British Association for the Advancement of Science.

Circular No. 24, *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 twenty-three 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 or minute ripples, 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. In each register this quantity should be stated.

Records only obtained at a single station have been excluded.

II. *Registers.*

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

John Milne; *Assistants*, Messrs. S. Hirota and J. H. Burgess.

The following entries refer to three pendulums, A, B, and C. The pendulums B and C, given to the Shide Observatory by Mr. A. F. Yarrow in 1901, respectively record E.W. and N.S. motion. A records E.W. motion. The records are photographic.

A. Period 18 seconds. 1° turn = 10mm.
B. Period 18 seconds. 1° turn = 5mm.
C. Period 16 seconds. 1° turn = 4mm. ca.

Ats. = air tremors. P_2 refers to the commencement of the second phase of motion. d. = duration. a. = amplitude. If this is less than ·1 or with Ats d. is not given.

No.	Date	Commencement	Max.	Max. Amplitude	Duration	Remarks
			1911			
		H. M.	H. M.	MM.	H. M.	
2654	Jan. 1	10 27	10 54·5	7·0	2 10	A.B. a for B 4.5mm
		10 27	10 51	3·0	2 10	C. P_2=10h. 34·5m.
2655	,, 1	15 8·5	15 36	1·2	1 16	A. P_2=15·15·5
		----	15 35	1·0	—	B.
		15 5·5	15 31·7	0·6	1 16	C.
2656	,, 2	3 34	3 53	0·3	—	A, B and C.
2657	,, 2	11 18·5	11 34	0·6		A, B and C.
2658	,, 2	23 9	23 24	0·1		A, B and C. 5 slight shocks until 0h. 50
2659	,, 3	—	8 3·5	1·5	—	A. and B. a. for B. 1·0
			8 8·5	1·5	—	C.
2660	,, 3-4	—	23 47	>20·0		
			23 51	,,		
			23 53	,,		
			23 55	,,		

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.	
			0 7·5	20·0		
			0 11·5	,,	>5 0	A, B and C.
2661	Jan. 4	9 45	10 11·5	1·6	1 28	A B. P_2=9·49·5
			10 8	2·0	—	C.
2662	,, 4	15 27	15 35	0·2	0 35	A, B and C.
2663	,, 4	21 45	22 8	0·5	1 20	A and B.
		21 45·5	22 4·5	1·5	1 47	C.
2664	,, 6	—	15 46	0·5	—	A and B.
		—	15 42·5	1·0	—	C.
2665	,, 7	—	1 33	0·5	—	A, B and C.
2666	,, 7	—	2 44	0·5	—	,, ,,
2667	,, 7	—	3 27	2·0	—	,, ,,
2668	,, 7	—	10 28	0·5	—	,, ,,
2669	,, 8	—	10 56	0·2	—	,, ,,
2670	,, 8	—	12 21	0·2	—	,, ,,
2671	,, 9	—	4 28	0·5	—	A B. Com. lost by Ats. P_2=4h. 15·5
		—	4 24	0·5	—	C.
2672	,, 10	—	17 47	0·2	—	B and C.
2673	,, 12	—	19 18	1·0	—	A and B.
		—	19 14	0·5	—	C.
			19 19	0·3	—	C.
2674	,, 14	—	0 54	0·1	—	A.
2675	,, 14	18 5·2	18 27	0·6	—	B. P_2=18·14·5
		18 5·2	18 23	1·1	—	C.
2676	,, 15	5 26	5 28	0·2	0 18	A, B and C.
2677	,, 15	—	20 25	0·1	—	A.
2678	,, 15	—	20 52	0·1	—	A and C.
		20 43·5	20 50	0·2	0 20	B.
2679	,, 16	0 2·5	0 5	0·1	0 23	A.
2680	,, 16	—	2 32	0·1	—	A, B and C.
2681	,, 16	—	4 0·5	0·1	—	,, ,,
2682	,, 16	7 15	7 24	0·1	0 38	,, ,,
2683	,, 16	—	9 53·5	0·5	—	A. 2nd Max. 10h. 5m.
		9 8·5	10 5	0·5	3 15	B.
			9 40	0·3	—	C. 2nd Max. 10h. 8m.
2684	,, 18	—	15 40	0·1	—	A, B and C.
2685	,, 22	—	23 27·5	0·1	—	,, ,,
2686	,, 23	—	0 11·5	0·1	—	B. Max. for C 0h. 16·5m.
2687	,, 24	—	6 19	0·2	—	A, B and C.
2688	,, 24	21 2	21 26	0·2	—	,, ,,
2689	,, 25	0 54	1 29·5	1·0	1 30	,, ,,
2690	,, 26	—	21 8	0·1	—	,, ,,
2691	,, 28	2 42	2 55	0·1	0 55	,, ,,
2692	,, 29		1 43	0·1		,, ,,
2693	,, 29		2 38	0·1		,, ,,
2694	,, 30	0 25·5	0 40	0·2	1 30	A.
		0 20·5	0 40·5	0·2	—	B. With Ats.
		0 26	0 37	0·3	—	C. ,,
2695	Feb. 2	—	9 42	0·2	—	A, B and C.
2696	,, 3	22 0	22 12	0·1	0 30	,, ,,
2697	,, 4		10 37·2	0·5	0 20	,, ,,
2698	,, 5	4 30	5 18	0·2	1 40	,, ,,
2699	,, 7	—	3 10	0·1	—	,, ,,
2700	,, 8	—	3 4	0·1	—	,, ,,
2701	,, 11	11 49	11 57	0·2	0 45	,, ,,
2702	,, 11	—	20 37	0·1	—	,, ,,

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.	
2703	Feb. 12	21 25	22 3	0.2	1 10	A, B and C.
2704	,, 13	—	14 17	0·1	—	,, ,,
2705	,, 14	—	14 36	0·1	—	,, ,,
2706	,, 16	19 33	19 51	0·1	—	,, ,,
2707	,, 16	—	20 59	0·1	—	,, ,,
2708	,, 17	—	3 24	0·1		A.B. Max. for C 3·32
2709	,, 17	14 56	15 14	0·2	1 0	A, B and C.
2710	,, 18	0 50	1 16	0·3	—	,, ,,
2711	,, 18	2 15	2 45	0·5		,, ,,
2712	,, 18	18 49·5	19 13·6	>27·0	—	A, B. P_2 for A, 18·57
			19 15·7	>28·0		a for B>13·0mm.
		18 49·5	19 12	>15·0		C. End lost in next Eq.
			19 16	10·0		
2713	,, 18	21 39	21 46	9·0		A.
			21 46	5·0		B and C.
			21 49	5·5		A.
			21 49	3·5		B.
			21 49	5·7	3 20	C.
2714	,, 19	—	3 10	0·1	—	A.
2715	,, 19	—	7 25	0·3	—	A and C.
2716	,, 21	16 53	17 4	0·2	1 0	A.
2717	,, 21	—	19 48	0·1	—	A.
		—	19 41	0·1	—	C.
2718	,, 23	11 59	12 15	3·0	—	A and C. a for C, 1·5
2719	,, 25	—	2 8	0·1	—	A, B and C.
2720	,, 26	—	9 3	0·2	—	B and C.
2721	,, 26	13 0	13 12	1·0	1 30	,,
2722	,, 28	—	8 30	0·2	—	A, B and C.
2723	,, 28	—	12 7	0·2	—	,, ,,
2724	Mar. 1	—	18 40	0·1	—	A and C.
		—	18 36	0·1	—	B.
2725	,, 2	—	19 53	0·2	—	A, B and C.
2726	,, 6	—	18 35	0·1	—	,, ,,
2727	,, 9	5 57	6 11	0·1	0 56	,, ,,
2728	,, 10	—	22 25	0·1	—	,, ,,
2729	,, 11	3 38	4 32	0·3		A.
			4 37	0·3	3 0	A.
			4 37	0·7		B and C.
			4 45	0·7		
2730	,, 11	20 44	20 52	0·5	1 0	A. B and C.
2731	,, 12	12 58	13 0	0·2	0 30	,, ,,
2732	,, 13	—	15 51	0·1	—	,, ,,
2733	,, 14	—	18 49	0·1	—	,, ,,
2734	,, 16	—	3 29	0·1	—	,, ,,
2735	,, 19	4 56	5 13	0·5	1 10	B and C.
2736	,, 20		15 55	0·1		A and C.
2737	,, 21	14 21	14 37	0·1	0 40	A, B and C.
2738	,, 22	—	9 45	0·2	—	,, ,,
2739	,, 22	—	14 13	0·1	—	B and C.
2740	,, 22	—	15 1	0·2	—	,,
2741	,, 23	—	4 5	0·1	—	B only recorded
2742	,, 24	—	4 9	0·1	—	B and C.
2743	,, 26	13 8	13 14	0·2	1 0	A.
2744	,, 26	19 36	19 41	0·2	—	A.
2745	,, 27	—	5 21	0·1	—	A.
2746	,, 30	—	10 9	0·1	—	B and C.
2747	April 1	2 24	2 31	0·1	1 10	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.	
2748	April 2	7 50	8 1	0·2	—	A, B and C.
2749	,, 3	11 2	11 19	0·2	1 0	,, ,,
2750	,, 3	—	15 50	0·1	—	,, ,,
2751	,, 4	15 49	15 56	0·7	1 0	B and C.
2752	,, 4	—	18 15	0·2	—	,,
2753	,, 5	—	15 35	0·2	—	A, B and C.
2754	,, 6	20 58·5	21 10	0·1	1 15	A, B and C.
			21 19·5	0·2		
			21 50	0·3		
2755	,, 7	6 52·5	7 5·5	0·5	4 0	A.
			7 36	0·6		
		6 55·5	7 7	0·3	4 0	B and C.
			7 36	0·6		
2756	,, 7	—	18 55	0·1	—	A, B and C.
2757	,, 7	—	19 12	0·1	—	,, ,,
2758	,, 8	—	3 1	0·2	—	B and C.
2759	,, 8	—	9 20	0·2	—	,,
2760	,, 9	—	0 39	0·1	—	A, B and C.
2761	,, 10	18 53·5	19 4·2	0·7	—	,, ,,
2762	,, 11	—	15 12	0·5	—	,, ,,
2763	,, 13	—	1 55	0·1	—	,, ,,
2764	,, 14	—	6 15	0·2	—	,, ,,
2765	,, 15	6 15·5	6 36	1·0	3 15	,, ,,
2766	,, 15	11 50·5	12 29·7	1·0	—	A.
		11 49	12 27·5	1·0	—	B and C.
2767	,, 16	—	0 21	0·1	—	A and C.
2768	,, 16	5 6·5	6 21	0·3	1 5	A, B and C.
2769	,, 17	5 5·5	5 40·7	0·5	2 0	,, ,,
2770	,, 17	—	10 32·5	0·2	—	A.
2771	,, 18	—	6 42·5	0·1	—	A, B and C.
2772	,, 18	11 46	11 56·5	0·2	1 5	,, ,,
2773	,, 18	18 23·5	—	—	3 0	Max. lost changing paper
2774	,, 21	2 45	3 27	0·5	3 0	A, B and C.
2775	,, 22	19 31·5	19 37	0·1	0 32	B and C.
2776	,, 23	14 1·5	14 13	0·2	0 45	A and B. Max. for C, 14h.18·5
			14 24			
2777	,, 24	—	17 25	0·1	—	B and C.
2778	,, 25	—	5 26	0·1	—	A and C.
2779	,, 25	13 34	13 40	0·1	0 25	A, B and C.
2780	,, 26	2 26	2 50	0·1	1 15	,, ,,
2780a	,, 27	—	10 55	0·1	—	,, ,,
2781	,, 28	0 5·5	0 8·5	0·2	0 13	A.
		0 3·5	0 7	0·3	0 40	C.
2782	,, 28	10 1	10 14·2	1·0	2 0	A and C.
2783	,, 28	—	19 3	0·1	—	A and C,
2784	,, 29	5 25·5	5 49	0·5	1 7	A, B and C.
2785	,, 29	—	23 29	0·1	—	B and C.
2786	,, 30	4 47	5 12	0·3	1 20	,,
			5 19			
2787	,, 30	20 49	20 53	0·3	0 45	A, B and C.
2788	May 2	—	9 32	0·1	—	A and B.
2789	,, 4	13 50	14 39	0·5	—	A, B and C.
2790	,, 4-5	23 48	23 59	3·5	3 12	,, ,, P_2, 23h. 51·5m.
			0 3			
2791	,, 7	—	0 30	0·1	—	A, B and C.
2792	,, 9	19 58·5	20 3	0·2	1 35	,, ,,

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.	
2793	May 10	0 56	1 4	0·2	1 5	A, B and C.
2794	,, 11	4 25	5 11	0·7	1 15	,, ,,
			5 17			
2795	,, 13	3 41	4 24	0·2	—	,, ,,
2796	,, 14	1 17	1 23·5	0·1	0 26	B and C.
2797	,, 14	7 4·5	7 12·5	0·1	0 30	,,
2798	,, 14	—	17 34	0·1	—	A
2799	,, 17	12 28	12 55	0·1	1 30	A, B and C.
2800	,, 20	—	12 59	0·1	—	A.
2801	,, 21	22 20	22 21	0·1	0 5	A, B and C.
2802	,, 21	—	23 13	0·1	—	B and C.
2803	,, 24	—	23 38	0·1	—	,,
2804	,, 25	8 19·5	8 41·5	0·1	—	A, B and C.
			8 49			
2805	,, 26	—	3 16	0·1	—	B and C.
2806	,, 26	21 6·5	21 18	0·1	0 50	,,
2807	,, 27	16 0	16 9	0·1	1 10	,,
2808	,, 27	—	18 30	0·1	—	,,
2809	,, 27	—	23 52	0·1	—	,,
2810	,, 28	—	10 48	0·2	—	,,
2811	,, 29	19 47·5	19 55	0·2	—	,,
2812	,, 30	—	19 27·5	0·1	—	,,
			19 49			
2813	,, 31	—	2 16·5	0·1	—	,,
2814	,, 31	—	14 2	0·1	—	A, B and C.
2815	,, 31	—	15 22	0·2	—	,, ,,
2816	June 1	—	10 52	0·1	—	B and C.
2817	,, 1	14 50·5	15 6	0·1	—	,,
2818	,, 2	16 24	16 42	0·2	0 45	,,
2819	,, 3	—	7 32	0·1	—	A, B and C.
2820	,, 3	—	14 34·5	0·2	—	,, ,,
2821	,, 3	20 38·5	20 58	0·2	—	B and C.
2822	,, 3	—	21 52	0·5	—	A, B and C. End at 23h.5m.
2823	,, 5	—	4 13	0·1	—	B and C.
2824	,, 6	—	8 55	0·1	—	A.
2825	,, 7	11 15	11 52	>28·0	3 15	A and B. P_2, 11h.25m. a. for B, 12mm.
		11 15	11 54	7·5	>4 0	C.
			12 5	10·0		
			12 8	10·0		
2826	,, 7	19 23	19 54·5	0·4	—	A, B and C.
2827	,, 8	0 5·5	0 25	0·4	—	A and B. P_2, 0h.11m.
			0 37·5	0·2		
		0 5·5	0 22·2	0·4	—	C. P_2, 0h.11m.
			0 28·5	0·4		
2828	,, 9	—	23 4	0·1	—	B and C.
2829	,, 13	—	20 14·5	0·1	—	A, B and C.
2830	,, 14	—	6 41	0·3	—	A.
			6 47	0·3		
		—	6 42	0·1	—	B and C.
2831	,, 14	—	14 46	0·1	—	A and C.
2832	,, 15	—	6 22	0·2	—	A, B and C.
2833	,, 15	14 39	14 49·5	26·0	>4 0	A. P_2 14h.42m.
			15 18·5	27·0		
			15 20·5	27·0		
			15 28	38·0		

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.	
		14 38·5	14 48·5	8·0	—	B and C.
			15 18·5			
			15 24			
2834	June 17	5 34	6 10	2·5	2 0	A, B and C.
2835	,, 18	—	23 30	0·1	—	,, ,,
2836	,, 19	—	3 48	0·1	—	B and C.
2837	,, 19	—	15 23	0·2	—	A.
2838	,, 20	—	4 57	0·1	—	B.
2839	,, 21	—	10 54	0·1	—	A, B and C.
2840	,, 22	—	0 37	0·1	—	,, ,,
2841		—	1 3	0·1	—	,, ,,
2842		—	21 29	0·1	—	B and C.
2843	,, 23	—	12 50	0·1	—	A.
2844	,, 25	9 20·7	9 26·7	0·7	1 50	A.
			9 28·7	0·6		
		9 20·7	9 41	0·2	1 50	B and C.
2845	,, 28	—	8 6·7	0·1	—	A.
			8 50·7	0·1		
2846	,, 28	—	20 16·5	0·5		A. End at 23h.15m.
			20 43·5	0·3	—	B and C. Time uncertain
			21 25	0·3		
			22 6	0·3		
2847	,, 30	—	23 54·5	0·1	—	A, B and C.

Register from M.O. Central Observatory, Kew Observatory, Richmond. Dr. W. N. Shaw, *F.R.S.*; *Superintendent*, C. Chree, *LL.D.*, *F.R.S.*; *Observer*, E. G. Constable.

No.	Date	Commencement	Max.	Max. Amplitude	Duration	Remarks
			1911			
		H. M.	H. M.	MM.	H. M.	
1166	Jan. 1	?	10 52·8	2·6	?	Commencement lost, changing paper.
1167	,, 1	15 21·6	15 31·5	1·2	0 28	—
1168	,, 2	3 50	—	—	—	B.T=merely a broadening of the trace.
1169	,, 2	11 31·2	12 1·3	0·5	0 41	—
1170	,, 3	0 46	—	—	—	B.T.
1171	,, 3	7 50·7	8 3·0	0·6	0 50	—
1172	,, 3-4	23 35·2	23 17·0 23 54-0·4	>17	4 10	>17mm. again at 0·9—Turkestan E.Q.
1173	,, 4	15 45	—	—	—	B.T.
1174	,, 4	22 2·2	22 3·5	0·6	0 7	—
1175	,, 6	15 41·8	15 43·2	0·4	0 6	—
1176	,, 7	1 33	—	—	—	B.T.
1177	,, 7	2 43·7	3 27·2	0·7	1 12	—
1178	,, 9	4 24·0	4 28·5	0·3	0 9	Ill-defined.
1179	,, 12	10 14	—	—	—	B.T.
1180	,, 14	18 15·0	18 27·6	0·5	0 31	—
1181	,, 16	0 38	—	—	—	B.T.
1182	,, 24	21 23	—	—	—	,,
1183	,, 25	1 26·5	1 29·5	0·3	0 7	Ill-defined.
1184	Feb. 11	11 56	—	—	—	B.T.
1185	,, 12	22 18	—	—	—	,,
1186	,, 14	14 32	—	—	—	,,
1187	,, 16	21 3	—	—	—	,,
1188	,, 17	15 11	—	—	—	,,
1189	,, 18	1 18	—	—	—	,,
1190	,, 18	2 44	—	—	—	,,
1191	,, 18	18 52.7	19 10·9	>17·0	2 3	—
1192	,, 18	21 37·4	21 45·7	2·9	1 5	—
1193	,, 21	17 11	—	—	—	B.T.
1194	,, 23	12 7·2	12 13·9	1·4	0 49	—
1195	,, 26	13 0	13 15	0·6	0 35	Approximate, curve faint.—
1196	Mar. 2	19 14	—	—	—	B.T.
1197	,, 10	22 21	—	—	—	,,
1198	,, 11	4 24·0	4 37·5	0·4	0 50	Ill-defined.
1199	,, 11	20 52	—	—	—	B.T.
1200	,, 13	15 48	—	—	—	,,
1201	,, 14	18 45	—	—	—	,,
1202	,, 21	14 20	—	—	—	,,
1203	,, 22	14 7 15 14	—	—	—	,,
1204	,, 26	13 6	—	—	—	,,
1205	,, 27	6 3	—	—	—	,,
1206	April 3	10 52	—	—	—	,,
1207	,, 3	14 52	—	—	—	,,
1208	,, 4	15 53·3	16 1·5	0·3	0 20	Ill-defined.
1209	,, 7	7 5·5	7 34·0	0·3	0 45	—
1210	,, 7	18 55	—	—	—	B.T.
1211	,, 8	9 24	—	—	—	,,
1212	,, 10	19 5·2	19 36·0	0·3	0 38	Ill-defined.
1213	,, 11	14 47·5	15 2·0	0·3	0 42	,,
1214	,, 14	6 28	—	—	—	B.T.
1215	,, 15	6 34	—	—	—	,,
1216	,, 16	6 19	—	—	—	,,
1217	,, 17	5 30·5	5 38·8	0·3	0 22	—
1218	,, 18	18 28·8	18 51·7	1·0	1 28	—
1219	,, 21	3 28·5	3 49·0	0·3	0 24	—
1220	,, 23	14 14·0	14 24·5	0·4	0 52	—
1221	,, 25	13 39	—	—	—	B.T.
1222	,, 38	10 13	—	—	—	,,
1223	,, 28	19 0	—	—	—	,,
1224	May 4	14 40·7	14 49·5	0·3	0 12	—
1225	,, 4-5	23 53·2	23 59·5 0 25·7	2·5	2 30	—
1226	,, 9	20 10	—	—	—	B.T.
1227	,, 11	5 4·8	5 17·2	0·3	0 20	—
1228	,, 17	12 47	—	—	—	B.T.
1229	,, 27	16 24	—	—	—	,,
1230	,, 28	10 49	—	—	—	,,

Register from M.O., Central Observatory, Kew Observatory—continued.

