. 12	16 44·5	16 54·7	0·4	4 30	Series of thickenings, heaviest given.
			20 9·9	0·4	—	
1029	„ 14	0 59·8	1 17·0	0·8	9 14·7?	Followed by thickening. P_2, 1 4.
		1 21·6	0·5	—		
1030	„ 15	11 14	21 5·7?	0·6	9 56·8?	Thickening. P_2, 21 4·7 ?
1032	„ 17	10 41·1	10 50·5	5·0	3 33·3	P_2, 10 46.
			10 54·0	Depass paper.		
1033	„ 17	19 5·8	—	0·2	0 5	
1034	„ 18	3 26·6	3 36·8	0·5	0 47·8	P_2, 3 35.
1035	„ 18	18 24·6	18 35·2	1·0	1 0	P_2, 18 32.
			18 36·8	0·6	—	
1036	„ 19	0 34·7	0 44·4	0·7	1 28	P_2 0 37.
			1 36·2	0·6	—	
			1 37·8	0·5	—	
1037	„ 19	17 26·6	17 33·7	0·6	0 39·6	P_2, 17 28.
1038	„ 20	11 14·4	11 37·3	0·4	0 44·2	Mere heavy thickening.
1040	„ 22	13 14·4	—	—	9 0 ?	Slight thickening.
1047	Sept. 1	10 20·3	—	0·2	0 8·1	Slight. P_2, 10 20.
1049	„ 4	10 3·5	—	0·4	0 4	Carrot shaped. Tucuman, La Rioja.
1050	„ 4	17 14·2	—	—	11 0 ?	Series of thickenings. C.I.M. to finish at 4 14·2 on 5th.
1054	„ 12	17 19·4	17 30·5	0·2	4 34	Thickenings.
			21 6·3	0·1	—	
1058	„ 18	2 27·2	3 1·5	0·3	1 17	P_2, 2 44.
1060	„ 21	6 12·7	7 31·5	1·0	3 1·5	P_2, 6 57.
1062	„ 22	4 3·5	4 17·2	0·2	0 19·8	Mere thickenings.
1063	„ 22	18 21·6	18 25·6	Depass paper.	0 14	D. to W. 0·25. Felt here. P_2, 18 23.
1064	„ 23	4 32·5	36·0	0·2	0 6·1	—
1065	„ 23	8 16·2	8 22·7	0·2	0 25·2	—
			8 27·4	0·3		
1068	„ 26	5 58·3	9 10·0	0·3	0 45·8	Very slight.
1072	„ 29	4 11·6	—	0·2	0 4	Small carrot-shaped.
1077	Oct. 7	1 15	—	—	2 45	Series of thickenings of 0·1 amp.
1078	„ 7	8 15	8 36·4	0·2	8 0	—
			8 53·1	0·2		
1083	„ 13	5 26·6	5 30·7	0·5	2 48·7	P_2, 5 27.
			5 39·7	0·6		
			5 43·3	0·6		
1086	„ 17	—	1 7·8	0·2	0 6	Thickening.
1087	„ 17	11 45	—	—	9 30 ?	Irregularities.
1088	„ 18	—	2 1·7	0·2	0 5	Thickening.
1093	„ 23	0 52	—	—	2 23	Series of heavy thickenings.
1096	„ 28	13 15	—	—	11 1 ?	C.I.M.
1098	„ 30	18 48·4	18 51·5	Depass paper.	1 26·6	—
1099	Nov. 2	5 40·8	6 39·8	0·5	7 34·6	At 8 15 D. to W. 0·25mm., followed by thickening. P_2, 6 2.
			6 42·4	0·7		
1102	„ 4	16 56·6	—	0·2	0 5	Slight D.
1104	„ 6	7 15·4	8 47·9	0·5	4 0	True earthquake. P_2, 8 22.
			8 54·5	0·4		[to 19 0.
1105	„ 7	11 15·4	—	—	10 0 ?	Thickening, working on roof from 11 0
1106	„ 9	—	8 7·2	0·4	0 0·5	Beadlike.
1107	„ 9	15 7·8	15 11·3	6·0	1 37·6	True earthquake. P_2, 15 16.
			15 12·3	8·5		
1109	„ 10	21 49·5	21 52·0	0·6	0 11·2	P_2, 21 50.
1110	„ 11	13 15·4	—	—	3 0·0	Series of heavy thickenings, strong 14 0 to 15 0.
1111	„ 12	13 15·1	23 43·9	0·2	10 28·5	C.I.M. to finish with beadlike, slight.
1112	„ 13	2 43·4	2 44·9	0·8	0 4·5	P_2, 2 44.
1114	„ 13	15 45·9	—	0·2	0 41·2	—
1117	„ 20	3 29·6	—	—	1 45·8	Series of slight thickenings.
1119	„ 21	at 16 45·4	—	—	—	Line swings 4mm. W., getting steady 17 45.
1120	„ 23	13 50·4	—	—	1 25	Series of slight thickenings.
1123	„ 27	10 10·8	10 21·0	0·4	3 4·6	
1124	„ 29	17 45·4	—	—	—	Line swings W. 4·5mm., to settle at 20 0.
1126	Dec. 2	13 30·6	—	—	—	D. to E. 0·25mm.
1128	„ 8	10 15·4	—	—	0 30	Several slight thickenings.
1130	„ 12	13 15·4	14 42·8	0·5	2 30	Very slight. P_2, 14 13.
			14 47·4	0·5		
1131	„ 12	19 45·4	—	—	0 50·4	Thickening.
1132	„ 15	2 55	3 11·7	0·4	1 20·4	P_2, 2 57.