No.	Date	Commencement	Max.	Max. Amplitude	Duration	Remarks
		H. M.	H. M.	MM.	H. M.	
1231	,, 31	14 15	—	—	—	B.T.
1232	June 3	20 38	—	—	—	,,
		21 57				
1233	,, 7	11 16·2	11 54·0	>17	3 18	—
1234	,, 7	19 54	—	—	—	B.T.
1235	,, 8	0 22·8	0 25·1	0·5	0 21	—
1236	,, 14	6 38	—	—	—	B.T.
1237	,, 15	14 38·7	15 18·2	12·8	2 46	—
			15 25·3			
1238	,, 17	6 2·7	6 10·3	0·7	0 46	—
1239	,, 28	21 27	—	—	—	B.T.

January-April, 1mm. = 0·54″ of arc.
April-June, 1mm. = 0·55″ ,,

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

No.	Date	Commencement	Max.	Max Amplitude.	Duration	Remarks
			1911			
		H. M.	H. M.	MM.	H. M.	
1679	Jan. 1	10 36·2	10 57·5	2·9	1 10	—
1680	,, 1	15 19·3	15 32·7	1·0	0 38	—
1681	,, 2	11 26·0	11 43·7	0·2	0 56	—
1682	,, 2	23 30·1	0 24·2	0·2	1 40	—
1683	,, 3	7 44·2	8 6·1	0·5	0 22	—
1683a	,, 3	23 11	—	—	uncert.	Exceeded width of paper.
1684	,, 4	9 34·3	10 0·2	1·6	1 49	End uncertain.
1685	,, 4	—	15 38·3	—	—	—
1686	,, 4	21 58·2	22 6·7	0·8	0 39	—
1687	,, 6	15 30	—	—	0 20	Line much disturbed.
1688	,, 7	1 5·5	1 25·8	—	0 47	—
1689	,, 7	2 57·2	3 12·9	1·0	1 54	—
1690	,, 8	10 39·2	10 52·5	0·7	0 44	—
1691	,, 8	—	12 22·4	—	—	Line very faint. Lamp failed.
1692	,, 9	3 59·7	4 30·6	0·6	0 59	—
1693	,, 10	17 41·9	17 57·7	0·4	0 38	—
1694	,, 12	18 53	—	—	0 37	Much disturbance.
1695	,, 14	0 42·6	0 55·7	—	0 42	Very irregular.
1696	,, 14	18 6·2	18 23·1	0·2	0 52	—
1697	,, 15	5 5·2	5 12·7	0·2	0 43	—
1698	,, 15	—	20 26·0	—	—	—
1699	,, 16	—	2 32	—	—	—
1700	,, 16	3 51	—	—	0 31	—
1701	,, 16	7 11·4	7 21·7	0·5	0 38	Watch winding.
1702	,, 16	9 23·2	9 56·2	0·4	1 20	—
1703	,, 23	0 1·5	—	—	0 25	Small and doubtful.
1704	,, 23	6 36	—	—	3 30	Much disturbance; probably Ats.
1705	,, 24	21 14·0	21 37·2	0·2	0 57	—
1706	,, 25	0 37·2	0 58·4	0·3	1 11	—
1707	,, 28	—	2 54	—	—	In the midst of Ats.
1708	,, 29	2 18·2	2 37·0	0·1	0 41	—
1709	,, 30	0 36·2	0 42·3	0·3	0 18	—
1710	Feb. 2	9 25·5	9 46·1	0·1	1 7	—
1711	,, 3	—	22±	—	—	Line uneven.
1712	,, 4	10 31·9	10 37·2	0·1	0 20	—
1713	,, 8	2 30	—	—	1 5	Line rugged and uneven.
1714	,, 11	11 35·5	11 57·5	0·1	0 53	—

Register from Liverpool Observatory, Bidston—continued.

No.	Date	Commencement	Max.	Max. Amplitude	Duration	Remarks
		H. M.	H. M.	MM.	H. M.	
1715	Feb. 11	—	20 30	—	—	Line disturbed. ? Ats.
1716	,, 14	14 18·7	14 32·9	0·1	1 3	Much Ats.
1717	,, 17	2 25	—	—	1 15	,, ,,
1718	,, 17	15 2·2	15 8·8	0·2	0 24	—
1719	,, 18	1 12·0	1 24·2	0·1	0 34	—
1720	,, 18	2 33·1	2 43·9	0·3	0 57	—
1721	,, 18	18 51·2	19 8·7	10·0	2 10	—
1722	,, 18	21 40·7	21 47·8	2·3	0 58	—
1723	,, 19	2 50·7	3 9·6	0·2	0 45	—
1724	,, 19	7 5·0	7 20·8	0·2	0 55	Watch winding.
1725	,, 23	11 50·8	12 8·3	0·7	1 39	—
1726	,, 26	12 49·1	13 10·7	0·6	0 31	—
1727	,, 28	8 11·8	8 26·4	0·1	0 53	—
1728	Mar. 1	—	18 52	—	—	—
1729	,, 2	—	19 30	—	—	Line uneven.
1730	,, 6	18 23·0	18 27·7	0·2	0 24	—
1731	,, 9	5 56·2	6 6·1	0·1	0 42	—
1732	,, 10	22 11·6	22 25·2	0·1	1 7	—
1733	,, 11	4 11·2	4 37·0	0·5	1 27	—
1734	,, 12	13 0	—	—	0 34	—
1735	,, 13	15 43·0	15 53·0	0·4	0 37	—
1736	,, 14	18 30·7	18 37·0	0·3	0 25	—
1737	,, 16	—	3 30	—	—	Line faint.
1738	,, 19	5 1·3	5 8·0	0·4	0 21	—
1739	,, 22	9 42·2	9 53·1	0·1	0 30	—
1740	,, 24	4 6·2	4 13·2	0·2	0 30	—
1741	,, 26	13 11·2	13 18·0	0·1	0 23	—
1742	April 1	2 11·2	2 26·4	—	0 47	—
1743	,, 3	10 53	11 3	—	0 10	—
1744	,, 4	15 46·2	15 54·4	0·4	0 44	—
1745	,, 6	10 54·5	10 59·2	0·3	0 14	—
1746	,, 7	7 5·1	7 10·3	0·6	1 15	—
1747	,, 7	18 55	—	—	0 20	—
1748	,, 9	—	0 41	—	—	Possible slight disturbance.
1749	,, 10	19 0·3	19 19·8	0·5	0 50	—
1750	,, 11	14 52·5	15 30	0·2	0 39	—
1751	,, 15	5 58·0	6 4·9	0·2	0 59	—
1752	,, 15	12 20·7	12 29·2	0·2	0 27	—
1753	,, 15	23 48·3	0 26·2	—	0 47	—
1754	,, 16	—	6 0	—	—	Line feeble.
1755	,, 17	5 35·6	5 42·2	0·2	0 18	—
1756	,, 17	—	10 30	—	—	—
1757	,, 18	6 32·0	6 38·5	—	0 24	—
1758	,, 18	11 53·2	12 0·9	0·1	0 21	—
1759	,, 18	18 30·7	18 51·3	2·0	1 33	—
1760	,, 25	5 16·0	5 22·2	0·1	0 31	—
1761	,, 25	13 22	—	—	0 38	—
1762	,, 26	2 33·0	2 41·2	0·1	0 37	—
1763	,, 28	0 3	—	—	0 21	—
1764	,, 28	10 6·5	10 14·0	0·2	0 47	—
1765	,, 29	5 43·2	5 48·8	0·1	0 46	—
1766	,, 30	5 8·7	5 20·0	0·1	0 38	—
1767	May 4	13 25	—	—	1 10	Light feeble.
1768	,, 4	23 55·2	0 13·5	3·6	1 52	—
1769	,, 9	20 0	20 9	0·1	0 18	Light feeble.
1770	,, 11	5 0·7	5 8·9	0·2	0 28	—
1771	,, 13	—	4 20	—	—	—
1772	,, 21	22 24	—	—	1 22	Line irregular.
1773	,, 24	23 40·0	0 1·4	0·1	0 34	—
1774	,, 26	21 0·2	21 20·0	—	0 34	Very small.
1775	,, 27	—	16 14	—	—	—
1776	,, 28	10 36	—	—	0 16	—
1777	,, 29	19 50	—	—	0 21	—
1778	,, 31	2 16	—	—	0 14	—
1779	June 1	—	10 48	—	—	—
1780	,, 3	21 39·3	21 59·2	0·2	0 54	—
1781	,, 5	—	4 16	—	—	—
1782	,, 7	11 17·0	11 52·8	14·2	3 34	—
1783	,, 7	19 52·2	19 54·7	0·3	0 16	—
1784	,, 8	0 13·6	0 23·2	3·5	0 58	—
1785	,, 15	14 31·1	15 28·2	9·8	3 7	—
1786	,, 17	5 42·5	6 2·6	0·6	1 6	—
1787	,, 19	3 45	—	—	0 20	—

Register from Liverpool Observatory, Bidston—continued.

No.	Date	Commencement	Max.	Max. Amplitude	Duration	Remarks
		H. M.	H. M.	MM.	H. M.	
1788	June 20	—	5 15	—	—	—
1789	,, 22	0 43	—	—	0 11	—
1790	,, 23	12 50·0	12 56·1	0·2	0 20	—
1791	,, 25	9 39·7	9 53·3	0·2	0 25	—
1792	,, 28	8 6	—	—	0 44	Line wavy.
1793	,, 28	21 14·0	21 23·3	0·1	0 31	—

Boom period 17·5–18·2 seconds.
1mm. tilt of 0″·55.

Register from Woodbridge Hill, Guildford, England.
Owner and Observer F. Edward Norris. *Assistant,* E. Smart

In the following register the records are those for one pendulum only.
N.S. or E.W. records are respectively indicated by the letters N. or W.
A more detailed register will be given in my annual report.

F. E. N.

No.	Date	Commencement	Max.	Max. Amplitude	Duration	Remarks
			1911			
		H. M.	H. M.	MM.	H. M.	
99	Jan. 1	10 16·9	10 49·4	2·8	1 53	W.
100	,, 1	15 5·8	15 30	0·95	0 58·5	W.
101	,, 2	10 45·3	11 44·8	0·3	1 45	W.
102	,, 2-3	23 52·7	0 23·2	0·3	1 24	W.
103	,, 3	7 24	8 3·2	0·4	1 39	W.
104	,, 3-4	23 34	23 55	131·0	5 52	W.
105	,, 4	—	10 6·0	1·65	—	W.
106	,, 4	—	22 3·5	1·0	—	W.
107	,, 6	—	15 40	0·35	—	W.
108	,, 7	—	1 26·5	0·1	—	N.
109	,, 7	—	3 26·3	1·75	1 31	W.
110	,, 7	—	10 18·5	0·05	—	N.
111	,, 8	—	11 3·0	0·1	—	N.
112	,, 9	3 57·2	4 23·3	0·4	0 58	W.
113	,, 10	—	17 49	0·1	—	W.
114	,, 12	—	19 16·5	0·07	—	N.
115	,, 14	—	0 55	0·15	—	N.
116	,, 14	18 8·4	18 23·3	0·85	0 42	W.
117	,, 16	9 16·5	9 39·6	0·3	1 4	N.
118	,, 16	—	10 4	0·05	—	N.
119	,, 22	—	23 24	0·1	—	N.
120	,, 24	—	6 19	0·05	—	W.
121	,, 25	1 22·2	1 29·2	0·75	0 35	W.
122	,, 30	—	0 39·5	0·05	—	N.
123	Feb. 4	—	10 27·5	0·05	—	N.
124	,, 5	—	5 16	0·1	—	N.
125	,, 11	—	11 58	0·1	—	N.
126	,, 11	—	20 38	0·03	—	N.
127	,, 16	20 52·5	20 56	0·1	0 12	N.
128	,, 17	—	15 12	0·1	—	N.
129	,, 18	2 34·9	2 43·9	0·2	0 36	N.
130	,, 18	18 57·1	19 11·7	30·4	>2 40	W.
131	,, 18	21 38·4	21 47·1	7·1	1 32	W.
132	,, 19	—	7 27·5	0·1	—	N.
133	,, 26	12 55·5	13 14·3	0·6	1 6	W.
134	Mar. 2	—	19 56	0·07	—	N.
135	,, 6	—	18 2	0·07	—	N.
136	,, 9	—	5 35·5	0·07	—	N.

Register from Woodbridge Hill, Guildford, England—continued.

No.	Date	Commencement	Max.	Max. Amplitude	Duration	Remarks
		H. M.	H. M.	MM.	H. M.	
137	Mar. 10	—	22 15	0·1	—	N.
138	,, 11	—	4 42	0·1	—	N.
139	,, 11	20 51·5	20 55	0·25	—	W.
140	,, 12	—	13 28·5	0·08	—	N.
141	,, 13	15 35·2	16 1·3	0·07	0 39	N.
142	,, 14	—	19 1	0·07	—	N.
143	,, 19	5 6·3	5 21·8	0·15	?	W. Ats.
144	,, 26	—	13 12·8	0·05	—	N.
145	,, 27	—	6 9	0·1	—	N.
146	April 4	15 42·8	15 58·2	0·75	0 51·5	W.
147	,, 4	—	18 48	0·05	—	N.
148	,, 5	15 34·1	15 52	0·07	0 32·5	N.
149	,, 6	—	21 58	0·07	—	N.
150	,, 7	6 50·8	7 40	0·1	—	N.
151	,, 8	—	2 53·5	0·05	—	N.
152	,, 10	18 34	19 39·1	0·35	3 1	W.
153	,, 11	—	15 10·3	0·1	—	N.
154	,, 13	1 37·7	2 10	0·15	0 45	W.
155	,, 14	—	6 12	0·05	—	N.
156	,, 15	6 16·3	6 40·8	0·2	0 42	W.
157	,, 15	12 4·3	12 30	0·25	0 49	W.
158	,, 16	6 1·8	6 23·7	0·1	0 22	N.
159	,, 17	4 59·2	5 14·5	0·1	—	N. Next earthquake follows at once.
160	,, 17	5 23·2	5 40·8	0·4	0 42	W.
161	,, 18	—	18 48·5	1·0	>3 20	W. Ats. at Com.
162	,, 21	2 47·1	3 47·1	0·35	1 23·5	W. P_2 2h.57·3m. P_3 3h.34·4m.
163	,, 23	13 43·3	14 16	0·15	1 7	N. P_2 13h.49·2m. P_3 14h.11·7m.
164	,, 25	—	5 29	0·07	—	N.
165	,, 25	—	13 42	0·07	—	N.
166	,, 26	—	2 50	0·1	—	N.
167	,, 28	—	0 15	0·1	—	N.
168	,, 28	—	10 28	0·2	—	N.
169	,, 28	19 43·9	20 11	0·05	0 36	N. P_2 19h.50·8m.
170	,, 29	5 42·9	6 4	0·07	—	N. P_2 5h.48·3m.
171	,, 29	23 27·8	23 35	0·05	0 9	N.
172	,, 30	5 4·2	5 21·3	0·07	0 38	N. P_2 5h.8m.
173	,, 30	20 45·7	20 57·2	0·15	0 30	W.
174	May 2	—	9 31·5	0·07	—	N.
175	,, 4	14 23·8	14 45·5	0·05	0 35	N.
176	,, 4-5	23 47·9	0 8	1·8	3 32	N.
177	,, 9	19 59·7	20 9	0·03	0 22	N. P_2 20h.3·2m. P_3 20h.8·4m.
178	,, 10	—	1 9·5	0·06	—	N.
179	,, 11	4 54	5 15·1	0·25	2 10	W.
180	,, 13	3 34·4	4 32·7	0·1	1 0	W.
181	,, 14	17 33·5	17 37	micro.	0 15	N.
182	,, 20	—	13 0	0·05	—	W.
183	,, 26	3 19·2	3 20·5	0·02	0 3·2	N.
184	,, 26	—	21 13·5	micro.	—	N.
185	June 1	—	10 48	0·03	—	N.
186	,, 1	14 45·7	15 1	0·1	0 29	N.
187	,, 3	—	20 59	0·1	—	N.
188	,, 6	8 44·6	8 51	0·08	0 20	N.
189	,, 7	11 15	12 6·5	12·0	5 31	W. P_2 11h.25·9m. P_3 11h.48m.
190	,, 7	19 45·4	20 2	0·2	0 24	N.
191	,, 8	0 10·8	0 25·2	0·35	1 22	N. P_2 0h.15·8m.
192	,, 13	—	20 17	0·1	—	N.
193	,, 14	—	6 41	0·07	—	N.
194	,, 14	—	14 33	0·1	—	N.
195	,, 15	14 33	15 18·8	6·9	4 31	N. P_2 14h.41·7m. P_3 15h.13m.
196	,, 17	5 39·8	6 11·1	0·8	1 26	N. P_3 5h.43·6m.
197	,, 21	—	10 32	0·02	—	N.
198	,, 22	—	1 5·3	0·05	—	N.
199	,, 22	—	21 33	0·05	—	N.
200	,, 23	—	12 48	0·04	—	N.
201	,, 28	21 2·5	21 37	0·06	1 37	N. P_2 21h.7·3m. P_3 21h.34·5m.

Boom period 17·5 seconds both booms.
1″ arc = 0·53mm. or 1mm. = 1·88″ arc.

Register from Stonyhurst College Observatory.
Director, REV. WALTER SIDGREAVES, *S.J.*

No.	Date	Commencement	Max.	Max. Amplitude 2A.	Duration	Remarks
		H. M.	H. M.	MM.	H. M.	
		1911				
319	Jan. 1	10 26·9	10 50·5	4·2	—	P_2 10h.37·5m. P_3 10h.48·2m. End after
			10 54·3	2·9		12h. change. Times approximate. Shutter failing.
320	,, 1	15 21·2	15 34	0·6	0 56	P_2 15h.31·2m. P_3 15h.33·1m.
321	,, 2	—	3 52	—	—	—
322	,, 2	11 17·6	?	?	—	P_2 11h.35·9m. P_3 11h.44·1m. Max. during change.
323	,, 2	23 23·2	24 29·5	0·6	2 19	P_3 24h.16m.
324	,, 3	7 48·5	8 7	1·4	1 15	P_2 7h.56·2m. P_3 8h.2·5m.
325	,, 3	23 37	24 2	>35·0	4 30	P_2 23h.44·5m. P_3 23h.48·5m. Phases very sudden.
			24 15	20·0		
326	,, 4	22 2·6	22 11·1	0·5	0 24	P_2 22h.6·5m.
327	,, 6	15 38·5	15 48	0·2	0 18	—
328	,, 7	—	1 34·7	—	—	—
329	,, 7	2 36·5	2 50·2	0·8	2 18	P_2 2h.44·4m. P_3 2h.48m.
			3 16	0·9		
			3 21·6	1·2		
330	,, 8	10 46·5	10 52	0·1	0 40	—
331	,, 9	4 16	4 26·5	0·1	0 26	—
332	,, 10	17 42	17 56	< 0·1	0 54	—
333	,, 16	9 23·5	10 2	0·5	1 24	P_3 9h.54·5m.
334	,, 23	0 12·1	0 16·2	< 0·1	0 10	—
335	,, 25	1 22·5	1 28·8	0·3	0 24	—
336	,, 30	0 36	0 41·2	0·1	0 10	—
337	,, 30	16 13	16 17·6	< 0·1	0 11	—
338	Feb. 2	9 38·2	9 42	< 0·1	0 8	—
339	,, 5	4 44·7	5 13	0·4	1 10	—
340	,, 18	Ats.	2 42	0·2	Ats.	P_2 2h.35m. P_3 2h.39·5m.
341	,, 18	18 49	19 13·5	18·0	4 29	P_2 19h.1·3m. P_3 19h.10·5m.
342	,, 18	—	21 49·2	5·3		P_2 21h.40·2m. P_3 21h.45·2m.
343	,, 21	—	16 29	—	—	—
344	,, 25	—	2 6	0·1	—	—
345	,, 26	12 55·5	13 13·7	1·1	1 53	P_2 13h.5·3m. P_3 13h.11·5m.
346	Mar. 1	18 28	18 39	< 0·1	0 21	—
347	,, 11	4 13·5	4 38	0·6	1 50	P_2 4h.23·7m. P_3 4h.32·5m.
			4 40·5			
348	,, 11	—	20 52·5	—	—	—
349	,, 13	—	15 53	—	—	—
350	,, 26	—	13 10·5	—	—	—
351	,, 26	—	19 24·5	—	—	—
352	,, 27	5 47·7	6 1·7	0·1	0 26	P_2 5h.53·8m. P_3 5h.59m.
353	April 4	—	18 45	—	—	—
354	,, 7	6 56	7 38·2	0·5	3 0	—
355	,, 10	18 54	19 22·5	0·6	2 47	—
356	,, 11	14 29·5	14 56	0·1	1 11	—
357	,, 13	—	2 1·5	—	—	—
358	,, 15	23 49	24 29	0·1	1 29	—
359	,, 16	6 9·7	6 23	< 0·1	0 50	—
360	,, 17	5 4	5 36·5	0·3	2 2	—
			5 42·5	0·4		
361	,, 18	17 59·5	18 48·3	2·0	4 45	—
362	,, 21	2 48·5	3 32·8	0·5	1 33	—
363	,, 23	14 7	14 16	< 0·1	1 57	—
364	,, 26	—	2 31	—	—	—
365	,, 28	—	0 16	—	—	—
366	,, 28	—	19 48·5	—	—	—
367	,, 29	5 44·8	6 4	0·1	0 50	P_2 5h.48·5m. P_3 5h.56m.
368	,, 29	—	23 33·2	—	—	—
369	,, 30	5 4·2	5 18·3	0·1	0 49	P_2 5h.10m. P_3 5h.16·5m.
370	May 4	14 22·2	14 38·5	0·3	0 54	—
			14 45	0·2		
371	,, 4	23 49	24 0	7·8	3 27	—
			24 11	3·5		
			24 29·7	3·0		
372	,, 9	20 0	20 8·2	0·1	—	—
373	,, 10	—	1 4·5	—	—	—
374	,, 11	4 54·2	5 13·4	0·5	2 10	—
			5 22	0·3	—	
375	,, 13	3 47·2	4 18·5	0·1	0 48	—

Register from Stonyhurst College Observatory—continued.

No.	Date	Commencement	Max.	Max. Amplitude	Duration	Remarks
		H. M.	H. M.	MM.	H. M.	
376	May 14	—	7 11·4	—	—	—
377	,, 14	—	17 33·5	—	—	—
378	,, 17	13 13·2	13 19	> 0·1	0 18	—
379	,, 20	—	13 2	—	—	—
380	,, 25	—	8 28	—	—	—
381	,, 29	—	19 55·5	—	—	—
382	June 1	—	15 26	—	—	—
383	,, 3	20 54·5	21 51	0·2	1 55	—
384	,, 7	11 16·2	12 3	11·5	4 30	P_3 21h.46m.
			12 21·8	6·6		—
385	,, 7	19 53·5	19 56·5	0·1	0 19	
386	,, 8	0 13·4	0 27·5	3·0	1 30	—
387	,, 15	14 41·1	15 23·4	21·8	4 30	P_2 0h.17·6m. P_3 0h.24·4m.
		Other	14 55	14·0	—	P_2 14h.44m. P_3 14h.51·3m. P, very
		Maxima	14 59	11·5		sudden to E.
			15 3·5	9·2		
			15 7·5	10·0		
			15 30	15·2		
			15 46·7	5·6		
388	,, 17	5 37·8	6 5	0·3	0 40	—
			6 13	0·5		
			6 19·5	0·3		
389	,, 28	—	8 32	—	—	—
390	,, 28	—	20 20·5	—	—	—
391	,, 28	21 7·5	—	< 0·1	0 44	—
392	,, 28	—	22 5·5	—	—	—

1mm.=Boom deviation 220″ arc.
Pillar inclination, 0·41
Period 19 secs.

Register from Hill Top, West Bromwich.
Owner and Observer, J. J. SHAW.

Records on smoked paper.
Pendulum A records N.-S. motion. 1mm. = 0″·1 of arc.
Pendulum B records E.-W. motion. 1mm. = 0″·15 of arc.
Boom periods, 16 secs.

No.	Date	Commencement	Max.	Max. Amplitude	Duration	Remarks
		H. M.	H. M.	MM.	H. M.	
		1911				
240	Jan. 1	10 25·3	10 50	9·25	2 25	A. East Turkestan.
		10 26·8	10 52·3	12·0	2 25	B.
241	,, 1	—	15 31·3	1·25	—	A. Afghanistan.
		15 4	15 33	2·25	1 16	B.
242	,, 2	3 40	3 52	0·5	0 50	B.
243	,, 2	—	11 43	0·5	—	B.
244	,, 3	—	0 57	0·5	—	B.
245	,, 3	7 46	8 5	2·5	—	B.
246	,, 3	23 35	23 58	>100·0	—	A. Turkestan. P_1 Amp. 1·5mm.
		23 35	23 59	>85·0	4 20	B. P_1 Amp. 11·0mm. Needle broke, 23h.59m.
247	,, 4	9 44·5	10 10	1·25	1 16	B.
248	,, 4	—	22 9	0·5	0 40	B. P_2 21h.50m.
249	,, 6	—	15 50	0·5	—	B.
250	,, 7	—	1 34	—	—	B.
251	,, 7	2 22·3	2 50	1·0	—	B.
252	,, 7	—	3 26	3·5	—	B.
253	,, 8	10 28	—	—	2 0	B. One long tremor.
254	,, 9	—	4 28	1·0	—	B.

Register from Hill Top, West Bromwich—continued.

No.	Date	Commencement	Max.	Max. Amplitude	Duration	Remarks
		H. M.	H. M.	MM.	H. M.	
255	Jan. 10	—	17 47	—	—	B.
256	,, 12	18 55	19 18	1·0	0 45	B.
257	,, 14	18 6?	18 27	1·5	0 40	B.
258	,, 16	—	9 45	1·0	—	B.
259	,, 25	—	1 29	2·25	—	B.
260	Feb. 5	4 47	5 12	0·1	0 43	B.
261	,, 11	—	12 6	0·5	—	B.
262	,, 17	—	15 14	1·0	—	B.
263	,, 18	—	2 43	1·0	—	B.
264	,, 18	18 48	19 13	>90·0	—	—
		18 48	19 14·3	72·0	—	—
265	,, 18	?	21 47	14·0	—	A. Monastir.
		—	21 50·7	17·0	—	B.
266	,, 19	—	7 25	0·5	—	Northern Italy.
267	,, 23	—	12 14·5	0·1	—	B.
268	,, 26	—	13 9·6	1·5	—	B.
269	Mar. 19	—	5 12	0·1	—	B.
270	,, 22	—	14 12	0·2	—	B.
271	April 4	15 49·2	15 54·9	1·0	0 40	B. Greece.
272	,, 7	7 5·5	7 31	0·5	—	B. Kamtschatka. P_2 7h.11m.
		—	to 8 3			
273	,, 8	—	9 16	0·5	—	B.
274	,, 10	18 54	19 21	1·0	2 6	B. P_2 19h.3m.
275	,, 11	—	15 5	0·2	—	A.
		—	15 17			
276	,, 15	—	12 29	0·6	—	B.
277	,, 16	—	6 21	0·1	—	B.
278	,, 17	5 25	5 35	0·1	—	B.
279		—	10 27	0·1	—	B.
	,, 18	11 12	11 59	0·1	1 18	B.
280	,, 18	18 18	18 57	3·0	—	A. P_2 18h.23m.
		—	18 53	4·0	—	B.
281	,, 21	2 48	3 31	0·1	—	B.
282	,, 28	—	0 55	0·1	—	B.
283	,, 28	10 2·5	10 12	1·5	—	B.
284	,, 30	—	5 16	0·1	—	B.
285	May 4	14 21	14 41	0·2	0 46	B.
286	,, 4	23 48·2	23 59	4·5	—	A. L.W. commenced 23h.57m.
	,, 4	23 48·2	23 59	10·0	—	B. ,, ,, ,,
		—	0 31	6·0	3 5	B. First movement S.W. ,,
287	,, 11	4 37	5 12	0·2	—	B.
288	,, 13	3 33·8	4 17·5	0·1	1 5	B. Formosa and Hong Kong.
289	June 6	—	8 57	0·1	—	B.
290	,, 7	11 14·7	12 0·5	15·0	—	A.
		11 14·7	11 55	47·0	—	B. First movement West.
		—	12 26	27·5	—	B.
291	,, 7	19 40·5	19 54	0·5	0 42	B.
292	,, 8	0 6	0 24	0·9	1 9	B. P_2 0h.12m. Derbend, near Baku.
293	,, 15	14 38·3	14 49	17·0	—	A.
		—	15 22	18·0	—	A. First movement N.E. by E.
		14 38·3	14 51·7	40·0	—	B.
		—	14 56·6	40·0	—	B.
		—	15 24	>50·0*	3 22	B. * Needle broken.
294	,, 17	5 34·5	6 9	3·0	0 50	B.

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

No.	Date	Commencement	Max.	Max. Amplitude	Duration	Remarks
			1911			
		H. M.	H. M.	MM.	H. M.	
449	Jan. 1	10 36·7	10 54·4	4·0	1 25	—
	,, 2	11 28·0	11 35·0	0·4	0 15	—
	,, 3	8 1·0	8 4·2	1·0	0 25	—
450	,, 3-4	23 31·2	23 48·6	15·5	5 0	P_2 23h.37m. Motion apparently beyond range of Boom between 23h.38·48m. and 0·22=34m.
	,, 4	9 48·2	10 9·1	1·4	1 0	P_2 10h.8m.
	,, 4	15 30·0	15 35·7	0·4	0 14	—
	,, 4	22 3·8	22 5·6	1·0	0 20	—
	,, 6	15 43·2	15 45·1	1·0	0 10	—
	,, 7	1 33·6	1 35·0	0·4	0 5	—
	,, 7	2 39·1	3 27·8	2·0	2 0	P_2 3h.7·20m.
	,, 7	10 24·0	10 26·0	0·3	0 9	—
451	,, 8	10 51·3	10 52·0	0·3	0 6	—
452	,, 12	19 15·6	19 20·0	0·6	0 9	—
	,, 14	—	0 53·7	0·2	0 10	—
	,, 14	—	18 17·1	0·2	0 3	—
455	,, 24	—	6 19·1	0·2	0 3	—
	,, 25	—	1 26·0	0·5	0 10	—
456	,, 30	—	0 39·6	0·2	—	—
458	Feb. 7	—	3 9·9	0·2	0 5	—
459	,, 11	—	11 57·2	0·6	0 12	—
460	,, 13	—	14 44·1	0·1	0 2	Large Ats.
	,, 16	—	19 52·0	0·2	0 4	—
	,, 17	—	3 24·9	0·4	0 5	—
	,, 17	—	15 12·1	0·3	0 4	—
461	,, 18	2 36·0	2 48·4	0·4	0 10	—
	,, 18	18 56·6	19 11·4	15·0	2 0	P_2 19h.1·15m. Shewing strong vibration.
	,, 18	21 39·0	21 43·6	4·0	1 0	
	,, 19	—	7 25·10	0·6	—	—
462	,, 23	—	12 13·18	2·0	0 24	P_2 12h.11m. Ats.
463	,, 26	—	13 10·6	0·8	0 45	—
	,, 28	—	8 30·0	0·3	—	—
465	Mar. 6	—	18 40·3	0·2	—	—
466	,, 11	—	4 33·0	0·7	—	—
	,, 11	—	20 54·1	0·7	—	—
	,, 13	—	15 53	0·6	—	—
468	,, 20	—	15 58·0	0·3	—	—
469	,, 24	—	4 8·6	0·2	0 3	—
472	April 3	—	11 19·6	0·1	—	—
	,, 4	—	15 52·5	0·8	—	—
	,, 5	15 32·7	15 36·4	0·5	0 15	Ats. and tilting of Boom.
473	,, 7	18 50·4	18 55·7	0·1	0 5	—
	,, 9	—	0 45·0	0·2	—	—
	,, 10	19 4·1	19 23·0	1·0	1 0	—
474	,, 15	—	6 35·1	0·4	—	—
475	,, 15	—	12 35·2	0·6	—	—
	,, 18	11 55·8	12 3·8	0·5	0 10	—
	,, 18	18 34·0	18 53·2	1·2	1 0	—
478	,, 28	—	0 6·8	0·1	—	—
	,, 30	—	20 53·7	0·1	—	—
479	May 4	—	14 36·0	0·8	—	—
	,, 4-5	23 47·2	0 58·2	3·0	2 52	P_2 23h.57·0m.
			0 2·8	2·5		
			0 8·0	3·0		
481	,, 10	—	1 4·3	0·1	—	—
	,, 11	—	5 5·5	0·7	—	—
	,, 13	4 18·2	4 22·4	0·1	0 14	—
486	June 3	—	7 35·0	0·1	—	—
	,, 3	—	14 33·9	0·1	0 6	—
487	,, 7	11 15·6	11 54·4	11·5	3 35	P_2 11h.26m.
			11 59·36	8·5		
488	,, 7	—	19 55·5	0·1	—	—
489	,, 13	—	7 51·1	0·1	—	—
	,, 14	—	6 40·2	0·4	—	—
	,, 14	—	14 43·0	0·3	—	—
	,, 15	—	6 20·1	0·3	—	—

Register from Frensham Hall, Haslemere, Surrey, England—continued.

No.	Date	Commencement	Max.	Max. Amplitude	Duration	Remarks
		H. M.	H. M.	MM.	H. M.	
489	June 15	14 39·6	14 52·5	5·5	3 0	P_g 14h. 49·36m. Sustained waves of 5 Amp., from 15h.14·0m. to 15h·29·24m.
490	,, 17		6 11·6	0·8		—
	,, 18		6 50·4	0·2		—
491	,, 20		4 57·18	0·1		—
	,, 20		1 4·0	0·1		—
493	,, 28		8 48·9	0·3		—
	,, 28		22 5·3	0·2		—

January, February, March, April—Boom period=20 secs.
May, June— ,, ,, =18 ,,
1° turn—5mm.

Register from Royal Observatory, Edinburgh.
Director, R. A. Sampson, D.Sc., F.R.S.

No.	Date	Commencement	Max.	Max. Amplitude	Duration	Remarks
		H. M.	H. M.	MM.	H. M.	
			1911			
560	Jan. 1	10 26·6	10 53·3	5·1	3 5·5	—
561	,, 1	15 10·2	15 34·5	1·0	1 52·3	—
562	,, 2	3 46·6	3 48·7	0·1	0 30·9	—
563	,, 2	11 14·8	11 49·3	0·2	1 54·8	—
564	,, 2	23 14·0	24 24·4	0·2	2 32·8	Equal Max.
			25 0·2			—
565	,, 3	7 46·8	8 6·6	0·5	1 6·9	—
566	,, 3	23 35·3	23 54·5	29	4 55·5	—
567	,, 4	9 21·3	10 6·3	0·5	2 4·8	Equal Max.
			10 10·2			...
568	,, 4		15 34·6	—	—	0 —
569	,, 4	21 55·1	22 9·3	0·3	0 56·4	—
570	,, 6	15 40·3	15 47·6	0·2	0 40·3	—
571	,, 7		1 36·2	—	—	0 —
572	,, 7	2 34·3	3 26·1	2·0	2 32·7	—
573	,, 7		10 32·6	—	—	00 —
574	,, 8	10 19·3	10 59·1	0·1	1 16·2	—
575	,, 9	4 15·7	4 24·3	0·2	0 33·1	—
576	,, 9–10		—	—	—	Frequent tremors.
577	,, 10		17 46·0	—	—	0 —
578	,, 12	18 55·4	19 17·8	0·2	0 52·9	—
579	,, 14	18 14·4	18 22·7	0·2	0 36·4	Equal Max. —
			18 33·3			
580	,, 15		20 53·8	—	—	0 —
581	,, 16	9 32·8	9 56·8	0·1	0 55·6	Equal Max. —
			10 6·4			
582	,, 18		15 31·9	—	—	0 ...
583	,, 23	0 10·2	0 18·7	—	0 22·1	0 —
584	,, 24	21 24·5	21 27·2	0·1	0 8·9	—
585	,, 25	1 21·8	1 27·1	0·2	0 29·3	—
586	,, 28		2 56·2	—		000 —
587	,, 29		1 44·9	—		00 —
588	,, 30	0 27·1	0 43·4	0·1	0 30·5	—
589	,, 30		16 13·3	—		00 —
590	Feb. 3		22 12·0	—		0 —
591	,, 5	4 46·0	5 10·3	0·2	0 43·5	—
592	,, 7		3 6·5	—		000 —
593	,, 11	11 49·0	12 4·8	0·2	0 36·5	—
594	,, 11		20 44·5	—	—	0 —

Register from Royal Observatory, Edinburgh—continued.