Register from Pilar, Province of Cordoba, Argentine—continued.

No.	Date	Commencement	Max.	Max. Amplitude	Duration	Remarks
		H. M.	H. M.	mm.	H. M.	
1134	Dec. 18	12 15·1	—	—	1 15	Heavy thickening.
1135	„ 19	17 15·4	—	—	2 0	Series of thickenings.
1136	„ 20	6 45·4	—	—	0 45·2	Thickening.
1139	„ 22	15 9·6	15 42·2	3·0	1 46·9	Doubtful.
			16 6·7	4·5		
1140	„ 23	15 46·6	15 52·5	0·4	2 28·8	—
			16 17·4	0·5		
1144	„ 28	4 23·7	5 21·5	6·5	3 1·9	Destruction of Messina. P_2, 4 45.
			5 29·1	5·0		

Records lost from—14h.45m. to 18h.45m. on January 11,
11h.45m. on January 30 to 21h.15m. on January 31.
14h. on February 7 to 14h. on February 8.
21h. on February 14 to 22h.45m. on February 15.
15h.45m. to 18h.45m. on February 18.
4h. to 9h. on March 7.
5h.45m. to 10h., and from 19h.40m. to 20h. on March 10.
18h. on March 13 to 21h.45m. on March 14.
4h. to 9h.15m. on March 17.
4h. to 13h. on March 20.
23h.15m. on June 7 to 14h.15m. on June 8.
11h.15m. to 14h. on June 10.

	Period of oscillation.	1mm. amplitude.
1907—November 30	18·5secs.	0″·50
1908—April 12	17·0secs.	0″·60
July 7	17·0secs.	0″·50
July 15	17·0secs.	0″·50
November 6	17·5secs.	0″·50
December 8	17·0secs.	0″·50

1909

1148	Jan. 2	22 31·4	22 32·1	0·5	0 6	—
1149	„ 3	14 45·4	15 30·1	—	0 47·7	—
1150	„ 3	17 15·4	—	—	2 0	—
1151	„ 3	21 48·1	22 33·7	0·4	1 17·3	Apparent earthquake. M. very slight.
1156	„ 6	15 14·4	—	—	—	Two slight D. to W. of 0·25mm. Tremors.
1157	„ 8	12 20·8	—	—	0 4	Slight thickening.
1158	„ 9	14 25·9	—	—	0 49·5	Series of thickenings.
1160	„ 10	13 46·4	—	0·5	0 39	At 4 32 D. to E. during 1½ of 0·5.
1164	„ 12	20 25·4	—	—	2 20	Slight tremor.
1175	„ 23	3 14·8	4 7·8	4·5	2 30·6	True earthquake. M.
1177	„ 24	6 15·4	—	—	3 0	C.I.M.
1183	Feb. 4	10 15·4	—	—	4 0	Series of cigar-shaped movements.
1184	„ 5	13 49·2	14 13·4	0·9	0 39·2	—
1187	„ 9	4 27·4	4 37·6	1·0	0 22	True earthquake.
1188	„ 9	16 15·4	—	—	6 0	Series of thickenings.
1189	„ 11	18 57·4	—	—	0 15	„ „
1191	„ 22	9 39·9	—	—	1 14·5	Series of slight shocks.
1193	„ 25	0 3·9	0 5·3	0·5	0 43·5	True earthquake.
1194	„ 25	6 6·0	—	—	0 4·4	Cigar-shaped movements.
1195	„ 25	17 2·9	—	—	0 34·5	C.S. movements; max. 17 5.4 & 17 15·8.
1197	Mar. 2	23 7·4	23 18·2	0·5	0 30·9	True eqke., 5 shocks.
1198	„ 7	18 40·0	18 48·4	0·4	0 24·4	True eqke., 3 shocks.
1199	„ 8	12 23·4	12 30·5	0·3	0 44	True eqke., 7 shocks, 2nd. max. 12 32·8.
1200	„ 9	21 3·4	—	—	0 22	Series of cigar-shaped thickenings.
1202	„ 10	8 51·4	—	—	0 48	Series of irregular movements.
1204	„ 13	0 34·5	0 52·9	—	1 21·4	True earthquake. 2nd max. 1 5·4.
1206	„ 17	23 34·8	0 21·4	0·6	2 35·6	True earthquake.
1208	„ 18	16 21·4	16 26·4	0·2	0 18·1	„ „
1210	„ 22	21 33·4	22 53·9	0·3	2 12	Series of C.S. movements. True eqke.
1211	„ 26	9 8·8	—	—	1 20·6	„ „ „ „
1212	„ 29	12 13·4	12 31·7	0·8	0 25·8	True earthquake. „ „
1213	„ 29	15 30·6	15 34·9	0·3	0 21·2	Series of C.S. movements. True eqke.
1214	„ 29	17 19·1	—	—	0 13·3	Series of C.S. movements.
1215	„ 29	20 45·4	—	—	0 9	Cigar-shaped movement.
1216	„ 30	4 14·9	—	—	0 4·4	„ „
1218	April 7	19 16·4	19 20·5	0·2	0 11·8	True earthquake.
1219	„ 10	5 44·4	6 16·4	1·6	2 36·0	Other max., 6 22·6 A = 1·1; 5 55·4 A = 0·4; 6 27·4 A = 1·1.
1220	„ 10	19 24·4	21 18·4	0·4	2 41·5	Other max., 21 38·4 A = 0·4; 21 44·4 A = 0·5.