No.	Date	Commencement	Max.	Max. Amplitude	Duration	Remarks
		H. M.	H. M.	MM.	H. M.	
595	Feb. 12	—	21 53·9	—	—	000 —
			22 1·7		—	000 —
596	,, 13	14 41·9	14 47·9	0·1	0 13·1	—
597	,, 16	—	19 50·9	—	—	000 —
598	,, 17	—	3 20·0	—	—	0 —
599	,, 17	15 5·0	15 9·8	0·1	0 18·8	—
600	,, 18	0 54·6	1 16·6	0·2	0 39·8	—
601	,, 18	2 36·6	2 41·1	0·2	0 22·9	—
602	,, 18	18 50·3	19 12·3	13·0	2 21·9	—
603	,, 18	21 21·3	21 50·6	3·4	1 41·9	—
604	,, 19	—	3 2·1	—	—	0 —
605	,, 19	7 26·6	7 28·6	0·1	0 6·3	—
606	,, 21	—	19 38·7	—	—	00 —
607	,, 23	12 1·0	12 12·4	1·0	0 40·9	Duration uncertain. Ats.
608	,, 26	—	9 3·0	—	—	00 —
609	,, 26	12 59·9	13 15·3	0·5	1 26·4	—
610	March 1	—	18 44·3	—	—	00 —
611	,, 2	19 24·5	19 28·1	0·1	0 13·9	—
612	,, 2	19 42·0	19 54·3	0·1	0 35·9	Equal Max.
			20 2·4			
613	,, 6	17 57·9	18 36·6	0·1	1 14·6	—
614	,, 9	6 3·3	6 11·1	0·2	0 16·2	—
615	,, 11	3 46·6	4 39·3	0·2	2 2·8	—
616	,, 11	—	20 53·8	0·2	—	Commence. uncert., sheet being changed.
617	,, 12	—	13 15·5	—	—	0 —
618	,, 13	15 10·8	15 52·8	0·1	1 42·2	—
619	,, 14	—	18 49·0	—	—	0 —
920	,, 16	—	3 29·8	—	—	0 —
621	,, 19	5 3·2	5 13·2	0·2	0 53·6	—
622	,, 20	—	15 58·1	—	—	0 —
623	,, 21	—	14 25·9	—	—	0 —
624	,, 22	—	15 18·1	—	—	0 —
625	,, 24	—	4 10·4	—	—	0 —
626	,, 26	13 10·5	13 13·6	0·2	0 13·6	—
627	,, 27	5 19·9	6 9·0	0·2	1 26·1	—
628	,, 27	—	10 58·5	—	—	000 —
629	April 1	—	2 47·4	—	—	0 —
630	,, 3	—	11 21·3	—	—	0 —
631	,, 4	15 49·6	16 2·8	0·4	1 3·5	—
632	,, 4	18 41·3	18 46·8	0·1	0 26·7	—
633	,, 5	—	15 35·9	—	—	0 —
634	,, 6	10 56·9	11 2·8	0·1	1 0·7	—
635	,, 6	—	21 16·0	—	—	00 —
636	,, 7	7 4·8	7 28·4	0·4	1 50·6	—
637	,, 7	—	19 12·7	—	—	0 —
638	,, 10	18 53·8	19 29·9	0·3	2 9·2	—
639	,, 11	14 13·4	15 10·9	0·2	1 42·4	Equal Max.
			15 32·5			
640	,, 13	—	1 56·0	—	—	00 —
641	,, 14	—	6 8·9	—	—	Possibly some Ats.
642	,, 15	6 25·9	6 36·3	0·3	0 34·5	
643	,, 15	12 14·5	12 32·5	0·2	0 43·7	—
644	,, 16	6 10·0	6 26·0	0·1	0 29·5	—
645	,, 17	5 3·9	5 39·4	0·3	1 27·6	—
646	,, 17	—	10 34·4	—	—	0 —
647	,, 18	—	6 55·2	—	—	00 —
648	,, 18	11 45·9	12 3·3	0·1	0 42·1	—
649	,, 18	18 22·8	18 52·8	0·7	3 48·2	—
650	,, 21	2 48·1	3 35·1	0·2	1 56·7	—
651	,, 22	19 28·8	19 35·2	0·1	0 9·1	—
652	,, 23	14 3·2	14 16·3	0·1	0 47·3	—
653	,, 25	—	13 42·4	-	—	0 —
654	,, 26	2 26·6	2 37·7	0·1	1 5·6	—
655	,, 28	0 2·1	0 4·0	0·2	0 5·0	—
656	,, 28	10 3·9	10 13·9	0·3	2 25·2	—
			10 20·1			
657	,, 28	—	19 22·1	—	—	0 —
658	,, 29	5 44·4	6 2·4	0·2	0 54·5	—
659	,, 29	—	23 30·9	—	—	00 —
660	,, 30	4 56·2	5 18·2	0·1	0 47·3	—
661	May 4	13 53·1	14 40·8	0·3	1 25·7	—
662	,, 4	23 47·0	23 57·3	2·4	4 7·0	Equal Max.
			24 1·6			

Register from Royal Observatory, Edinburgh—continued.

No.	Date	Commencement	Max.	Max. Amplitude	Duration	Remarks
		H. M.	H. M.	MM.	H. M.	
663	May 9	19 59·4	20 0·0	0·1	0 58·1	—
664	,, 10	0 53·1	1 5·6	0·2	0 31·9	Time marks weak.
665	,, 11	4 38·5	5 14·0	0·2	2 0·8	—
666	,, 13	4 10·6	4 22·4	0·2	0 23·3	—
667	,, 14	1 24·0	1 24·8	0·1	0 5·7	—
668	,, 14	17 29·5	17 32·0	0·1	0 12·1	—
669	,, 17	—	12 54·6	—	— 00	—
670	,, 20	—	13 2·8	—	— 0	—
671	,, 21	—	22 20·6	—	— 0	—
672	,, 21	—	23 14·8	—	— 0	—
673	,, 24	23 39·4	23 43·7	0·1	0 10·0	—
674	,, 25	8 20·9	8 22·2	0·1	0 3·6	—
675	,, 25	8 40·8	8 49·8	0·2	0 31·3	—
676	,, 26	—	21 14·6	—	— 0	—
677	,, 27	16 6·8	16 12·6	0·1	0 9·2	—
678	,, 28	10 44·4	10 50·6	0·1	0 11·7	—
679	,, 29	19 46·7	19 56·7	0·2	0 48·9	—
680	,, 31	—	15 15·6	—	— 00	—
681	June 1	14 50·8	15 9·4	0·1	1 2·0	—
682	,, 2	—	16 35·6	—	— 0	—
683	,, 3	21 8·0	—	—	2 4·3	Max. uncertain, sheet changed.
684	,, 5	—	4 37·2	—	— 0	—
685	,, 6	8 49·4	8 57·2	0·1	0 22·8	—
686	,, 7	11 14·9	11 56·1	13·2	4 52·6	—
687	,, 7	19 48·9	19 52·2	0·1	0 30·2	—
688	,, 8	0 6·1	0 24·8	0·4	1 46·0	—
689	,, 8	—	13 33·6	—	— 0	—
690	,, 14	—	14 49·0	—	— 00	—
691	,, 15	—	6 18·5	—	— 0	—
692	,, 15	14 38·5	14 51·2	6·9	4 45·8	Equal Max.
			15 19·4	—	—	
693	,, 17	5 27·2	6 8·3	0·6	2 27·9	—
694	,, 19	—	15 21·5	—	— 0	—
695	,, 20	—	5 12·8	—	— 00	—
696	,, 21	10 33·2	10 53·8	0·1	1 18·0	—
697	,, 23	—	12 53·4	—	— 000	—
698	,, 25	9 20·7	9 49·4	0·1	1 28·6	—
699	,, 28	—	8 32·7	—	— 0	—
700	,, 28	20 24·2	21 30·2	0·1	1 57·6	—

Period of Pendulum 16·8 secs. 1mm. = 0″·53.
For records below 0·1mm. of amplitude the intensity is denoted by 0, 00, or 000, in decreasing order of magnitude.

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

No.	Date	Commencement	Max.	Max. Amplitude	Duration	Remarks
			1911			
		H. M.	H. M.	MM.	H. M.	
1040	Jan. 1	10 44·0	10 53·5	4·2	21 45·0	Time of commencement uncertain owing to Ats.
1041	,, 1	15 19·5	15 35·5	0·8	0 48·0	—
1042	,, 2	11 17·5	11 44·5	0·2	1 2·0	—
1043	,, 3	0 21·5	0 26·5	0·3		End lost in a storm of Ats.
1044	,, 3	7 46·0	8 6·5	0·6	1 38·0	—
1045	,, 3	23 34·5	—	—	—	Beyond the scale of the paper. End lost in Ats.
1046	,, 4	—	10 14·5	0·7	—	Commencement and end lost in Ats.
1047	,, 4	21 55·0	22 6·0	0·8	0 48·0	—
1048	,, 6	15 36·0	15 45·0	0·2	—	End lost in tremors.
1049	,, 7	2 37·0	3 26·5	1·0	—	End lost in tremors.

Register from the Coats Observatory, Paisley—continued.

No.	Date	Commencement	Max.	Max. Amplitude	Duration	Remarks
		H. M.	H. M.	MM.	H. M.	
1050	Jan. 7	—	10 28·5	0·1	—	—
1051	,, 8	10 25·0	10 50·0	0·2	1 7·0	—
1052	,, 8	—	12 21·5	0·1	—	—
1053	,, 9	4 13·0	4 28·0	0·2	1 7·0	—
1054	,, 12	—	19 18·5	0·1	—	—
1055	,, 14	18 14·5	18 34·0	0·3	0 38·5	—
1056	,, 15	—	5 25·5	0·1	—	—
1057	,, 16	9 21·0	10 6·3	0·2	1 35·0	—
1058	,, 18	—	15 40·5	0·1	—	—
1059	,, 24	—	6 18·5	0·1	—	—
1060	,, 25	1 20·0	1 28·5	0·2	0 29·0	—
1061	,, 26	19 55·5	20 9·0	0·2	0 58·5	—
1062	,, 28	—	2 55·3	0·1	—	—
1063	,, 29	—	1 44·5	—	—	Very small
1064	,, 30	0 33·0	0 40·7	0·1	0 16·0	—
1065	Feb. 5	4 45·0	5 9·5	0·3	1 12·0	—
1066	,, 11	—	12 3·5	0·1	—	—
1067	,, 13	—	14 17·0	—	—	Very small
1068	,, 13	—	14 43·0	0·1	—	—
1069	,, 16	19 8·0	19 30·2	0·3	1 9·0	—
1070	,, 16	—	19 49·0	0·1	—	—
1071	,, 16	—	20 49·7	—	—	Very small
1072	,, 17	—	15 11·5	0·1	—	—
1073	,, 18	—	0 16·3	0·1	—	—
1074	,, 18	2 37·0	2 42·0	0·3	0 39·0	—
1075	,, 18	18 45·5	19 11·5	9·0	—	End mixed up with the commencement of following earthquake.
1076	,, 18	—	21 49·0	2·2	—	Com. mixed up with the end of preceeding quake, and the end lost in a storm of Ats.
1077	,, 23	12 4·5	12 14·5	0·6	0 48·5	—
1078	,, 26	12 50·0	13 13·5	0·7	1 50·0	—
1079	March 1	—	18 39·3	0·1	—	—
1080	,, 2	—	19 28·0	0·1	—	—
1081	,, 6	18 21·0	18 34·5	0·1	0 22·0	Very small, but distinct, and of a spiral nature.
1082	,, 13	—	15 50·5	—	—	Very small
1083	,, 22	—	15 2·0	0·1	—	—
1084	,, 24	—	4 10·5	0·1	—	—
1085	,, 27	—	6 2·0	0·1	—	—
1086	April 4	15 47·0	16 2·5	0·3	1 10·0	—
1087	,, 7	4·5	7 32·0	0·4	2 5·5	—
1088	,, 10	18 52·0	19 23·5	0·5	—	End lost in tremors.
1089	,, 11	14 19·0	14 58·0	0·2	1 20·0	—
1090	,, 15	6 20·0	6 37·0	0·3	1 33·0	—
1091	,, 15	12 2·0	12 29·5	0·3	0 51·0	—
1092	,, 17	5 2·0	5 39·0	0·3	2 3·0	—
1093	,, 17	—	10 32·0	0·1	—	—
1094	,, 21	2 50·0	3 35·0	0·3	1 50·0	—
1095	,, 23	14 5·0	14 13·0	0·1	1 48·0	—
1096	,, 25	—	13 40·5	0·1	—	—
1097	,, 28	10 9·7	10 14·0	0·3	1 35·3	—
1098	,, 30	5 5·0	5 11·0	0·1	0 48·0	—
1099	May 2	8 11·0	10 3·0	0·2	2 53·0	—
1100	,, 4	14 13·0	14 42·5	0·3	1 14·0	—
1101	,, 4	—	23 38·5	2·7	—	Commencement lost in tremors.
	,, 5		0 1·0	2·5	—	Ended at 3h. 33m.
1102	,, 11	5 2·0	5 16·5	0·9	2 3·0	—
1103	,, 17		12 54·0	0·1	—	—
1104	,, 25	8 33·0	8 49·0	0·3	1 26·0	—
1105	,, 28	—	10 48·5	0·1	—	—
1106	,, 31	—	14 2·0	0·1	—	—
1107	June 3	—	7 33·0	0·1	—	—
1108	,, 7	11 15·0	11 56·0	8·2	4 41·0	—
1109	,, 8	—	—	—	—	Earthquake lost in a storm of tremors.
1110	,, 15	14 39·5	15 25·0	7·5	4 42·5	—
1111	,, 21	—	10 54·5	0·1	—	—
1112	,, 28	—	8 4·0	0·1	—	—
1113	,, 28	—	8 51·0	0·1	—	—

1mm. of amplitude = 0″·47.
Period of Pendulum = 17 seconds.

Register from Eskdalemuir Observatory,
Superintendent, GEORGE W. WALKER, M.A., A.R.C.Sc.

No.	Date	Commencement	Max.	Max. Amplitude	Duration	Remarks
			1911			
		H. M.	H. M.	MM.	H. M.	Waves. Scale value.
195	Jan. 1	10 34	10 55	3·7	2 6	N.S. 1mm. = 0″·45.
		10 34	10 54	2·8	2 5	E.W. 0″·37.
196	,, 1	15 19·5	15 56·5	0·9	0 31	N.S. 0″·45.
		15 17	15 36·5	0·5	0 32	E.W. 0″·37.
197	,, 2	—	11 51	0·1	—	N.S. 0″·45.
		—	11 45	0·1	—	E.W. 0″·37.
198	,, 3	..	0 29	0·1	—	N.S. 0″·45.
		..	0 29	0·3	—	E.W. 0″·37.
199	,, 3	7 46·5	8 9	0·7	1 25	N.S. 0″·45.
		7 46·5	8 6·5	0·9	1 16	E.W. 0″·37.
200	,, 3–4	23 36	? ?	>32·0	? ?	N.S. 0″·45.
		23 36	? ?	>32·0	? ?	E.W. 0″·37.
201	,, 4	9 38	10 6·5	0·4	1 45	N.S. 0″·45.
		9 31	10 6·5	0·5	1 57	E.W. 0″·37.
202	,, 4	21 55	22 8	0·3	0 53	N.S. 0″·45.
		21 54	22 6	0·2	0 58	E.W. 0″·37.
203	,, 7	2 35	2 50	0·4	1 33	N.S. 0″·43.
			3 27·5	1·3		
		2 33	2 50·5	0·5	1 35	E.W. 0″·36.
			3 21	0·9		
204	,, 14	18 14·5	18 25	0·3	0 53	N.S. 0″·44.
		18 14·5	18 29	0·4	0 54	E.W. 0″·36.
204a	Feb. 7	-	3 6	—	—	E.W. Very small.
205	,, 11	11 54	12 6	—	—	N.S.
		11 48	12 3	0·1	—	E.W.
206	,, 18	18 50	19 11·5	17·4	—	N.S. 0″·42.
		18 50	19 11·5	11·5	—	E.W. 0″·36.
207	,, 18	21 40	21 49	3·8	0 59	N.S. 0″·42.
		21 40	21 49	3·4	0 59	E.W. 0″·36.
208	,, 23	—	12 13	1·1	—	N.S. 0″·42. Galitzin instrument gives P_2 12h.1·4m.
		—	12 13	1·0	—	E.W. 0″·36.
209	,, 26	—	13 9	0·2	—	N.S. 0″·42.
		12 58	13 9·5	0·6	0 51	E.W. 0″·36.
210	Mar. 6	—	18 31	0·1	—	E.W. 0″·37.
211	,, 11	3 47	4 42	0·4	—	N.S. 0″·43.
		3 47	4 40	0·2	—	E.W. 0″·39.
212	,, 26	—	13 17	0·1	—	N.S. 0″·43.
		—	13 12	0·1	—	E.W. 0″·40.
213	April 4	15 50	16 4·5	0·3	0 45	N.S. 0″·44.
		15 49·5	15 56·5	0·3	0 46	E.W. 0″·38.
214	,, 5	—	15 36	0·1	—	E.W. 0″·38.
215	,, 7	7 4·5e	7 37·5	0·6	1 38	N.S. 0″·44.e? 2nd phase.
		7 4·5e	7 28	0·4	1 36	E.W. 0″·38.
216	,, 15	—	12 35·5	0·3	—	N.S. 0″·41.
		—	12 32	0·2	—	E.W. 0″·37.
217	,, 17	5 4	5 50	0·2	1 8	N.S. 0″·41.
		5 4	5 48	0·1	1 8	E.W. 0″·37.
218	,, 18	18 28	18 52	0·9	—	N.S. 0″·41.
		18 23	18 54	0·6	—	E.W. 0″·37.
219	,, 23	..	14 15	0·1	—	N.S. 0″·41.
		—	14 16·5	0·2	—	E.W. 0″·38.
220	,, 28	10 6	10 14	0·2	—	N.S. 0″·41.
		10 4	10 14	0·2	—	E.W. 0″·38.
221	May 4	..	14 40	0·3	—	N.S. 0″·40.
		14 27	14 43	0·3	—	E.W. 0″·37.
222	,, 4–5	23 48·5	0 4	1·9	3 36	N.S. 0″·40.
		23 48·5	23 59	3·8	3 26	E.W. 0″·37.
223	,, 11	4 35	5 26	0·6	—	N.S. 0″·42.
		4 35	5 18	0·3	—	E.W. 0″·35.
224	,, 14	—	1 26	0·1	—	E.W. 0″·36.
225	,, 14	—	17 34·5	0·1	—	N.S. 0″·42.
		—	17 31	0·1	—	E.W. 0″·36.
226	,, 17	—	12 54	0·1	—	N.S. 0″·42.
		—	12 57	0·1	—	E.W. 0″·36.
227	,, 26	—	21 16	0·1	—	N.S. 0″·42.
		—	21 14	0·1	—	E.W. 0″·36.
228	June 3	21 15	21 53	0·3	1 31	N.S. 0″·41.
229	,, 7	11 15	11 52	8·0	4 54	N.S. 0″·41.
		11 15	11 52	6·0	4 55	E.W. 0″·35.

Register from Eskdalemuir Observatory—continued.

No.	Date	Commencement	Max.	Max. Amplitude	Duration	Remarks
		H. M.	H. M.	MM.	H. M.	Waves. Scale value.
230	June 7	19 51·5	19 52·5	0·2	0 15	N.S. 1mm. = 0″·41.
		19 15·5	19 52·5	0·2	0 15	E.W. 0″·35.
231	,, 8	0 12	0 25	0·5	1 46	N.S. 0″·41.
		0 6	0 25	0·6	1 51	E.W. 0″·35.
232	,, 15	14 38·5	14 52	7·0	5 0	N.S. 0″·41.
		14 38·5	14 52	6·2	5 0	E.W. 0″·35.
233	,, 17	5 35	6 10	0·6	1 29	N.S. 0″·41.
		5 35	6 9·5	0·8	1 20	E.W. 0″·36.
234	,, 21	—	10 54	..	..	N.S. & E.W.
235	,, 21	—	11 12	—	—	N.S. & E.W.

Register from Ponta Delgada, St. Miguel, Azores.

Director, Colonel F. A. CHAVES.

No.	Date	Commencement	Max.	Max. Amplitude	Duration	Remarks
			1911			
		H. M.	H. M.	MM.	H. M.	
420	Jan. 1	10 38·2	—	—	0 55·3	I. of Mercalli's scale. Thickening of line.
	,, 2	3 57·4	—	—	0 19·8	I ,, ,,
421	,, 3–4	23 37·9	0 12·1	18·2	2 40·8	I ,,
	,, 7	2 37·6	—	—	0 27·6	I ,, Thickening of line.
427	Feb. 18	18 55·2	19 23·8	3·4	1 21·1	I. of Mercalli's scale.
		21 43·6	—	—	0 46·4	I ,, Thickening of line.
428	,, 26	12 55·8	12 57·7	8·4	0 45·9	I. of Mercalli's scale.
430	Mar. 1	13 04·9	—	—	0 03·1	I ,, Thickening of line.
434	April 4	15 53·7	—	—	0 18·7	I ,, Thickening of line.
435	,, 13	7 03·6	—	—	—	I ,, ,,
436	,, 18	18 34·4	—	—	0 58·4	I ,, ,,
437	,, 28	10 13·5	—	—	0 3·0	I ,, ,,
438	May 4–5	23 50·2	0 01·1	4·6	1 6·5	I ,,
440	,, 21	23 04·2	—	—	0 03·4	I ,, Thickening of line.
441	,, 23	18 53·5	18 53·5	0·8	0 01·8	III. of Mercalli's scale.
443	June 7	11 14·4	11 24·4	3·2	1 11·1	I ,,
	,, 7	20 00·4	—	—	0 09·1	I ,, Thickening of line.
444	,, 15	14 41·8	14 51·4	4·6	1 54·7	I ,,
445	,, 25	9 28·6	—	—	0 11·9	I ,, Thickening of line.

Mean Scale Value 1mm. = 0″·48.

Register from St. Vincent, Cape Verde.
Superintendent, ARTHUR H. S. AFFERY; *Electrician*, T. SHOESMITH.

No.	Date	Commencement	Max.	Max. Amplitude	Duration	Remarks
			1911			
		H. M.	H. M.	MM.	H. M.	
11	Jan. 3	0 5	—	0·5	0 29	—
12	,, 3	7 26	7 49	1·0	0 42	—
13	,, 7	3 31	3 52	1·5	0 44	—
14	Feb. 18	19 5·5	19 48	2·6	1 49	P_2 19h.29m. P_3 19h.42m.
15	,, 18	22 5	—	0·3	—	—
16	,, 23	12 27	—	0·5	0 24	—
17	Mar. 11	4 0	—	0·5	1 20	—
18	,, 15	13 16	—	0·5	0 40	—
19	,, 23	16 20	—	1·0	0 55	—
20	,, 26	13 35	—	1·0	—	—
21	April 7	18 56·5	18 59	1·0	0 24	—
22	June 15	14 44	15 51·5	8·0	2 36	P_2 14h.58m.

Period = 20 secs.
1mm.=0°·3.

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

Pendulum A (new model) records N—S motion.
Pendulum B (old model) records E—W motion.

No.	Date	Commencement	Max.	Max. Amplitude	Duration	Remarks
			1911			
		H. M.	H. M.	MM.	H. M.	
2	Jan. 1	10 35·9	10 53·9	2·8	2 8	A. Afghanistan.
		10 35·7	11 3	1·1	1 19·3	B.
3	,, 1	15 16·9	15 35·1	0·6	1 27	A. Small movement.
		15 29	—	—	0 36·5	B.
5	,, 2	11 4·9	11 26·2	1·7	1 7·6	A. Small movement.
		11 3·7	—	—	1 10	B.
6	,, 2-3	23 8·1	0 36·3	1·1	3 12	A. Small movement.
		0 25	—	—	1 17	B.
7	,, 3	7 44·1	8 4·6	1·1	1 17·7	A.
		7 50·7	8 4·2	1·9	1 7·3	B.
8	,, 3	23 36·4	23 58·7 0 18·7	>15·0	4 17·8	A. Turkestan.
		23 37·7	0 2 0 3 0 5·5	>17·0	4 6·3	B. ,,
9	,, 4	8 9·2	9 48·2	0·8	3 39·2	A. Small movement.
		9 36·7	—	—	1 18	B. ,, ,,
10	,, 4	22 7	22 14·6	—	—	A.
		22 8·2	22 12	0·45	—	B.
12	,, 6	15 42·5	—	—	0 31·5	A. Thickening of the line.
		15 50	—	—	0 6	B. ,,
13	,, 7	2 35·8	2 50·8	0·5	0 37·3	A. ,,
		2 36·7	—	—	0 30·3	B. ,,
14	,, 7	3 17·3	3 32·8	3·0	1 17·3	A.
		3 20·7	3 35·2	1·0	0 58	B.
18	,, 10	16 47·3	—	—	2 1·5	A. Thickening of line.
		17 4·7	—	—	1 40·6	B. ,,
20	,, 12	19 26	—	—	—	B. ,,
21	,, 13	22 38·5	22 38·5	0·5	0 6·5	B. Small movement.
22	,, 14	18 17·1	—	—	0 47·5	A. ,, ,,
		18 29	—	—	0 28·5	B. ,, ,,
24	,, 16	0 0	—	—	—	B. Tremors.
31	,, 22	23 18·5	—	—	—	A. ,,

Register from the Observatorio de Marina de San Fernando, Spain—continued.

No.	Date	Commencement	Max.	Max. Amplitude	Duration	Remarks
		H. M.	H. M.	MM.	H. M.	
33	Jan. 25	...	1 36·6	0·6	—	A.
		1 30·5	1 38·1	0·5	0 16·6	B.
38	Feb. 3	22 0·2	—	—	—	A.
46	,, 11	11 40·7	11 49·2	1·1	1 4·8	A. P_2 11h.47·8m.
		11 46·4	11 48·2	0·4	0 16	B.
47	,, 11	20 25·8	—	—	0 20·2	A. Tremors.
52	,, 18	1 1·5	—	—	0 29	B. Thickening of line.
53	,, 18	18 52·1	19 20·1	12·0	2 8·6	A. P_2 18h.59·4m.
		18 52·1	19 18·8	5·5	2 7·2	B. P_2 18h.59·3m.
			19 20·3	6·5		
			19 26·5	5·0		
54	,, 18	21 36·2	21 48·7	2·5	1 13·9	A. P_2 21h.44·7m.
		21 41·3	21 50	3·8	1 8·5	B. P_2 21h.44·5m.
			21 54·3	3·8		
55	,, 19	7 20·2	—	—	0 38	A.
		7 28·3	—	—	0 7·2	B. Thickening of line.
62	,, 23	12 9·1	12 25·5	3·4	0 36·5	A. P_2 12h.14·1m.
		12 12	—	—	0 12·2	B.
66	,, 26	12 48	13 5	2·4	1 41	A.
		12 51·2	13 19·2	0·9	1 2	B.
76	Mar. 10	22 37	—	—	—	A.
77	,, 11	4 26·9	—	—	1 22·4	B. Max. for A. 4·32.
78	,, 11	20 52·9	—	—	0 13·6	A. Thickening of line.
		20 55·9	—	—	0 3	B. ,,
79	,, 12	13 7·9	—	—	0 16·5	A. Tremors.
81	,, 13	15 8·9	—	—	2 4·5	A. ,,
90	,, 26	12 52·7	—	—	0 28	B. Thickening of line.
95	April 1	2 18·3	—	—	3 40	A. Tremors.
98	,, 3	11 13	—	—	0 10·7	A. ,,
100	,, 4	15 49·7	15 54·5	0·60	1 13·6	A.
		15 50·1	—	—	0 28·4	B. Thickening of line.
101	,, 4	18 37	—	—	1 15·7	A. Tremors.
104	,, 7	—	7 47	0·92	2 36	A.
		—	7 47·4	0·60	1 26·9	B.
107	,, 9	0 47·2	...	—	—	A. ,,
108	,, 10	18 53·8	19 3	0·70	2 6·2	A.
		18 53·8	19 6·3	0·50	0 58·5	B.
110	,, 11	—	15 5·5	0·80	—	A.
114	,, 15	—	6 25·2	0·60	—	A. Thickening of line.
115	,, 15	—	12 18·7	—	—	B. ,,
116	,, 17	—	5 35·2	0·60	—	A.
118	,, 18	11 49·7	—	—	0 41·2	A. ,,
		11 57·2	—	—	0 4·6	B. ,,
119	,, 18	18 14·9	18 59·2	1·0	3 59·3	A.
		18 31·2	18 59·7	1·0	2 45	B.
121	,, 21	2 41·1	—	—	1 57	B. Small movement.
124	,, 23	13 55·3	—	—	0 39·8	B. ,, ,,
126	,, 25	13 10·7	13 30·5	0·50	4 38·3	A. Thickening of line.
		13 23·5	—	—	0 45·5	B. ,,
131	,, 28	0 7·7	—	—	0 15·4	A. Tremors.
133	,, 28	10 1·3	10 13·4	0·60	2 24·5	A.
		10 12·4	10 12·9	0·60	0 47·8	B.
134	,, 28	19 4·6	—	—	1 32	A. Thickening of line.
		19 32·1	—	—	0 2·2	B. ,,
135	,, 29	5 46·6	—	—	3 30·5	A. ,,
		6 1·6	—	—	0 15·3	B. ,,
136	,, 30	—	5 28·5	0·80	—	A. ,,
137	,, 30	20 45·4	—	—	0 32	A. ,,
		20 59·6	—	—	0 4·5	B. ,,
141	May 4	13 54·5	—	—	2 25	A. ,,
		14 31·6	—	—	1 22·4	B. ,,
142	,, 4	23 49·8	0 1·8	3·70	2 57·2	A. Tremors till 8h.50·3m.
			0 35·2	4·0		
		23 49·8	0 1·5	4·30	3 3	B.
			0 22	3·0		
			0 37·8	4·0		
144	,, 7	0 19·8	...	...	0 12	B. Thickening.
146	,, 9	20 3·8	—	—	0 30	B. Com. for A. 19·50.
148	,, 11	4 43·7	5 5·7	1·10	2 0	A.
		4 47·9	5 5·7	3·80	1 33·8	B.
151	,, 14	1 51·2	—	—	—	A. Tremors.
160	,, 20	12 11·0	—	—	—	A. ,,
169	,, 29	19 26	—	—	1 1·5	A. ,,

Register from the Observatorio de Marina de San Fernando, Spain—continued.

No.	Date	Commencement	Max.	Max. Amplitude	Duration	Remarks
		M. M.	H. M.	MM.	H. M.	
170	May 31	14 51·4	14 51·4	0·50	0 22·2	A. Small movement.
171	,, 31	15 14·9	—	—	0 7·9	A.
		15 15·6	—	—	0 2·8	B.
172	,, 31	17 58·4	17 58·4	0·50	0 9·2	A. ,, ,,
173	June 1	14 47·6	—	—	1 7	A. Tremors. ,,
176	,, 3	21 3·6	21 56·5	0·60	1 51·2	A.
		21 46·7	21 56·5	0·60	0 46·5	B.
181	,, 7	11 15·4	11 51·4	7·10	5 5·2	A.
			11 56·9	8·0		
			12 1·4	8·25		
			12 12·1	8·0		
			12 16·9	9·0		
		11 15·4	11 49·9	8·0	4 36·2	B.
			11 55·7	16·50		
			12 6·4	7·50		
			12 13·4	8·75		
			12 16·9	8·0		
182	,, 7	19 56·4	—	—	0 20·5	A.
		20 2·4	—	—	0 11	B. Small movement.
183	,, 8	0 8·4	0 30·4	0·60	—	A. ,, ,,
		0 13·1	0 30·6	0·90	0 21·8	B. ,, ,,
191	,, 15	14 39·5	15 24·7	12·90	4 55·5	A.
			15 27·3	15·0		
			15 33·0	> 19·0		
			15 37·5	17·50		
		14 40	15 26·5	> 17·50	4 22·6	B.
			15 34·0			
193	,, 17	—	6 18·6	0·90	—	A.
		5 42·1	6 16·9	1·0	1 11·9	B.
202	,, 25	9 18·7	9 39·7	0·60	0 55	B. Tremors 2h.42·9m. to 7h.30·2m.

Periods: Pendulum A, January to June, 20s. 1mm.=0″·25.
,, B, January to April 16th, 16s. 1mm.=0″·43.
,, April 16th to June 30th, 20s. 1mm.=0″·25.

Register from Rio Tinto Mines, Huelva, Spain.
Observer, W. A. JENKIN.

No.	Date	Commencement	Max.	Max. Amplitude	Duration	Remarks
			1911			
		H. M.	H. M.	MM.	H. M.	
26	Jan. 1	10 27·6	10 55·2	1·0	1 53·6	—
28	,, 3	?	0 36·7	0·5	?	Air Tremors from 10 p.m. on the 2nd to 10.30 a.m. 3rd.
	,, 3	?	8 4	0·6	?	
29	,, 3-4	23 37	0 14	12·5	4 36	—
	,, 4	9 38	9 50	0·5	0 29	—
	,, 4	10 10·2	10 18	0·5	0 18	—
32	,, 7	2 37	3 40·7	1·5	2 16	—
56	,, 31	7 43·4	8 2·2	0·5	0 25	—
67	Feb. 11	11 45	11 53	0·5	0 25	—
69	,, 13	9 42	9 46	0·4	0 9	—
74	,, 18	18 37	19 32	4·8	2 3	—
75	,, 18	21 29	21 55·7	1·3	1 26·5	—
79	,, 23	11 42	12 26·1	1·5	1 19·5	—
82	,, 26	13 56	14 11·9	0·8	0 51	—
103	Mar. 19	5 6·3	5 17·5	0·4	0 23·9	—
117	April 1	17 26	17 32	0·5	0 14·8	—
126	,, 10	19 3	19 23·5	0·5	0 47	—

The Register from Rio Tinto Mines, Huelva, Spain—continued.

No.	Date	Commencement	Max.	Max. Amplitude	Duration	Remarks
		H. M.	H. M.	MM.	H. M.	
127	April 11	14 3	15 15·6	0·4	1 40	—
152	,, 17	5 26·5	5 36·6	0·5	0 34	—
134	,, 18	18 34·2	19 8·6	0·5	2 38	—
144	,, 28	10 16·2	10 23·7	0·5	0 54	—
150	May 4-5	23 51·8	0 1·5	2·0	2 58	—
156	,, 11	4 53·4	5 11	0·9	0 49	—
166	,, 20	8 29·5	8 32·5	0·5	0 13	—
171	,, 25	19 51	19 54·5	0·3	0 26	—
184	June 7	11 18	12 9	10·0	4 23	—
192	,, 15		15 9·5	6·0	3 39	
		14 45	15 32	10·5		—
193	,, 17	4 14·5	4 24·5	0·5	0 34	? 5h.14m. for com.

Period 18 seconds. 1mm=0″·42.

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

No.	Date	Commencement	Max.	Max. Amplitude	Duration	Remarks
			1910			
		H. M.	H. M.	MM.	H. M.	
325	July 7	8 26	9 18	1·0	2 24	—
326	,, 15	13 23	13 50	1·0	0 55	—
327	,, 20	4 5	4 25·5	0·5	0 48	—
328	,, 21	22 33·5	22 40·7	1·0	1 15	—
329	,, 29	?	12 3·2	0·5	—	—
330	Aug. 1	10 44·5	10 46	3·7	0 28	Mileto, Calabria.
331	,, 1	22 22·5	22 24	0·5	0 23	—
332	,, 2	2 36	2 38	0·5	0 15	—
333	,, 5	2 10	2 30	0·5	1 17	—
334	,, 17	12 10·5	12 36	0·5	1 23	—
335	,, 21	7 0 ?	7 21	1·5	?	Clock not satisfactory.
336	,, 30	2 12	2 13·7	0·3	0 8	Messina.
337	,, 31	21 6·7	21 45	0·5	1 28	—
338	Sept. 1	14 33·2	15 31	0·5	2 11	—
339	,, 6	20 28	20 58·5	1·75	2 10	Very distinct.
340	,, 7	?	9 23	0·5	?	—
341	,, 8	6 30	6 44	0·5	0 37	—
342	,, 9	1 28·5	2 13·7	1·5	3 7	—
343	,, 9	10 33	11 6·5	1·0	0 57	—
344	,, 24	11 32·5	11 42·5	0·5	0 22	—
345	,, 24	16 4·7	16 29·5	1·2	2 2	—
346	,, 27	7 56·5	8 2	0·5	0 21	—
347	Oct. 7	?	13 39	—	—	Tremors until 8th.
348	,, 18	3 12	4 20	0·5	1 37	—
349	,, 20	5 26	5 56·7	0·5	—	—
350	,, 26	14 35·5	15 48	0·5	—	—
351	Nov. 2	14 37·5	14 52	0·3	0 51	—
352	,, 6	20 56	21 25	1·5	2 18	—
353	,, 9	6 21·5	7 39·7	7·0	5 19	—
354	,, 10	12 40·5	14 2·5	0·5	2 28	—
355	,, 12	—	16 21	0·3	—	End at 17h.15m.
356	,, 14	5 57·5	5 58·5	2·0	4 2	—
357	,, 15	14 47·2	15 22	3·5	2 18	—
358	,, 19	8 38	8 45	2·0	0 53	—
359	,, 21	9 27·5	—	0·3	0 11	—
360	,, 27	—	19 46·2	0·5	—	Local shock.
361	,, 29	2 53·5	3 42	0·5	—	—
362	Dec. 1	?	12 34·5	0·3	?	—
363	,, 1	16 5·2	16 56	0·5	2 20	—

Register from The University, Valetta, Malta—continued.

No.	Date	Commencement	Max.	Max. Amplitude	Duration	Remarks
		H. M.	H. M.	MM.	H. M.	
364	Dec. 3	?	5 18·5	0·3	?	—
365	,, 3	5 25·5	6 6	0·5	—	—
366	,, 3	7 29·2	8 28·5	0·5	2 7	—
367	,, 4	10 43	11 33·5	1·0	1 44	—
368	,, 7	10 27	10 58	1·5	1 9	—
369	,, 10	9 52·7	11 35	1·5	3 22	—
370	,, 13	11 45·5	12 2·5	15·0	4 20	Zanzibar Earthquake.
			12 7	14·0		
			12 12·5	10·0		
			12 16·2	7·0		
371	,, 14	21 6	21 35	0·5	2 0	—
372	,, 16	5 2·7	16 1·2	3·0	3 12	—
373	,, 18	3 2	3 57	0·3	1 45	—
374	,, 18	—	16 45	0·5	—	—
375	,, 18	—	20 47	0·5	—	—
		1911				
376	Jan. 1	10 23	10 46	0·5	1 50	—
377	,, 2	11 5	11 40·2	0·5	—	—
378	,, 3-4	23 35	23 51	9·0	4 15	Turkestan.
			23 56·7	12·0		
			0 1·2	12·0		
379	,, 4	8 35·5	9 45·5	0·5	2 30	—
380	,, 7	2 33·7	3 34·5	0·5	3 0	—
381	,, 16	6 30	—	0·3	4 49	—
382	Feb. 11	11 50·5	—	0·3	0 15	—
383	,, 18	18 49·7	19 13·9	5·0	—	End lost in following quake.
384	,, 18	—	21 42	4·0	—	Beginning lost in preceding quake.
385	,, 23	11 28	12 23·5	0·5	1 46	—
386	,, 25	12 58·5	13 15	6·0	1 5	—
387	Mar. 2	10 6·2	10 13·5	1·5	0 48	—
388	,, 2	19 2·5	19 49	0·5	1 4	—
389	,, 11	3 32·5	3 55·7	0·5	4 30	—
390	,, 11	20 45	20 49	0·5	0 15	—
391	,, 19	5 2·2	5 14·5	0·3	—	—
392	,, 26	12 58·2	13 1·8	0·5	0 15	—
393	,, 27	—	5 57	0·5	—	End at 6·20
394	,, 27	10 23	10 25·2	0·5	0 23	—
395	April 1	1 2	1 30	2·5	1 8	—
396	,, 4	15 45·5	15 45·5	1·0	0 35	Local shock.
			15 47·5			
397	,, 5	—	16 30	0·3	—	—
398	,, 7	6 38	7 9·3	1·0	2 50	—
399	,, 10	19 5	19 36·5	0·5	0 31	—
400	,, 18	18 21·5	18 53·5	1·5	1 56	—
401	May 4	13 53·2	14 24·5	0·5	—	—
402	,, 4	22 50·5	23 3·0	3·5	2 40	—
403	,, 11	4 25·5	4 53·5	1·5	0 40	—
404	,, 14	5 47·5	5 53·5	0·3	—	—
405	June 3	21 5	21 54	0·5	—	—
406	,, 7	—	—	—	—	15h.35m. end. Machine dismounted until 12h.55m.
407	,, 28	—	20 56·5	0·3	—	—
408	,, 28	21 17·5	21 47·5	0·5	—	—

Period: 19 secs.