Register from Pilar, Province of Cordoba, Argentine—continued.

No.	Date	Commencement	Max.	Max. Amplitude	Duration	Remarks
		H. M.	H. M.	M.M.	H. M.	
1221	April 12	1 58·4	—	—	0 13	Two cigar-shaped movements.
1222	,, 12	8 15·9	—	—	0 15·5	Slight cigar-shaped movements.
1223	,, 14	20 24·4	20 45·4	0·2	0 37	True earthquake.
1224	,, 16	18 22·9	—	—	2 8·5	Series of irregular movements.
1225	,, 17	10 3·9	—	—	0 14·5	,, ,, ,,
1227	,, 21	21 26·9	—	—	0 5·5	Carrot-shaped movements.
1228	,, 23	18 25·9	—	—	0 28·5	C.S. movements; strongest 18 29·4 and 18 35·4.
1230	,, 25	23 51·4	24 2·2	0·4	0 39	True earthquake.
1231	,, 27	13 49·5	14 7·4	1·3	1 30·9	True eqke. 2nd. max. 14 14·5, A = 1·1.
1232	,, 28	6 57·6	6 59·8	2·4	0 31·6	True earthquake.
1233	,, 29	23 5·1	23 33·4	1·1	0 42·3	,, ,,
1235	May 2	7 26·2	—	—	0 47·2	Slight cigar-shaped thickenings.
1236	,, 2	18 46·4	19 11·9	0·2	0 54	True earthquake.
1237	,, 3	1 8·4	—	—	0 11·5	Cigar-shaped movement.
1238	,, 3	10 15·8	—	—	1 4·6	Movements strongest 10 52·4—11 1·4.
1239	,, 3	23 15·4	23 16·4	0·6	0 18	True earthquake.
1240	,, 6	2 42·4	2 43·9	0·2	0 5	,, ,,
1243	,, 11	23 1·4	—	—	0 4·5	Cigar-shaped movements.
1244	,, 11	23 52·4	—	—	0 15	—
1245	,, 12	0 17·6	0 29·4	1·2	1 30·8	True earthquake.
1246	,, 12	5 29·0	5 33·4	0·1	0 9·9	,, ,,
1247	,, 15	17 27·0	17 33·9	0·2	0 14·1	,, ,,
1248	,, 17	8 4·6	8 9·4	5·0	2 10·2	True eqke.; other max. 8 14·4, 8 20·6.
1250	,, 21	16 58·3	16 59·7	1·0	0 5·3	True earthquake.
1251	,, 23	5 44·9	—	—	0 41·5	Cigar-shaped movements.
1252	,, 23	14 5·4	—	—	3 35	Cigar-shaped thickenings.
1253	,, 25	4 15·4	4 27·4	0·2	2 55·5	True eqke.; 2nd max. 4 17·9, A = 0·1.
1254	,, 25	15 12·3	15 20·4	0·1	0 48·2	True eqke.; 2nd max. 15 24·4, A = 0·1.
1257	June 1	13 7·4	—	—	6 23	Slight irregular thickenings.
1258	,, 3	19 27·5	20 10·0	1·6	2 17·3	True earthquake (Sumatra); other max. 20 13·2, A = 2·0; 20 20·4, A = 1·8.
1259	,, 4	5 30·4	—	—	0 30	Slight thickenings, cigar-shaped.
1262	,, 6	6 14·1	6 17·9	0·1	0 28·3	True earthquake.
1263	,, 7	12 36·4	—	—	0 21	Irregular movement, slight.
1266	,, 8	5 46·4	5 54·3	12·0	2 54	Chile. Other max. 5 49·4.
1167	,, 8	16 38·6	—	—	0 24·8	Three carrot-shaped movements.
1268	,, 9	0 29·4	0 32·9	7·0	1 23	Chile.
1269	,, 9	7 58·3	8 0·6	0·6	0 11·1	—
1271	,, 11	20 47·6	20 49·4	1·0	0 15·8	—
1272	,, 11	21 43·4	—	—	1 44	Irregular movements, slight.
1274	,, 12	5 34·6	5 36·4	0·5	0 9·1	Carrot-shaped.
1275	,, 12	8 30·7	8 32·0	0·1	0 5·6	,,
1276	,, 12	19 19·7	19 20·4	—	1 4·7	Carrot-shaped movement; other maxima 19 55·6, 20 07·4.
1277	,, 12	20 58·4	—	—	1 16	C.S. movements, pronounced.
1278	,, 13	18 45·8	18 52·1	0·9	0 29·6	—
1279	,, 13	19 46·4	19 53·4	0·1	0 20	—
1281	,, 16	14 15·4	—	—	2 0	,, ,,
1282	,, 16	16 35·8	16 40·3	0·5	0 9·6	—
1283	,, 18	13 30·4	—	—	2 45·0	Slight thickenings, irregular.
1285	,, 21	11 42·4	—	—	6 33	Slight irregularities and C.S. movements.
1286	,, 21	19 30·4	20 24·4	0·1	0 58	C.S. movements.
1287	,, 22	13 5·8	13 8·4	7·8	1 39·6	—
1288	,, 23	15 54·4	—	—	0 28	Slight irregular thickenings.
1289	,, 24	11 25·4	—	—	0 49	Very slight ,,
1290	,, 25	—	2 57·4	—	—	—
1291	,, 27	7 43·3	—	—	1 32·1	C.S. movements, pronounced.
1292	,, 27	16 3·2	—	—	5 8·1	,, ,,
1293	,, 29	7 41·1	—	—	0 9·8	,, ,,