June 14th to 18th: Machine not working properly.

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

No.	Date	Commencement	Max.	Max. Amplitude	Duration	Remarks
				1910		
		H. M.	H. M.	MM.	H. M.	
881a	July 2	6 29·2	6 38·2	0·1	0 21	A. Com. for B, 6h.33m.
882	,, 3	7 20.2	—	0·1	1 12	A. Com. for B, 7h.25m.
882a	,, 5	12 2·6	—	0·1	0 58	A and B.
882b	,, 5	19 23·1	—	0·1	0 22	A and B.
883	,, 7	8 30	9 23·3	1·4	3 9	A. P_2 8h.40m.
		8 32·5	9 22·2	1·0	3 2	B. P_2 8h.40·7m.
884	,, 8	3 33·8	—	0·1	2 24	A. Com. for B, 3h.30·8m.
885	,, 10	15 20·7	16 14·2	0·2	2 19	A.
		15 30·2	—	0·1	2 2	B.
886	,, 11	21 56·7	—	0·1	2 3	A.
		22 1·4	—	0·1	1 58	B.
887	,, 12	7 43·6	—	0·2	0 55	A. Com. for B, 7h.46·2m.
888	,, 12	21 30·3	—	0·5	2 41	A.
		21 32	—	0·4	2 37	B.
889	,, 15	12 22·6	—	0·2	2 27	A. Com. for B, 12h.30m.
890a	,, 17	19 33·2	—	0.1	0 41	A. Com. for B, 19h.29·7m.
891	,, 20	4 1·2	4 44·2	0·3	1 31	A and B.
892	,, 21	7 37·3	—	0·2	1 26	A. Com. for B, 7h.38·3m.
893	,, 21	22 21·5	22 31·7	0·5	1 26	A.
		22 21·2	22 26·5	0·5	1 50	B.
895	,, 24	4 16·4	—	0·1	0 13	A.
896	,, 24	15 34·5	—	0·2	2 56	A. Com. for B, 15h.33·2m.
896a	,, 25	21 42·5	—	0·1	0 7	A.
895b	,, 27	14 54·5	—	0·1	0 5	A and B.
897	,, 29	10 35·5	—	0·3	3 32	A. Com. for B, 10h.36·3m.
898	Aug. 1	10 44·5	10 50	0·7	0 47	A.
		10 44·5	10 47·5	1·0	0 50	B.
899	,, 1	22 16·6	22 17·9	0·5	—	A. End lost.
		22 12·9	22 18·2	0·3	0 39	B.
900	,, 2	2 37·5	—	0·2	0 30	B. A, lamp out.
900a	,, 3	23 41	—	0·1	0 35	A. Com. for B, 23h.37·8m.
901	,, 5	1 57·7	—	0·3	2 54	A. Com. for B, 1h.58·5m.
902	,, 7	20 50·2	—	0·2	0 32	A.
		20 49·9	20 56·6	0·2	0 25	B.
902a	,, 8	2 34·2	—	0·1	0 4	A and B.
903	,, 10	20 38·8	—	0·1	1 22	A and B.
904	,, 11	16 57·5	—	0·1	2 22	A. Com. for B, 16h.59·4m.
905	,, 12	9 19·8	—	0·1	0 3	A. Com. for B, 9h.18m.
905a	,, 12	19 4·5	—	0·1	0 24	A. Com. for B, 19h.5·8m.
906	,, 13	0 32·9	—	0·1	0 34	A. Com. for B, 0h.39·5m.
907a	,, 13	21 50·2	—	0·1	0 16	A. Com. for B, 21h.39·7m.
908	,, 14	7 50·2	8 10·7	0·6	0 48	A.
		7 52·5	8 4	0·5	0 46	B.
909	,, 16	7 52·5	—	0·1	1 24	A. Com. for B, 7h.53m.
910	,, 17	12 7·6	12 24·7	2·1	1 57	A.
		12 10·2	12 22·9	4·5	1 44	B.
911	,, 17-18	23 45·5	—	0·1	1 4	A. Com. for B, 23h.39m.
912	,, 18	11 17	—	0·1	0 21	A. ,, 11h.18m.
913	,, 18	19 9·5	—	0·1	0 22	A. ,, 18h.56·3m.
914	,, 19	3 25·2	—	0·1	0 11	A. ,, 3h.26·5m.
914a	,, 20	1 35	—	0·1	0 11	A. ,, 1h.33·8m.
915	,, 21	5 58·1	—	—	2 51	A and B. Max. lost.
916	,, 21	16 14·4	16 20·0	1·6	1 15	A and B.
917	,, 25	1 47	—	0·1	0 11	A and B.
918	,, 25	23 18·3	—	0·1	0 20	A. Com. for B., 23h.17·3m.
919	,, 26	16 16	—	0·1	0 47	A and B.
920	,, 27	4 24·2	—	0·1	3 41	A. Com. for B, 4h.25·3m.
921	Sept. 1	0 56·9	1 36·1	0·8	3 6	A.
			1 42·9			
		0 57·1	1 43·2	0·7	2 23	B.
923	,, 1	14 33·4	15 16·2	0·6	2 47	A.
		14 26·6	15 15·3	0·5	2 1	B.
925	,, 6	20 23	21 15·9	3·0	2 46	A. P_2 20h.58·2m.
		20 23·3	21 14·2	1·0	2 58	B. P_2 20h.59·1m.
927	,, 7	5 8·8	—	0·2	0 15	A only.
928	,, 7	7 31·6	9 9·7	0·5	3 11	A.
		7 31·2	9 7·3	0·5	3 48	B.
929	,, 7	11 35·2	—	0·1	0 17	A. Com. for B, 11h.37·5m.
929a	,, 7	13 4·7	—	0·1	0 30	A. Com. for B, 13h.5·2m.

Register from Helwan Observatory, Cairo, Egypt—continued.

No.	Date	Commencement	Max.	Max. Amplitude	Duration	Remarks
		H. M.	H. M.	MM.	H. M.	
930	Sept. 7–8	23 44·0	0 2·2	0·2	0 34	A.
		23 46·2	0 1·9	0·2	0 38	B.
930a	,, 8	3 44·2	—	0·1	0 16	A. Com. for B, 3h.39·8m.
931	,, 9	1 27·0	2 22·7	1·5	3 33	A. P_2 1h.38·2m.
		1 25·6	1 39·2	1·0	3 29	B. P_2 1h.38·7m.
931a	,, 9	7 33·5	—	0·1	0 11	A and B.
932	,, 9	9 28·9	11 10·3	0·5	2 41	A.
		9 33·2	11 9·6	0·4	2 59	B.
933	,, 10	12 18·3	—	0·2	2 33	A. Com. for B, 12h.44·5m.
935	,, 12	16 25	16 55·9	0·3	1 7	A.
		16 20·1	17 1·9	0·3	0 57	B.
936	,, 12	18 18·8	18 21·7	0·2	0 18	A.
		18 19·8	18 20·9	0·2	0 11	B.
937	,, 14	14 17·7	14 53·4	0·3	1 48	A.
		14 18·4	15 0	0·3	1 32	B.
938	,, 17	23 20·5	—	0·2	1 30	A. Com. for B, 23h.22·3m.
939	,, 22	19 27·8	—	0·1	0 12	A.
		19 26·5	19 28·6	0·1	0 8	B.
940	,, 23	2 13·6	2 44·5	0·2	1 2	A.
		2 20·8	2 49·7	0·2	0 52	B.
941	,, 24	3 52·7	—	0·2	2 42	A. Com. for B, 3h.55·3m.
942	,, 24	11 39·3	11 49·5	0·5	0 42	A.
		11 35·1	11 51·2	0·4	0 47	B.
943	,, 21	15 43·4	16 27·5	1·1	2 6	A.
		15 43·1	16 27·8	0·8	2 10	B.
944	,, 24	19 6·2	19 54·3	0·2	1 54	A. Com. for B, 19h.11·5m.
945	,, 27	8 5·3	8 11·8	0·2	0 39	A.
		8 3·7	8 9·1	0·2	0 29	B.
946	Oct. 2	16 30·2	16 38	0·2	0 24	A.
		16 28·5	16 34	0·1	0 22	B.
947	,, 2	21 40	22 16	0·2	1 0	A. Max. for B, 22h.15m.
948	,, 3	12 19·4	—	0·1	0 55	A. Com. for B, 12h.25·5m.
949	,, 4–5	23 18·2	0 7·9	2·0	2 31	A. P_2 23h.24·2m.
		23 19·9	0 8·7	1·3	2 37	B. P_2 23h.25·9m.
950	,, 7	8 21·6	—	0·2	1 4	A.
		8 15·4	—	0·3	1 24	B.
951	,, 7	13 17·3	13 47·5	0·2	1 6	A.
		13 26·8	13 51·7	0·2	0 57	B.
952	,, 7	16 23·9	16 39·8	0·3	0 46	A.
		16 31·7	—	0·2	0 30	B.
952a	,, 10	16 20·7	—	0·1	0 3	A only.
955	,, 18	2 56·2	4 15·2	0·3	2 24	A. Com. for B, 2h.31·2m.
956	,, 20	5 14·3	5 53·3	1·6	—	A.
		5 23·9	5 44	0·5	—	B.
956a	,, 24	3 28·2	—	0·1	0 15	A only.
957	,, 24	8 36·8	—	0·2	0 32	A. Com. for B, 8h.38·6m.
958	,, 24	16 1	—	0·1	0 51	A. ,, 16h.1·5m.
959	,, 26	15 45·7	15 56·1	0·2	0 21	B. ,, A, 15h.46m.
959a	,, 27	1 10·2	—	0·1	0 18	A. ,, B, 1h.17m.
961	,, 30	8 56·9	9 29·9	0·3	1 23	A.
		8 58·4	9 35·8	0·3	1 22	B.
962	,, 31	2 51·7	—	0·1	2 0	A only.
963a	Nov. 1	0 40	—	0·1	3 35	A ,,
964	,, 2	14 3·6	14 49	0·4	2 11	A.
		14 4·1	14 56	0·5	2 19	B.
965	,, 5	1 33·4	—	0·1	0 13	A. Com. for B, 1h.39·2m.
965a	,, 5	18 34·2	—	0·1	0 4	A.
966	,, 6	20 57·7	—	0·4	3 22	A and B.
967	,, 9	6 21	7 39	4·0	5 26	A.
		6 23·3	7 57·5	5·0	5 24	B.
968	,, 10	11 25·5	—	0·1	0 10	A and B.
969	,, 10	12 42·3	—	0·2	2 58	A. and B.
970	,, 12	3 0	—	0·1	1 53	A only.
971	,, 13	1 22·7	—	0·1	3 58	A only. B clock stopped.
972	,, 14	7 46·4	8 30·2	0·6	2 43	A.
		7 49·5	—	0·3	2 30	B.
973	,, 15	0 39·5	1 7·4	0·7	1 17	A.
		0 48·5	—	0·3	1 11	B.
974	,, 15	14 34·7	15 23·4	4·0	3 10	A. P_2 14h.46·8m.
		14 34·5	15 20·5	3·5	2 53	B. P_2 14h.44·7m.
975a	,, 23	15 58·7	—	0·1	0 10	A only.
976	,, 24	16 0	16 20·5	0·5	1 11	A.
		15 58·9	16 17·5	0·3	0 52	B.

Register from Helwan Observatory, Cairo, Egypt—continued.

No.	Date	Commencement	Max.	Max. Amplitude	Duration	Remarks
		H. M.	H. M.	MM.	H. M.	
977	Nov. 25	1 48·5	2 3·3	0·2	0 24	A.
		1 52·3	2 1	0·2	0 22	B.
978	,, 26	5 0·4	?	?	4 48	A and B. Max. lost.
980	,, 29	2 11·9	3 24·8	0·3	3 20	A.
		2 11·2	3 19·6	0·3	3 1	B.
981	,, 29	12 6·8	..	0·2	0 53	A. Com. for B, 12h.7·5m.
983	,, 30	5 14·8	5 24·3	0·3	0 46	A.
		5 13·8	5 27·5	0·4	0 45	B.
984	,, 30	6 30·4	6 44·4	0·4	0 52	A.
		6 5·9	6 49·4	0·5	2 3	B.
985	Dec. 1	15 56·4	16 45·4	1·0	3 10	A. Clock B stopped.
986	,, 2	4 21·3	—	0·2	0 35	A. ,,
987	,, 3	5 10·6	—	0·1	0 17	A only.
988	,, 3	8 18·4	9 31·0	0·4	2 47	A.
		8 19·0	9 32·3	0·6	?	B.
989	,, 4	11 25·4	12 20·6	0·6	3 16	A.
		11 24·6	12 33·5	0·5	3 08	B.
990	,, 5	16 49·5	17 32·0	0·3	1 28	A. Max. for B, 17h.27·5m.
991	,, 10	9 48·5	11 2·8	1·3	3 56	A.
		9 47·8	11 16·7	1·0	3 42	B.
992	,, 11	15 42·7	—	0·1	0 41	A. Com. for B, 15h.37m.
993	,, 12	1 15·8	1 45·6	0·2	0 49	A.
		1 17·2	1 38·3	0·2	0 51	B.
995	,, 13	11 44·9	11·57 to 58	> 8·0	5 15	A. Com. for B, 11h.44·4m.
997	,, 14	21 5·5	21 32·7	0·2	2 2	A.
		21 6·9	21 33·3	0·2	2 3	B.
998	,, 16	14 57·9	15 18·0	8·0	—	A. P_2 15h.08·8m.
		14 56·7	15 47·6	4·5	—	B. P_2 15h.09·5m.
999	,, 16–17	23 13·6	23 16·4	0·4	1 39	A.
		23 15·6	23 19·4	0·4	1 26	B.
1000	,, 17	6 35·3	—	0·2	2 1	A. Com. for B, 6h.43·7m.
1001	,, 18	2 58·1	3 48·5	0·5	—	A.
		3 9·1	3 52·5	0·5	?	B. Nos. 1001 and 1002 overlap.
1002	,, 18	—	5 34·7	1·0	—	A.
		—	5 36·4	1·0	?	B.
1005	,, 18	20 36·3	20 38·2	0·6	0 35	A.
		20 37·4	20 41·0	0·3	0 31	B.
1006	,, 21	10 48·5	11 42·5	0·2	1 27	A.
		10 29·6	11 35·2	0·2	1 48	B.
1007	,, 23	0 52·9	1 25·2	0·3	1 47	A.
		0 56·0	1 18·8	0·8	1 30	B.
1009	,, 27	3 28·7	—	0·1	0 19	A only.
1010	,, 27	19 15·0	—	0·1	1 4	A. Com. for B, 19h.15·8m.
1011	,, 29	9 26·6	9 37·5	0·1	0 48	A. Com. for B, 9h.20·2m.
1012	,, 29	13 19·5	14 11·2	0·4	2 46	A.
		13 26·7	14 4·0	0·4	2 24	B.
1013	,, 30	0 50·5	1 12·7	0·4	3 38	A.
		0 46·4	1 51·0	0·4	3 52	B.
1014	,, 30	19 16·6	—	0·1	0 48	A. Com. for B, 19h.19m.
			1911			
1015	Jan. 1	10 23·9	10 38·9	2·5	2 16	A.
		10 23·3	10 38	4·5	2 13	B.
1017	,, 1	15 5	15 20·2	0·8	1 24	A.
		15 10·3	15 19·2	1·0	1 10	B.
1018	,, 2	4 10·9	—	0·1	0 11	A. Com. for B, 4h. 17·8m.
1019	,, 2	11 5·8	11 33·1	0·5	2 37	A.
		11 3·8	11 37·2	0·6	3 10	B.
1020	,, 2–3	23 11·9	0 43·3	0·5	2 41	A. B not in order.
1021	,, 3	7 38·8	7 47·5	2·0	1 37	A.
		7 25·8	7 48·8	1·5	2 9	B.
1022	,, 3–4	23 33·2	23 52·9	16·0	5 48	A.
		23 32·3	23 50·5	>15·0	5 26	B.
			23 53·9	>15·0		
1023	,, 4	9 11·7	9 26	0·5	2 1	A.
			10 10			
		9 11·9	10 6·2	0·4	1 51	B.
1024	,, 4	21 52·3	21 58·6	0·3	0 32	A.
		21 55·8	21 57·7	0·4	0 37	B.
1025	,, 5	1 59	1 59	0·2	0 0·3	A. Very short period. Felt at Helwan
		1 59·1	1 59·1	0·2	0 4	B. [and Cairo.
1026	,, 6	—	—	0·2	0 35	A.
		15 33·5	15 36·5	0·2	0 15	B.

Register from Helwan Observatory, Cairo, Egypt—continued.

No.	Date	Commencement	Max.	Max. Amplitude	Duration	Remarks
		H. M.	H. M.	MM.	H. M.	
1027	Jan. 7	1 40·7	—	0·2	0 13	A. Com. for B, 1h.40·5m.
1028	,, 7	2 28·8	2 44	0·4	3 17	A. 2nd Max., 3h.24m.
		2 34	3 23·5	0·4	3 11	B.
1029	,, 8	10 43·5	—	0·1	0 56	A. Com. for B, 10h.45·5m.
1030	,, 9	4 3·6	—	0·1	0 55	A.
		4 4·4	4 32·2	0·2	0 43	B.
1032	,, 10	16 48·8	17 0	0·2	2 8	A.
		16 48·5	18 4·4	0·2	2 4	B.
1034	,, 12	19 1·9	19 9·2	0·2	0 19	A.
		19 8·2	19 10·4	0·2	0 17	B.
1035	,, 14	18 3·6	—	0·2	0 42	A and B.
1036	,, 16	9 10	—	0·3	2 34	A.
		9 17	9 53·5	0·3	2 14	B.
1037	,, 23	0 1	0 16·2	0·2	0 53	A. Com. for B, 0h.7·7m.
1040	,, 26	17 35·6	17 36·2	0·2	0 14	A. Felt at Ashraft Lighthouse.
		17 36·2	17 37	0·2	0 12	B.
1043	Feb. 2	9 32	—	0·1	0 12	A. Com for B, 9h.35m.
1047	,, 3	22 30	—	0·1	0 45	A only.
1050	,, 5	4 52	—	0·1	2 0	A. Com. for B, 4h.50m.
1059	,, 9	19 22·7	—	0·1	0 10	,, ,, 19h.24·5m.
1064	,, 10	18 7	—	0·1	0 30	B only.
1067	,, 11	1 26		0·1	2 30	A.
1069	,, 11	—	12 0·3	0·2	—	,,
1073	,, 12	21 18	—	0·1	0 30	B.
		21 19·5	21 26·6	0·2	0 44	A.
1074	,, 13	14 34·8	14 39·8	0·1	0 15	A. Com for B, 14h.30m.
1076	,, 16	19 7	—	0·1	0 9	A only.
1079	,, 17	14 48	—	0·1	1 12	,,
1080	,, 18	0 30	1 12	0·2	1 13	B. Com. for A, 0h.13·5m.
1082	,, 18	2 21	—	0·1	0 12	B only.
1085	,, 18	18 47·9	19 8·3	5·0	4 40	A.
		18 48·3	19 4·2	5.25		Looks as if a second Earthquake had
			21 48·8	1·5	5 0	B. been super-imposed on first.
			21 45·5			
1086	,, 19	3 7	3 30	0·1	0 41	A only.
1087	,, 20	20 25	20 41	0·1	0 41	,,
1090	,, 21	16 41	16 58	0·1	0 55	A. Com. for B, 16h.43m.
1091	,, 21	19 40	—	0·1	0 24	A. Com. for B, 19h.43m.
1092	,, 23	11 27·3	12 8·8	0·5	2 55	A.
		11 25	12 9·8	0·35	2 30	B.
1094	,, 25	1 52	—	0·1	0 15	A only.
1095	,, 25	15 51	—	0·1	0 19	A. Com. for B, 15·50m.
1096	,, 26	12 55·5	13 21·8	3·5	1 43	A.
		12 55	13 15·2	1·0	1 40	B.
			13 26·6			
1099	,, 28	11 50	—	0·1	0 10	B only.
1101	Mar. 1	17 17	—	0·1	0 30	A. Com. for B, 17h.24m.
1103	,, 2	19 20·2	20 10·7	0·4	1 46	A.
		19 21	19 55	0·2	1 30	B.
1108	,, 6	17 49	—	0·1	2 30	A. Com. for B, 17h.52m.
1110	,, 9	5 20	6 7	0·2	1 14	,, ,, 5h.48m.
1111	,, 10	22 34	—	0·1	0 32	,, ,, 22h.37·5m.
1112	,, 11	3 35·5	3 48·5	0·2	3 20	,, ,, 3h.44m.
1113	,, 11	20 41	20 57	0·3	0 33	,, ,, 20h.46m.
1114	,, 12	13 24·7	—	0·1	0 24	,, ,, 13h.25m.
1117	,, 16	4 40	—	0·1	0 10	,, ,, 4h.42m.
1122	,, 19	5 24	—	0·2	0 23	,, ,, 5h.37m.
1123	,, 22	14 42	—	0·3	0 31	,, ,, 14h.51m.
1124	,, 24	3 41	—	0·1	0 40	,, ,, 3h.39m.
1127	,, 26	12 58	—	0·2	0 27	,, ,, 12h.59m.
1128	,, 27	5 39	6 5	0·5	1 2	A.
		5 51	6 6	0·3	0 51	B.
1129	,, 27	9 0	—	0·1	0 2	A only.
1130	,, 27	10 31	10 40	0·2	0 38	A. Com. for B, 10h.36m.
1131	,, 31	22 55	23 2	0·2	0 23	,, ,, 22h.56m.
1132	April 1	2 40	2 52	0·1	1 19	,, ,, 2h.44m.
1135	,, 4	15 46	15 50	2·5	1 21	A.
		15 45	15 49	1·5	1 30	B.
1136	,,	18 53	19 2	0·2	0 56	A. Com. for B, 18h.57m.
1138	,,	11 21	11 47	0·2	0 58	,, ,, 11h.25m.
1140	,,	1	7 45	0·5	3 6	A.
		57	7 47	0·4	3 12	B.

Register from Helwan Observatory, Cairo, Egypt—continued.

No.	Date	Commencement	Max.	Max. Amplitude	Duration	Remarks
		H. M.	H. M.	MM.	H. M.	
1142	April 10	18 56	19 40	0·5	1 55	A.
		19 6	19 39	0·4	2 7	B.
1143	,, 11	14 7	14 59	0·3	1 58	A. Com. for B, 14h.24m.
1144	,, 13	1 49	—	0·1	0 10	A only.
1145	,, 13	6 56	—	0·2	0 11	A. Com. for B, 7h.58m.
1146	,, 14	5 27	—	0·2	0 55	A only.
1147	,, 14	7 40	7 42	0·2	0 20	A. Com. for B, 7h.36m.
1148	,, 15	6 4	6 19	0·3	0 55	A.
		6 8	6 23	0·4	0 42	B.
1149	,, 15	7 26	—	0·2	0 7	B only.
1150	,, 15	12 8	12 25	0·3	0 41	A.
		12 4	12 22	0·3	0 42	B.
1152	,, 16	5 58	6 6	0·5	0 46	A. a. for B, 0·6mm.
1153	,, 16	6 59	—	0·3	0 26	A. a. for B, 0·5mm.
1159	,, 17	5 2	5 53	0·6	4 17	A only.
1160	,, 17	10 15	10 16	0·2	0 28	A. Max. for B, 10h.18m.
1162	,, 18	4 29	6 55	0·3	3 58	A only.
1164	,, 18	6 48	—	0·2	2 6	B only.
1165	,, 18	11 31	11 41	0·4	1 1	A.
		11 35	11 40	1·0	0 43	B.
1166	,, 18	18 19	18 30	7·0	3 55	A. Com. for B, 18h.18·5m.
1171	,, 21	2 45	3 38	0·5	3 15	A.
		2 47	3 44	0·4	2 21	B.
1172	,, 23	13 37	15 57	0·3	1 2	A.
		13 45	14 7	0·2	0 50	B.
1174	,, 25	13 0	13 39	0·4	1 29	A. Max. for B, 13h.34m.
1175	,, 26	2 39	—	0·2	0 57	A. Com. for B, 2h.51m.
1177	,, 28	10 14	—	0·5	1 42	A.
		10 15	—	0·3	1 43	B.
1178	,, 28	19 16	19 20	0·2	0 37	B. Com. for A, 19h.4m.
1181	,, 29	5 36	5 45	1·8	1 16	A.
		5 37	5 44	3·5	1 5	B.
1183	,, 29	23 8	23 10	0·4	0 11	A and B.
1184	,, 30	5 26	5 31	0·2	0 18	A. Com. for B, 5h.26m.
1185	,, 30	20 46	20 52	0·5	0 24	A.
		20 44	20 51	0·5	0 35	B.
1188	May 4	13 41	14 16	0·6	3 31	A. Com. for B, 13h.51m.
1189	,, 4	23 51	0 8	3·1	3 53	A.
		23 50	0 0	2·5	3 56	B.
1191	,, 7	0 27	—	0·2	0 14	A and B.
1192	,, 9	20 36	—	0·2	0 51	B. A stopped for repairs.
1193	,, 11	4 22	5 3	0·5	2 3	,, ,,
1194	,, 13	3 57	—	0·1	0 4	,, ,,
1195	,, 17	13 32	13 45	0·2	0 16	,, ,,
1199	,, 24	23 34	23 41	0·3	0 18	A. Com. for B, 23h.38m.
1200	,, 25	9 7	—	0·2	0 21	A only.
1201	,, 26	2 57	2 58	0·4	0 5	B. A stopped.
1206	,, 29	19 59	20 11	0·5	0 36	A.
		20 0	20 13	0·4	0 41	B.
1207	June 1	10 34	10 35	0·5	0 10	B. A not working.
1208	,, 1	14 45	14 49	0·6	0 43	,, ,,
1209	,, 3	21 1	22 22	0·4	2 12	,, ,,
1211	,, 6	8 42	8 52	0·2	0 45	A.
		8 46	8 59	0·2	0 36	B.
1212	,, 7	11 17	12 24	3·2	4 55	A.
		11 22	12 38	2·5	4 41	B.
1213	,, 7	20 12	20 20	0·1	0 15	A.
1214	,, 8	0 3	0 9	0·6	2 11	A. Max. for B, 0h.11m.
1215	,, 9	23 33	23 35	1·2	0 38	B.
1217	,, 10	18 18	18 52	0·1	0 40	A.
1219	,, 15	14 37	14 50	5·0	5 54	A.
			15 24	4·9		
		14 37	14 50	3·2	5 41	B.
			15 17	3·4		
1220	,, 17	5 22	6 6	0·4	1 32	A. Com. for B, 5h.28m.
1222	,, 20	5 16	5 43	0·1	1 1	A.
		5 40	5 54	0·1	0 31	B. Very slight.
1224	,, 20	11 16	11 36	0·1	0 50	A.
		11 12	11 37	0·2	0 41	B.
1225	,, 22	21 14	21 26	0·1	0 16	,,
1227	,, 23	15 9	15 16	0·15	0 52	A.
		14 36	15 18	0·1	0 94	B.

Register from Helwan Observatory, Cairo, Egypt—continued.

No.	Date	Commencement	Max.	Max. Amplitude	Duration	Remarks
		H. M.	H. M.	MM.	H. M.	
1229	June 25	9 9	9 46	0·3	1 54	A.
		9 11	9 51	0·3	2 1	B.
1231	,, 28	7 44	7 50	0·1	2 35	A.
		7 43	8 20	0·1	1 41	B.
1233	,, 28	20 14	20 30	0·1	3 3	A. Com. for B, 20h.13m.
1235	,, 29	2 40	2 48	0·1	0 28	B. Very slight.
		2 43	2 45	0·1	0 16	A.
1238	,, 30	23 3	23 27	0·1	0 37	A. Very slight.
		SUPPLEMENTARY LIST.				
1023a	Jan. 4	15 26	—	0·1	0 14	A. Com. for B, 15h.25m.
1034a	,, 14	0 28	—	0·1	0 9	A. Com. for B, 0h.20m.
1035a	,, 16	7 21	—	0·1	0 14	B only.
1036a	,, 22	23 47	—	0·1	0 10	B.
1037a	,, 24	21 1	21 17	0·1	0 31	A and B.
1037b	,, 25	1 2	—	0·1	1 6	A. Com. for B, 1h.1m., d. 48m.
1041a	,, 29	1 26	1 40	0·1	0 31	A. Com. for B, 1h.30m.
1041b	,, 30	0 26	—	0·1	0 29	A. Com. for B, 0h.31m., d. 16m.
1051a	Feb. 7	2 48	—	0·1	0 7	A. Com. for B, 2h.49m.
1116	Mar. 13	15 2	—	0·1	1 54	B.
1116a	,, 14	18 50	—	0·1	0 12	A. Max. for B, 18h.59m.
1116b	,, 16	3 31	—	0·1	—	A.
1140a	April 8	9 49	—	0·1	0 7	A. Com. for B, 9h.47m., d. 3m.
1171a	,, 22	19 53	—	0·1	0 50	A only.
1194a	May 14	1 20	—	0·1	0 6	B. A under repair.
1208a	June 2	16 59	—	0·1	0 9	B. A under repair.
1210a	,, 5	4 38	—	0·1	0 6	A only.

Register from Royal Alfred Observatory, Mauritius.
Director, T. F. CLAXTON, *F.R.A.S.*

No.	Date	Commencement	Max.	Max. Amplitude	Duration	Remarks
		1910				
		H. M.	H. M.	MM.	H. M.	
858	July 3	7 9·3	—	—	0 2	—
		7 18·3	—	—	0 5	N.S.
859	,, 7	8 34·9	8 45·4	1·5	0 47	—
		8 34·9	8 46·2	0·5	0 59	N.S.
860	,, 8	4 14·7	4 16·4		0 25	—
		4 12·2	4 23·2	—	0 26	N.S.
861	,, 11	22 43·0	22 45·5	—	0 11	—
		22 43·0	22 46·0	—	0 9	N.S.
862	,, 12	21 43·7	21 51·7	0·5	0 13	—
		21 50·2	21 54·7	1·0	0 35	N.S.
863	,, 15	13 0·9	13 16·4	—	0 27	Very faint in N.S.
864	,, 21	22 24·2	22 27·7	2·0	0 20	—
		22 23·2	22 29·7	2·0	0 29	N.S.
865	,, 24	16 6·0	16 24·5	—	0 33	Very faint in N.S.
866	,, 29	10 40·5	11 14·0	2·0	1 12	Very irregular in N.S.
867	Aug. 5	3 3·6	3 9·1	0·8	0 20	In N.S. uncertain.
868	,, 11	10 2·3	—	—	0 8	Very irregular movements in both.

Register from Royal Alfred Observatory, Mauritius—continued.

No.	Date	Commencement	Max.	Max. Amplitude	Duration	Remarks
		H. M.	H. M.	MM.	H. M.	
869	Aug. 17	12 23·7	12 29·7	—	0 10	N.S. Slight thickening in E.W.
870	,, 21	5 57·3	6 7·8	0·7	1 3	—
		6 3·3	6 7·8	0·5	0 47	N.S.
871	,, 22	4 13·7	—	—	0 11	Slight thickenings in both.
872	,, 27	10 32·0	—	—	0 5	,, ,,
873	,, 31	9 59·7	—	—	1 0	Slight thickenings in E.W.
874	Sept. 1	1 13·9	1 20·9	—	0 38	Slight thickenings in both.
875	,, 1	15 6·9	—	—	0 7	,, ,,
876	,, 8	3 34·2	3 35·2	0·6	0 4	Seismic origin? ,,
877	,, 9	1 30·1	2 19·1	0·5	1 56	—
		1 30·1	2 38·1	0·5	1 56	N.S.
878	,, 10	12 53·0	—	—	0 5	Thickening in E.W.
879	,, 10	13 12·0	—	—	0 8	,,
880	,, 18	—	12 57·7	—	?	Very irregular movements. Seismic origin?
881	,, 24	0 17·4	—	—	0 4	Slight thickening.
882	,, 24	16 8·4	16 12·4	—	0 15	—
		16 9·4	16 15·4	—	0 15	N.S.
883	,, 25	19 54·3	—	—	0 5	Very slight thickenings in both.
884	Oct. 2	8 46·3	—	—	0 8	Slight thickening.
885	,, 4	23 25·5	—	—	0 49	N.S. In E.W. very slight.
886	,, 18	3 23·6	3 28·6	0·5	0 24	—
		3 24·6	3 29·6	0·4	0 18	N.S.
887	,, 20	5 13·5	5 17·5	1·5	0 27	—
		5 13·5	5 16·5	1·0	0 17	N.S.
888	,, 30	8 36·0	—	—	0 11	Very slight thickenings.
889	Nov. 2	14 3·8	—	—	0 16	Slight thickenings.
		14 10·8	14 15·3	—	0 20	N.S.
890	,, 9	6 21·2	6 38·2	7·0±	2 28	Other Max at 6h.56m., 6h.58m. & 7h.01m.
		6 21·2	6 58·2	5·0±	2 28	N.S.
891	,, 9	22 7·7	22 22·7 23 6·7	—	1 7	Slight thickenings of trace in both.
892	,, 10	12 45·2	12 55·2	0·6	0 47	Very slight in N.S.
893	,, 15	14 40·1	14 48·6	2·0	0 45	—
		14 39·1	14 44·1	4·0	0 44	N.S.
894	,, 18	9 47·3	—	—	0 9	Slight thickenings in E.W.
895	,, 25	19 56·6	20 1·1	0·6	0 10	—
		19 57·6	20 1·6	—	0 9	
896	,, 26	4 59·6	5 37·6	4·0	?	Time of ending uncertain.
		5 5·1	5 37·1	1·2	0 54	N.S.
897	,, 26	—	6 57·6 7 7·6	1·1 1·5	?	Time of beginning uncertain.
		—	6 59·1	0·5	?	N.S.
898	,, 29	3 1·8	3 7·3	1·1	0 15	—
		3 2·3	3 6·3	0·4	0 11	N.S.
899	Dec. 1	16 5·3	16 22·8	1·6	0 34	—
		16 7·3	16 21·3	0·6	0 33	N.S.
900	,, 3	8 15·2	8 35·7	0·3	0 21	Slight thickening.
		8 18·7	8 36·2	0·5	0 20	N.S.
901	,, 4	11 19·0	11 47·0	—	0 57	—
		11 19·0	11 47·0	0·7	1 17	N.S.
902	,, 10	9 50·3	10 22·3	3·0	2 20	—
		9 52·3	10 10·8	2·0	2 21	N.S.
903	,, 10	11 35·8	11 40·8	—	0 17	—
		11 48·8	11 55·3	—	0 20	N.S.
904	,, 13	9 11·0	9 15·0	—	0 8	Very faint in N.S.
905	,, 13	11 46·0	—	—	0 45	Booms overlapped at 11h.55m.
906	,, 14	21 7·3	21 46·0	—	0 49	Slight thickenings, very faint in N.S.
907	,, 16	14 57·0	15 22·5	4·0±	1 12	N.S. E.W. boom out of order.
908	,, 16	19 9·5	—	—	0 35	N.S. Several thickenings; in E.W. very faint.
909	,, 29	13 28·9	13 41·3	—	0 32	—
		13 25·6	13 40·3	—	0 35	N.S.
910	,, 30	1 7·1	1 25·2	0·6	0 28	Very faint in N.S.

Unless otherwise stated times refer to E.W. component.

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
			1911			
		H. M.	H. M.	MM.	H. M.	
740	Jan. 1	11 3	11 9·0	0·4	0 26	—
741	,, 2	10 51	10 58·5	0·5	0 48	—
742	,, 3–4	23 40·8	0 26·0	4·5	2 32	—
743	,, 4	8 48·4	9 20·7	1·0	1 0	—
744	,, 22	—	23 32·0	0·2	0 3	—
745	Feb. 18	19 5·4	19 35·4	1·3	1 47	—
746	,, 18	—	21 24·6	0·1	0 5	—
747	,, 18	22 15·4	22 17·0	0·9	0 20	—
748	,, 21	—	16 59·0	—	—	Slight thickening.
749	,, 26	12 55·4	—	—	0 12	,, ,,
750	Mar. 20	14 24·4	—	—	—	Slight change of level.
751	April 4	16 20·2	16 20·7	0·3	0 15	—
752	,, 7	8 13·3	8 21·0	0·3	0 14	—
753	,, 10	19 4·6	19 41·1	0·5	0 59	—
754	,, 17	5 26·2	5 34·7	0·2	0 30	—
755	,, 18	18 33·9	18 56·9	1·4	0 53	—
756	,, 23	—	12 54·5	—	—	Thickening.
757	,, 28	10 13·9	10 13·9	0·5	0 9	—
758	,, 28	—	22 11·0	—	—	Thickening.
759	,, 29	—	6 14·2	—	—	,,
760	May 4–5	23 56·0	0 15·5	0·6	1 29	—
761	,, 11	4 14·7	4 23·7	0·5	0 31	—
762	,, 13	—	4 11·9	—	—	Thickening.
763	,, 20	—	12 54·0	0·5	0 4	—
764	June 1	15 4·7	—	—	0 12	Thickening.
765	,, 7	11 24·5	12 14·0	1·9	3 2	—
766	,, 8	—	0 54·0	—	0 13	—
767	,, 15	14 46·3	14 57·3	2·1	2 40	—
768	,, 23	—	15 14·8	—	0 5	Slight thickening.
769	,, 25	9 18·6	9 19·6	0·5	0 14	Beginning uncertain. Instrument disturbed for winding.
770	,, 28	—	21 6·2	—	0 2	Slight thickening.

1mm. Boom Motion=0″·27. Boom period 21secs.

Register from the Island of St. Helena.
Superintendent, C. Chevallier.

No.	Date	Commencement	Max.	Max. Amplitude	Duration	Remarks
			1911			
		H. M.	H. M.	MM.	H. M.	
1	Feb. 18	19 6	19 9	2·5	1 4	—
2	,, 26	9 54	9 58	1·5	0 16	—
3	April 27	10 12	10 13	2·0	0 30	—
4	June 6	8 15	8 16	1·5	0 17	—
5	,, 7	11 22	12 4	3·5	2 59	P_2 11h.28·5m.
6	,, 15	14 47	14 52	6·0	3 3	—
7	,, 25	9 3	9 9	3·5	1 3	—

Register from Ascension Island.
F. Marx. *Supt. Eastern Tel. Co.*

No.	Date	Commencement	Max.	Max. Amplitude	Duration	Remarks
			1911			
		H. M.	H. M.	MM.	H. M.	
25	Mar. 15	—	13 39	1·0	—	—
26	Apr. 10	18 53	19 20	0·5	1 2	—
27	,, 17	5 16	5 27	0·8	0 40	—
28	,, 18	18 53	19 14	1·5	0 48	—
29	,, 28	10 4	10 9	1·5	0 54	—
30	May 4	23 58	0 8	1·3	—	End lost in tremors.
31	,, 7	0 2	0 3	1·0	0 9	—
32	June 7	10 57	11 59	2·5	3 36	—
33	,, 15	14 37	15 8	3·5	2 56	—
34	,, 25	9 9	9 13	2·5	3 45	—

Period 17 seconds.
1 mm.=0″.29.