From 29th January to 4th February, record unreliable.
Instrument disturbed 18 39·0 to 13 45 on 25th June.

Instrument: Milne Horizontal Pendulum, No. 14.
Pendulum suspended in the meridian.
Period of oscillation: 15·5 seconds.
Sensibility: 0″·5 in arc for movement of 1mm. of outer end of pendulum.
C.S. indicates "cigar shape" movements.
Time: Greenwich Mean Time (Civil).
59min. on trace equals one hour.

Register from Honolulu, T.H.
Observer-in-Charge, W. F. Wallis. *Compiler*, Paul Weaver.

No.	Date	Commencement	Max.	Max. Amplitude	Duration	Remarks
			1909			
		H. M.	H. M.	MM.	H. M.	
574	Jan. 3	3 28·8	3 31·8	0·1	0 8	Tremors.
575	,, 17	3 15·9	3 29·8	0·8	0 41	P_3 3 21·8.
576	,, 21	2 38·8	2 50·1	0·5	0 59	P_2 2 42·7; P_3 2 46·1.
577	,, 23	3 23·2	3 39·6	0·6	2 40	P_3 3 36·5.
			3 56·3	0·7		
			4 4·8	0·6		
			4 9·8	0·7		
			4 16·4	0·7		
578	,, 21	17 38·3	17 46·3	0·2	2 14	Tremors.
579	,, 26	1 52·7	—	0·1	0 18	Doubtful. Tremors.
580	,, 29	1 1·5	1 23	0·4	0 53	P_3 1 7·5.
581	Feb. 8	0 3·3	0 28·9	0·2	0 30	Tremors. P_3 0 22·5.
582	,, 22	9 29·7	9 41·7	1·7	2 57	P_2 9 32·4; P_3 9 35·3.
583	,, 26	17 5·8	17 18·6	0·8	1 24	P_3 17 13·1.
584	Mar. 7	5 15·3	5 16·3	0·1	0 10	Doubtful.
585	,, 8	11 31·9	11 52·7	1·5	—	P_2 11 32·1; P_3 11 47.
586	,, 11	0 15·1	0 33	0·6	1 12	P_2 0 18·4; P_3 0 25·7
587	,, 12	23 29·2	23 54·7	1·4	1 46	P_2 23 36·9; P_3 23 42·5.
588	,, 13	14 2·6	—	0·2	0 4	
589	,, 13	14 40·2	15 3·2	4·2	—	P_3 14 46·5.
590	,, 17	23 13·6	23 40·2	2·2	2 22	P_2 23 19·7; P_3 23 32.
591	,, 22	4 44·3	4 56·6	0·7	0 56	P_3 4 52·5.
592	,, 22	20 20·7	20 39·1	0·5	0 40	P_3 20 30·6.
593	,, 22	—	22 47·7	0·3	—	Tremors. P_3 22 40·1.
594	,, 27	13 33·9	13 52·3	0·3	0 52	P_3 13 47.
595	April 10	5 36·2	5 48·0	5·3	3 36	P_2 5 41·4; P_3 5 44·5.
596	,, 10	18 27·4	—	—	—	
597	,, 10	—	20 1·3	2·0	—	P_2 19 50·5; P_3 19 54·2.
598	,, 11	—	14 27·7	0·4	—	P_2 14 15·5.
599	,, 12	1 21·3	1 32·8	1·8	1 25	P_2 1 24·6; P_3 1 29·2.
600	,, 13	22 58·3	23 20·1	0·1	0 31	Tremors. P_3 23 13·7.
601	,, 14	20 15·4	20 38·8	0·5	1 9	P_3 20 28·6.
602	,, 17	19 27·2	19 31·3	0·2	0 20	—
603	,, 25	22 9·3	22 11·3	0·3	—	—
			22 28·5	0·3		
			22 59·3	0·2		
604	,, 25	—	23 15·1	0·9	3 4	P_3 23 11·6.
605	,, 27	12 53·2	13 25·1	1·4	3 4	P_3 13 1·9.
606	,, 28	0 9·3	0 15	0·1	1 14	—
607	,, 28	7 21·5	7 46·5	0·2	0 31	—
608	,, 29	23 15·7	24 1·3	0·5	1 34	P_3 23 49·5.
609	May 2	7 5·4	7 26·2	0·5	1 3	P_2 7 13·2; P_3 7 18·6.
610	,, 2	—	18 40·7	0·8	—	P_3 18 36·5.
611	,, 5	2 40·3	—	0·1	0 8	Doubtful. Tremors.
612	,, 6	7 15·5	—	0·1	0 7	,, ,,
613	,, 9	3 14·1	—	0·1	0 15	—
614	,, 10	21 27·1	—	0·1	0 18	—
615	,, 11	3 52·9	3 57·3	0·2	0 12	—
616	,, 11	13 15·2	13 24·3	0·8	—	P_3 13 18·3.
617	,, 11	23 18·1	—	0·1	0 6	Tremors.
618	,, 12	0 27·4	0 45·6	2·1	2 21	P_3 0 42·2.
619	,, 12	5 48·3	5 51·1	0·2	0 10	Doubtful.
620	,, 13	—	14 19	0·4	—	P_3 14 14·7.
621	,, 14	0 42·3	—	0·1	0 21	Doubtful.
622	,, 14	6 50·6	—	0·1	0 5	Doubtful.
623	,, 17	8 16·4	8 54·8	1·1	3 3	P_2 8 20·4; P_3 8 26·3.
624	,, 18	17 1·8	17 6·9	0·4	—	—
625	,, 18	18 26·2	18 28·7	0·3	0 26	—
626	,, 23	5 53·4	6 11·5	0·5	0 48	P_3 6 8·3.
627	,, 23	11 20·6	—	0·1	0 15	Tremors.
628	,, 25	—	5 27·3	0·6	—	P_2 5 7·8; P_3 5 17·7.
629	,, 26	2 21·4	2 36·1	0·8	1 21	P_2 2 27·9; P_3 2 33·4.
630	,, 30	21 12·9	21 46	0·7	2 30	P_2 21 22·5; P_3 21 35·1.
631	June 3	19 7·1	19 36·2	2·4	4 5	P_3 12 29·1.
632	,, 6	5 11·7	5 26	0·9	1 14	P_2 5 17·5; P_3 5 21·5.
633	,, 6	8 51	8 55·4	0·1	0 8	Tremors.
634	,, 8	6 0·5	6 35·1	8·0	3 55	P_2 6 10·9; P_3 6 29·7.
635	,, 9	0 51·2	1 16·4	1·0	2 3	P_2 0 59·1; P_3 1 12·2.

Register from Honolulu, T.H.—continued.

No.	Date	Commencement	Max.	Max. Amplitude	Duration	Remarks
		H. M.	H. M.	MM.	H. M.	
636	June 10	7 54·5	8 6·2	0·1	1 20	P_2 8 0·9; P_3 8 3·4.
637	,, 11	20 59·0	21 36·2	0·1	0 42	Tremors. P_3 21 33·2.
638	,, 12	20 45·3	21 9·5	1·4	2 46	P_2 20 51·1; P_3 21 2·5.
639	,, 14	7 30·9	7 37·4	0·3	0 23	Tremors.
640	,, 22	13 29·2	13 53·9	1·2	1 30	P_2 13 44·3; P_3 13 49·1.
641	,, 25	3 36·5	3 37·4	0·1	0 14	Tremors.
642	,, 27	7 24·8	7 43·3	4·5	2 55	P_2 7 31·6; P_3 7 35·1.
643	,, 27	11 53·3	—	0·1	0 6	Tremors.
644	,, 28	15 41·5	15 45·3	0·2	0 8	Tremors.

Period of Pendulum—January 1 to February 16 = 19·1 secs.
February 16 to April 15 = 19·1 secs.
April 15 to June 15 = 19·7 secs.
June 15 to July 1 = 19·4 secs.

Sensitiveness was determined: December 16, 1908, 1mm. corresponds to 0″·41; February 16, 0″·36; April 15, 0″·36; June 15, 0″·50.

The instrument was not recording as follows: March 28, 17h.11m. to 18h.57m., driving clock stopped; April 4, 13h.55m. to 18h.54m., driving clock stopped; April 25, 17h.35m. to 19h.5m., lamp went out. On May 28, 18h.50m. to May 29, 6h.15m., the instrument was disturbed by an insect inside the case. On June 15, 2h.15m. to 3h.37m., driving clock stopped.

On most days there was an irregular disturbance ascribed to air currents, usually beginning about midnight and lasting 8 or 10 hours. The amplitude was sufficient to conceal small seismic disturbances and the beginning and end of larger ones.

No. 583, 598, 620, 623.—Beginning and end obscured by air tremors.

No. 585, 589, 590, 613, 624.—End obscured by air tremors.

No. 605, 634, 636.—End possibly earlier. Some uncertainty due to air tremors.

No. 582.—First P.T. not well marked. 584—Only few waves from the principal probably. 588—Local shock, felt generally over the Island of Hawaii. The magnetograph also shows a slight burr in the H and D components at the same time. 590—Air tremors at beginning render first P.T. doubtful. 593—Impossible to distinguish preliminary tremors. 594—First P.T. doubtful. 595—Possibly waves from another distant earthquake included. 596—Interrupted by daily attention to instrument. 597—First P.T. involved with latter part of No. 596. Trace at end faint. 603—End of this earthquake involved with preliminary tremors of No. 604. 610—Air tremors at first P.T. Daily attention to instrument interfered at time of maximum. 618—End probably earlier, but air tremors conceal it. 628—First preliminary tremor cannot be identified. 631—This is the earthquake which destroyed Korinchi, Sumatra. The beginning is somewhat uncertain, as it occurred just after the daily inspection of the instrument.

Register from Perth Observatory, Western Australia.
Director, W. E. Cooke, *M.A., F.R.A.S.*

No.	Date	Commencement	Max.	Max. Amplitude	Duration	Remarks
			1909			
		H. M.	H. M.	MM.	H. M.	
1	Jan. 3	14 50	14 50·5	1·25	0 17	—
2	,, 3	20 40	—	—	0 13	—
3	,, 3	21 59·2	22 1·0	1·5	1 53	—
4	,, 13	21 46	—	—	0 6	—
5	,, 15	16 50	—	—	0 16	—
6	,, 21	2 48	2 55	1·25	0 15	—
7	,, 23	3 0·2	4 22·2	1·0	1 50	—
8	,, 29	0 57	1 3·7	3·5	0 40	—
9	Feb. 22	9 31·5	9 58·5	4·0	1 19	—
10	Mar. 6	17 7	—	—	0 16	—
11	,, 8	11 38·8	11 53·8	3·0	1 7	—
12	,, 13	14 44·6	14 58·6	1·0	1 44	—
13	,, 17	23 1·5	23 14·0	8·0	1 22	—

Register from Perth Observatory, Western Australia—continued.

No.	Date	Commencement	Max.	Max. Amplitude	Duration	Remarks
		H. M.	H. M.	MM.	H. M.	
14	Mar. 22	22 18·5	22 38·0	1·1	0 54	—
15	,, 27	13 33·8	13 47·3	0·7	0 49	—
16	April 10	5 37·5	5 10·5	2·0	1 48	—
17	,, 12	1 25·5	1 37·3	1·5	0 45	—
18	,, 25	22 0	—	—	0 14	—
19	,, 25	22 48·5	23 3·5	1·0	0 37	—
20	,, 27	12 52·7	13 8·7	—	1 46	Amplitude too large to measure.
21	,, 29	22 57·3	23 18·4	0·7	0 39	—
22	May 2	7 7	7 30·1	2·0	1 10	—
23	,, 2	15 25·5	—	—	0 55	—
24	,, 2	18 20	18 45·3	2·2	1 8	—
25	,, 14	0 19·2	—	—	8 16	—
26	,, 17	8 26·5	8 58·7	0·5	1 36	—
27	,, 19	10 5	—	—	3 53	—
28	,, 25	4 57·8	5 11·2	5·5	1 10	—
29	,, 26	2 0	2 25	2·0	1 28	Time only approximate owing to paper catching.
30	,, 30	21 7·9	21 21·1	4·2	1 6	—
31	June 3	18 47·8	19 6·9	10·7	2 34	—
32	,, 6	5 11·8	—	—	0 46	—
33	,, 8	6 0·5	—	—	3 4	—
34	,, 12	20 31·2	20 43	4·5	1 52	—
35	,, 27	7 21·4	7 48·4	5·5	1 33	—
36	,, 28	15 45·6	—	—	0 26	—

1mm.=0″·60.

Register from Sydney Astronomical Observatory, New South Wales.
Acting-Director, W. E. Raymond. *Observer*, W. C. Graham.

No.	Date	Commencement	Max.	Max. Amplitude	Duration	Remarks
			1909			
		H. M.	H. M.	MM.	H. M.	
245	Jan. 3	14 42·3	14 51·5	1·3	0 30	P_3 14 47·6.
246	,, 3	21 51·8	21 53·4	3·3	1 18·5	P_3 21 52·4.
247	,, 17	4 9·0	4 15·0	0·5	0 19	—
248	,,18-19	23 58·6	1 10·6	0·25	2 15·3	—
249	,, 21	2 32·2	2 36·7	0·4	0 33·2	
251	,, 29	0 54·7	1 1·5	2·5	1 12·5	P_3 0 59·2.
252	,, 29	12 59·0	13 7·0	0·9	0 30·2	P_3 13 15·3.
253	,, 31	19 10·9	19 13·5	0·7	0 12·7	—
254	Feb. 11	18 27·2	18 29·1	2·7	0 43·2	P_3 18 27·5.
255	,, 13	11 59·0	12 1·0	0·3	0 5·5	—
256	,, 16	15 39·4	15 44·0	0·3	0 8·4	—
257	,, 22	9 27·4	9 37·2	2·7	1 42·4	P_3 9 35·2.
258	,, 27	13 30·3	13 33·9	0·4	0 40	—
259	Mar. 8	11 32·4	11 38·6	1·75	1 14	P_3 11 37·6.
260	,,12-13	23 39·2	23 59·7	0·5	0 58·5	—
261	,, 13	14 48·4	14 56·9	0·7	1 22·4	—
262	,,17-18	23 4·6	23 25·0	2·5	1 15·2	P_3 23 8.
263	,, 18	6 6·8	6 10·8	0·3	0 5·8	—
264	,, 22	22 8·2	22 13·4	2·5	1 46·5	P_3 22 11·8.
265	,, 24	18 8·0	18 10·0	0·7	0 11·9	—
266	,, 27	13 33·6	13 39·8	0·5	0 18	—
267	April 2	0 28·1	0 34·6	0·25	0 25	—
268	,, 3	5 44·9	5 53·4	0·2	0 28	—
270	,, 10	5 35·1	6 0·7	1·9	1 26·3	P_2 5 39·4; P_3 5 42·9.
271	,, 12	1 9·3	1 18·3	3·0	1 46·2	P_2 1 13·9; P_3 1 16·8.
272	,, 14	20 12·9	20 26·9	0·3	1 16·6	—
278	,, 22	13 32·3	15 58·0	0·3	8 33·8	—

Register from Sydney Astronomical Observatory, New South Wales—continued.

No.	Date	Commencement	Max.	Max. Amplitude	Duration	Remarks
		H. M.	H. M.	MM.	H. M.	
279	Apr. 25	22 10·5	22 24·5	0·3	0 21·8	—
280	,, 25	22 49·9	23 6·1	0·9	0 43·2	—
281	,, 27	12 53·7	13 2·7	15·8	1 44·3	P_2 12 55·5, A=0·4 mm. P_3 12 58·2, A=11·5 mm.
282	,, 30	7 21·6	7 29·2	0·2	0 14	—
283	May 2	6 56·7	7 10·2	1·25	1 21·3	P_3 7 4·4.
284	,, 2	18 10·5	18 32·5	0·8	1 29·5	—
286	,, 11	3 39·6	3 41·2	0·4	0 6·2	—
287	,, 11	13 13·8	13 22·5	0·3	0 29	—
288	,, 15	2 34·8	2 56·3	0·3	1 25·8	—
290	,, 17	8 25·0	8 32·8	0·5	1 9·3	—
291	,, 25	5 0	5 11·2	2·5	0 58·4	P_2 5 5·8, A=0·6 mm; P_3 5 8·6.
292	,, 25	2 16·3	2 25·6	3·5	1 30	P_2 2 20, A=1·6 mm. P_3 2 21·3.
293	,, 30	21 8·7	21 25·7	5·2	1 15·1	P_2 21 13·7, A 1·0 mm. P_3 21 17.
294	June 3	18 48·8	19 21·3	4·0	2 12·8	P_2 19 6·8, A=1mm. P_3 19 12·5.
295	,, 6	5 10·6	5 18·9	0·3	0 38·7	—
296	,, 8	5 53·6	6 24·6	0·2	2 46·4	—
297	,, 12	20 25·8	20 34·3	14·0	1 36	P_2 20 28·2, A=5·5 mm. P_3 20 32·5.
298	,, 14	7 19·7	7 25·0	0·7	0 33	—
299	,, 14	14 42·4	11 46·4	0·2	0 22·2	—
300	,, 18	5 43·7	5 45·9	0·3	0 7·9	—
301	,, 27	7 20·5	7 24·7	2·9	1 34·7	P_2 17 22, A=0·6mm. P_3 7 24·1.
302	,, 27	20 9·3	20 21·8	0·5	2 30·5	—

Mean displacement value, 0″·55. Boom period, 13·1 secs.

No. 281. April 27, 1909. P_1 (very slight) at 12 53·7; P_2 at 12 55·5, A. 0·4 mm. The waves continued to increase in size, and at 13 1·9 a wave was recorded A. 11·5 mm. The series containing the wave of maximum amplitude (15·8 mm.) commenced a minute later. The large waves continued for five minutes and were succeeded by other series of large waves, whose amplitude in some instances exceeded 6 mm. This tremor probably occurred in the neighbourhood of the Philippine Islands.

No. 297. A noticeable feature about this severe tremor was the amplitude of the preliminary tremors. The disturbance commenced at 20 25·8 on June 12th with waves of half-millimetre amplitude. P_2 began at 20 28·6 with waves up to 5·3 mm. About four minutes later the series of largest waves commenced, and lasted some three minutes. This disturbance was undoubtedly close to Sydney, probably within 1000 miles.

Register from the Magnetic Observatory, Christchurch, New Zealand.
Observer, HENRY F. SKEY, *B.Sc.*

No.	Date	Commencement	Max.	Max. Amplitude	Duration	Remarks
			1909			
		H. M.	H. M.	MM.	H. M.	
1	Jan. 1	4 11·7	—	—	0 7·3	Swelling.
2	,, 3	21 46·5	21 52·2 21 54·3	6·4	1 24·3	In progress while attending instrument.
3	,, 17	3 17·9	3 28·2	0·4	0 24·8	—
4	,, 21	2 38·4	2 47·7	0·5	0 28·9	—
5	,, 23	3 49·6	—	—	1 36·7	Tremors.
6	,, 28	0 38·5	—	—	0 4·2	Thickening merely.
7	,, 29	0 59·8	1 15·9	0·3	0 44·5	—
8	,, 29	Indef.	13 26·7	0·4	Indef.	In middle of night tremors.
9	Feb. 11	Indef.	18 25·8	2·3	Indef.	P_1 and D. obscured by night tremors.
10	,, 22	9 26·7	9 37	3·4	1 43·4	—
11	,, 27	Indef.	13 33·4	1·5	Indef.	P_1 and D. obscured by night tremors.
12	Mar. 8	11 45·7	11 56·5 11 59·1	1·9	Indef.	D. obscured by night tremors.
13	,, 10	7 37·4	7 38·4	0·45	0 4·6	—
14	,, 17	23 5·2	23 35·9	3·3	3 56·1	—

Register from the Magnetic Observatory, Christchurch, New Zealand—continued.

No.	Date	Commencement	Max.	Max. Amplitude	Duration	Remarks
		H. M.	H. M.	MM.	H. M.	
15	Mar. 22	22 5·3	22 7·4	17·0+	2 16·2	Direction N. & S. Felt in Southern towns
16	,, 26	1 53·8	—	—	0 5·7	Max. at beginning. A. very slight. Felt in Christchurch, direction N. & S.
17	April 10	5 33·4	5 45·0 5 46·9	6·0	2 5·2	—
18	,, 12	1 14·3	1 22·6	3·95	1 29	—
19	,, 22	7 14·8	7 15·8	0·2	0 27·4	—
20	,, 27	12 54·9	13 19·3	6·8	2 1·4	—
21	May 2	7 6·1	7 15·4	1·9	1 24·8	—
22	,, 2	—	15 24·4	—	—	Very slight.
23	,, 2	18 20·3	18 29·6	2·5	0 56·9	—
24	,, 11	—	13 21·7	1·75	—	In middle of Ats.
25	,, 12	0 57·2	1 19·3	0·3	0 55·2	—
26	,, 17	8 20·2	8 31	0·9	1 36·7	—
27	,, 24	7 13·4	7 17	0·5	0 12·4	—
28	,, 25	4 59·7	5 27·6	1·1	1 8·3	—
29	,, 30	Indef.	21 37·9	2·9	—	Ended 22 44·6 Preceded by Ats.
30	June 3	18 52·7	19 37·7	2·2	2 52·3	—
31	,, 8	6 9·7	6 11·8 6 39·7 6 55·2 7 13·9	0·7	Indef.	Followed by Ats.
32	,, 9	0 51	—	—	0 4	Very small. Max. at beginning.
33	,, 12	20 25·5	20 31·3	7·5	1 36·2	—
34	,, 14	7 31·1	7 38·4	0·4	0 22·3	—
35	,, 15	1 19·8	—	—	0 40·3	Thickening merely.
36	,, 26	9 35·6	9 36·6	0·1	0 4·1	—
37	,, 27	7 22·0	7 35·5	4·7	1 59	—
38	,, 28	Indef.	15 29·0	0·7	Indef.	In middle of Ats.

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