Register from Fernando Noronha.
Superintendent, C. E. Holmes.

No.	Date	Commencement	Max.	Max. Amplitude	Duration	Remarks
			1911			
		H. M.	H. M.	MM.	H. M.	
1	Mar. 24	19 56	20 3	1·0	1 0	—
2	April 10	19 4·5	19 25	1·6	2 30	P_2 19h.11·5m.
3	,, 17	...	5 20·5	2·0	—	Com. and End lost by Ats.
			5 25·5	2·5	...	
4	,, 18	—	11 39	0·1	—	—
5	,, 18	18 41	19 28·2	2·2	>3 0	...
6	,, 21	2 39	3 9·5	1·0	2 0	...
7	,, 28	9 51·5	9 57·5	3·0		P_2 9h.53·5m.
			10 0·7	3·0	>2 0	
8	May 5	...	0 18	1·2	—	Com. lost by changing paper.
			1 26	1·0	—	End at 3h.
9	,, 7	—	0 6·0	0·1	—	—
10	,, 7	10 11	10 17·5	0·5	0 30	—
11	,, 7	12 0	12 5·5	0·5	1 0	—
12	,, 10	—	0 20·0	0·1	—	...
13	,, 10	12 35	12 44	0·7	1 20	—
14	,, 11	4 25	5 3·5	1·0	2 15	—
15	,, 11	...	16 53	0·1	...	...
16	,, 14	7 11·5	7 12·5	1·5	0 20	—
17	,, 14	8 27	8 39·5	0·2	0 55	—
18	,, 14	...	18 40	0·1	...	...
19	June 7	10 5·5	10 10	0·5	0 55	—
20	,, 7	...	11 4·5	0·1	—	...
21	,, 7	11 20	12 0	5·5	4 50	P_2 11h.28m.
22	,, 15	14 49	15 4	4·0		—
			15 38	3·0	5 0	—
			16 14	3·0		—
23	,, 25	9 20·5	9 25	4·2	2 0	P_2 9h.22·5m.

Period 17 secs.

Register from Mahé, Seychelles, Indian Ocean.
Superintendent, A. J. Besley. *Assistant*, G. E. Atkinson.

No.	Date	Commencement	Max.	Max. Amplitude	Duration	Remarks
			1911			
		H. M.	H. M.	MM.	H. M.	
1	June 1	24 43	14 43	2·0	0 17	—
2	,, 2	—	7 48	1·0	—	—
3	,, 7	11 30	12 53	1·0	2 0	Mexico City.
6	,, 15	—	7 14	1·0	—	—
7	,, 15	14 42	14 55	12·0	1 18	End lost in tremors.

Period of boom, 17 seconds. 1° turn=4·5 mm.
Ats. very prevalent between 17h.—24h. most days, but these have been greatly reduced, lately, by putting a lamp in Seismograph Room at night, and increasing the ventilation.

Register from Geographical Society, Lima, Peru.
Observer, H. Hope Jones.

No.	Date	Commencement	Max.	Max. Amplitude	Duration	Remarks
			1911			
		H. M.	H. M.	MM.	H. M.	
1	Jan. 3-4	23 43	0 55	3·0	2 30	—
2	Feb. 18	14 23	15 5	0·5	2 0	—
3	Mar. 2	19 6	19 10	1·0	0 20	—
4	April 28	—	9 30	9·0	—	—
5	May 10	—	12 30	1·0	—	Beginning and End lost.
6	,, 17	—	12 43	1·0	—	,, ,,
7	June 7	—	11 22	4·5	—	—
8	,, 15	14 45	15 10	3·0	3 0	—
9	,, 18	22 45	22 46	1·0	0 10	—

1 mm=0″.47.

Register from Baltimore, Md., U.S.A.
Director, Professor Harry Fielding Reid.

No.	Date	Commencement	Max.	Max. Amplitude	End.	Remarks
			1911			
		H. M.	H. M.	MM.	H. M.	
1	Jan. 3	23 43·4	0 31·9	8·0	3 17	P_2 23h.50·7m.
2	Feb. 3	9 15	10 34	0·4	2 21	—
5	,, 17	14 38·6	14 43·3	0·3	0 13	—
6	,, 18	2 7	2 14	0·5	—	P_2 2h.11m., P_1 doubtful, P_3 2h.13·7m.
7	,, 18	19 8?	19 50	1·8	1 52	P_2 19h.23m., P_3 19h.37·8m.
16	Mar. 19	4 40	4 45·4	0·3	0 12	—
22	April 7	7 19·2	7 35·3	0·7	0 55	—
23	May 4	23 49·5	0 23	2·0	2 0	P_2 23h.58·6m.
24	June 7	11 8·3	11 23·6	11·6	3 2	—
25	,, 15	14 40	15 33·5	2·0	2 27	P_2 14h.44·3m.

Period 15 secs.

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

No.	Date	Commencement	Max.	Max. Amplitude	Duration	Remarks
			1911			
		H. M.	H. M.	MM.	H. M.	
982	Jan. 1	11 12·8?	11 23·9	0·2	0 25	Ats. before commencement.
983	,, 2	20 23·2	0 7·5		—	Thickenings mixed with Ats.
984	,, 3	23 32·4	0 27·4	7·0	3 25	Ats. beginning and end.
985	,, 9	4 46·2?	—	—	0 3	—
986	,, 10	17 16·3	—	—	0 7	—
987	Feb. 5	4 35·1?	4 38·1	0·6	0 19	—
988	,, 17	2 23·5	—	0·05	0 2	—
989	,, 17	14 40	—	0·05	0 4	—
990	,, 18	2 7·6	2 14·2	0·3	0 15	—
991	,, 18	2 41·6	—	0·15	0 2	—
992	,, 18	19 4·7	19 38·8	2·8	1 46	—
993	,, 18	22 0·6	—	0·05	0 4	—
994	,, 18	22 17	22 21·1	0·2	0 21	—
995	,, 19	2 30·2	2 31·4	0·2	0 11	—
996	Mar. 2	19 20·2	—	0·2	0 5	—
997	,, 11	3 56·6?	4 34·1	0·1	0 52	Thickenings mixed with Ats.
998	,, 19	4 41·2?	4 46·9	0·15	0 21	Ats. previous to commencement.
999	Apr. 7	7 0·5	7 29·5	0·7	1 45	P_2 7h.3·7m.
1000	,, 8	2 41·7	—	0·05	0 4	—
1002	,, 10	—	19 1·8	0·8	—	P_3 18h. 54·9m.
1003	,, 18	19 10·7	19 35	0·2	0 15	—
1004	,, 28	—	10 8·6	0·3	—	P_3 10h. 8·4m.
1005	May 4	23 49·3	23 59·2	3·2	2 9	—
1006	,, 9	19 56·5	19 57·4	0·15	0 23	—
1008	,, 10	0 43·4	0 44·1	0·2	0 5	—
1011	,, 25	8 13	8 13·7	0·2	0 6	—
1012	June 7	11 9·1	11 23·8	>20·0	3 32	P_2 11h.10.3m. Mexican quake.
1013	,, 15	5 44·7	—	0·02	0 2	—
1014	,, 15	14 38·5?	15 8·2	2·3	2 54	P_2 14h.43·8m.
1019	,, 30	23 50	—	0·05	0 1	—

Period 14·8 secs.
1mun.=0″·64.

Register from Victoria, B.C., Canada.
Superintendent, E. Baynes Reid.

No.	Date	Commencement	Max.	Max. Amplitude	End.	Remarks
			1911			
		H. M.	H. M.	MM.	H. M.	
1007	Jan. 1	11 12·5?	11 17	0·2	0 43	
1008	,, 2	23 19·2?	—	0·05	1 2	Beginning doubtful.
1009	,, 3	23 38·6	0 19·4	9·0	3 17	—
1010	,, 9	4 50·3	—	0·05	0 3	—
1011	Feb. 3	21 38·8	21 42·6	0·3	0 14	—
1012	,, 5	—	5 0·7	0·05	—	—
1014	,, 17	2 51·3	—	0·05	0 0·8	—
1015	,, 17	14 41·1	—	0·05	0 4	—
1016	,, 18	2 7	2 13·9	0·3	0 24	—
1017	,, 18	19 5·3	19 31·5	1·3	1 59	—
1018	,, 18	21 58·3	—	0·05	0 2	—
1019	,, 18	22 25·3	22 34·8	0·1	0 20	—
1020	,, 19	2 40·1	—	0·05	0 9	—
1021	Mar. 2	19 24·1	—	0·05	0 4	—
1022	,, 11	4 0·3?	—	0·05	0 45	—
1023	,, 15	2 25·8	2 26·9	0·2	0 6	—

Register from Victoria, B.C., Canada—continued.

No.	Date	Commencement	Max.	Max. Amplitude	Duration	Remarks
		H. M.	H. M.	MM.	H. M.	
1024	Mar. 19	4 54·5?	—	0·05	0 20	—
1025	Apr. 7	6 57·4	7 17·2	0·6	1 13	—
1026	,, 10	18 52	19 16	0·3	0 55	—
1027	,, 17	5 29·3	5 31·4	0·2	0 4	—
1028	,, 18	19 3·1	19 16·7	0·3	0 45?	—
1029	,, 21	3 4·6	—	0·2	0 11	—
1030	,, 28	10 11·4	10 15·3	0·1	0 9	—
1032	May 4	23 45·4	23 54·1	3·2	2 21	—
1033	,, 9	19 59·5	—	0·05	0 4	—
1034	,, 10	0 26·9	0 27·3	0·8	0 38	—
1035	June 7	11 9·6	11 28·8	>25·0	3 19	P_2 11h.11·1m. Over scale limit.
1036	,, 15	5 44·4	5 47·7	0·2	0 8	—
1037	,, 15	14 37·9	14 49·4	3·9	2 52	$P_2$14h.41·8m.
1038	,, 19	15 18·4	15 19·4	0·15	0 4	—

Period 15 secs.
1mm.=0″.76.

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

No.	Date	Commencement	Max.	Max. Amplitude	Duration	P_3	Remarks
			1910				
		H. M.	H. M.	MM.	H. M.	H. M.	
712	July 5	18 46·8	18 58·5	0·5	0 18	—	—
713	,, 6	6 7	6 8	0·5	0 5	—	—
714	,, 7	5 28	—	—	0 18	—	Thickening of line.
715	,, 7	8 26·8	8 46·1	6·0	1 9	8 40·5	—
716	,, 8	3 15·6	—	—	0 12	—	Thickening of line.
717	,, 8	3 54·2	4 31·3	2·0	1 6	4 27·8	—
718	,, 15	13 12·8	—	—	0 10	—	Thickening of line.
719	,, 29	10 44·6	11 13·6	1·0	1 33	—	—
720	Aug. 9	20 37·8	20 45·5	1·0	0 26	—	—
721	,, 13	21 23·7	21 25·7	1·0	0 9	—	—
722	,, 17	12 10	12 12·5	4·0	0 38	12 12	—
723	,, 21	5 54·9	6 7·2	1·0	1 10	—	—
724	,, 27	7 6·9	7 9	0·5	0 14	—	—
725	Sept. 1	0 52	1 11·8	2·7	1 3	1 1·1	—
726	,, 1	14 33·8	14 44·4	4·2	1 17	14 35·8	—
727	,, 6	9 18·3	9 20·8	1·2	0 6	—	—
728	,, 6	21 25·8	21 37·4	1·7	0 52	21 38·4	—
729	,, 9	—	1 58·9	3·0	—	1 56·9	Begins with Ats.
730	,, 14	14 12·5	14 29·3	0·7	0 29	14 22·7	—
731	,, 16	22 43·9	23 28·1	2·5	—	23 19·5	End lost in Ats.
732	,, 24	16 44·3	16 58	0·5	0 23	—	—
733	Oct. 7	16 5·9	16 14·6	1·5	0 28	16 11·5	—
734	,, 20	5 2·9	5 26·2	2·7	2 1	5 18·6	—
735	Nov. 2	14 46·6	—	—	0 16	—	Thickening of line.
736	,, 3	9 37·3	—	—	0 17	—	,, ,,
737	,, 6	21 24·6	—	—	0 38	—	,, ,,
738	,, 9	—	6 30·4	2·2	4 2	6 15·1	—
739	,, 10	12 41·6	12 42·6	0·5	1 9	—	—
740	,, 14	—	7 54·7	5·5	1 28	7 45·1	—
741	,, 15	14 44·9	15 52·1	2·7	2 4	14 58·2	—
742	,, 24	15 45·8	15 52·9	3·0	0 40	15 49·3	—
743	,, 26	4 53·9	5 5·1	2·7	4 8	5 4·6	—
744	,, 29	—	2 51·8	1·5	—	2 39·6	—

Register from Alipore Observatory.—continued.

No.	Date	Commencement	Max.	Max. Amplitude	Duration	P_3	Remarks
		H. M.	H. M.	MM.	H. M.	H. M.	
745	Dec. 1	15 51·6	16 16·6	1·7	1 7	16 1·2	—
746	,, 4	11 25·8	—	—	1 46	—	Thickening of line.
747	,, 5	16 42·8	17 1·2	1·0	0 43	16 58·6	—
748	,, 10	9 20·3	10 12·6	4·0	3 11	9 49·3	—
749	,, 13	11 49·3	12 17·8	12·0	3 22	12 2	—
750	,, 16	14 42	15 12·5	17·5	3 30	14 52·7	—
751	,, 16	18 59·5	19 21·3	2·0	1 16	19 6·1	—
752	,, 16	23 22·5	23 49·9	0·7	—	—	Ends in Ats.
753	,, 17	6 26·7	6 52·6	0·7	0 46	—	Light was put out at 7h. for time correction.
754	,, 18	—	3 16·7	2·0	—	3 3	—
755	,, 18	19 22·1	19 30·7	0·7	0 18	—	—
756	,, 27	19 2	19 27·4	0·7	0 47	19 25·9	—
757	,, 29	13 15·1	13 36	1·5	1 7	13 23·3	—
758	,, 30	—	1 18·3	1·5	—	0 54·9	Ends in Ats.
759	,, 30	3 56·4	4 2·5	0·5	0 13	—	—
760	,, 30	19 8·8	19 22·1	0·5	0 27	—	—

Sensibility : 1mm.=0″.38.

Register from Alipore Observatory, Calcutta.
Officiating Director General of Observatories, J. H. FIELD, *M.A.*

No.	Date	Commencement	Max	Max. Amplitude	Duration	P_3	Remarks
			1911				
		H. M.	H. M.	MM.	H. M.	H. M.	
761	Jan. 1	10 21·9	10 33·6	5·0	1 37	10 27	—
762	,, 1	15 9·4	15 14·9	1·0	0 31	15 13·9	—
763	,, 3	23 31·3	—	>17·0	4 3	—	—
764	,, 4	9 28	9 51·3	1·0	0 38	9 45·7	—
765	,, 4	21 42·2	21 47·3	1·0	0 27	21 44·7	—
766	,, 8	4 3·1	4 9·2	1·25	0 15	4 7·1	? 9th.
768	,, 12	18 57·1	18 58·6	1·0	0 9	—	—
770	,, 14	18 2·3	18 7·9	1·0	0 34	—	—
771	Feb. 18	18 44·9	18 54·6	>17·0	3 50	—	—
772	April 7	7 3·7	7 29·6	1·50	1 20	7 22·5	—
773	,, 15	11 54·9	11 57·5	4·0	0 29	—	Amp. measured from base line.
774	,, 18	18 20·3	18 33	13·0	1 41	18 24·9	,, ,,
775	May 4	13 42·6	13 55·8	2·25	0 44	13 53·8	—
776	,, 4–5	—	0 17	2·75	—	23 47	Ends in Ats.
777	,, 11	4 12·9	4 32·8	1·25	1 7	—	—
778	June 15	14 32·3	?	>17·0	3 36	—	—
779	,, 17	5 12·3	5 31·1	2·25	1 2	—	—

Period 18 secs. 1° turn=5mm.
1 mm.=0″.38.

From 8th to 28th March the driving clock was under repair and there were no displacements on other days during this month.
During May the driving clock stopped many times.
From 1st to 9th June the driving clock was under repair.

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

No.	Date	Commencement	Max.	Max. Amplitude	Duration	Remarks
			1911			
		H. M.	H. M.	MM.	H. M.	
2	Jan. 1	10 21·9	10 30·7	8·3	0 39	—
3	,, 1	15 8·7	15 11·6	1·4	—	End lost in shifting time.
5	,, 2-3	23 14·5	23 53·3	0·3	1 3	—
6	,, 3	0 50	—	—	—	—
8	,, 3	7 47·3	7 56·6	0·3	0 24	—
9	,, 3	23 31·2	—	—	4 2	Traces overlap. max. amp. can't be determined.
11	,, 4	9 13	—	—	0 2	Thickening of line.
13	,, 4	9 49·6	9 52	1·3	0 17	—
18	,, 7	2 25·8	2 54·8	0·9	1 4	—
19	,, 9	4 7·1	—	—	—	Thickening of line.
21	,, 14	18 4·1	18 6·7	0·5	0 20	—
23	,, 16	2 30	—	—	1 10	Thickening of line.
24	,, 16	9 9·4	9 28·8	0·4	0 35	—
25	,, 18	15 42·5	—	—	—	Thickening of line.
30	,, 25	0 40	—	—	—	,, ,,
53	Feb. 12	21 40	—	—	—	,, ,,
54	,, 13	14 17·5	—	—	—	,, ,,
61	,, 18	0 10	—	—	—	,, ,,
62	,, 18	18 46	—	—	1 49	Traces overlapped.
67	,, 20	20 51·4	—	—	—	Thickening of line.
68	,, 21	16 30·6	—	—	—	,, ,,
70	,, 23	11 30·8	11 45·9	0·5	0 38	—
85	Mar. 10	22 32·6	—	—	0 5	Thickening of line.
87	,, 12	12 50	—	—	—	,, ,,
91	,, 14	18 56·7	—	—	—	,, ,,
95	,, 15	8 44·2	—	—	0 4	,, ,,
140	,, 26	13 40	—	—	—	,, ,,
141	,, 26	19 35	—	—	—	,, ,,
161	Apr. 6	10 32·8	—	—	—	,, ,,
164	,, 7	7 7·3	7 33·9	0·7	1 17	—
167	,, 7	19 15	—	—	—	Thickening of line.
173	,, 9	14 30	—	—	1 10	,, ,,
176	,, 10	18 30	—	—	0 40	,, ,,
177	,, 10	19 10	—	—	—	,, ,,
178	,, 11	14 34·3	—	—	0 11	,, ,,
181	,, 13	1 6	—	—	—	,, ,,
186	,, 15	11 55	—	—	—	,, ,,
188	,, 16	5 48·2	—	—	—	,, ,,
192	,, 17	5 50	—	—	0 40	,, ,,
193	,, 17	10 0·3	—	—	0 32	,, ,,
195	,, 17	20 57·5	—	—	—	,, ,,
196	,, 18	18 19·3	18 29·1	14·8	1 25	—
198	,, 18	11 49·4	—	—	—	—
204	,, 23	14 10	—	—	—	Thickening of line.
205	,, 25	5 53·5	—	—	—	,, ,,
207	,, 28	10 30	—	—	0 15	,, ,,
209	,, 28	18 45	—	—	0 25	,, ,,
210	,, 28	19 10	—	—	1 0	,, ,,
212	,, 29	5 29·3	5 42·8	0·5	0 38	—
213	,, 30	4 40·2	—	—	—	Thickening of line.
215	,, 30	5 10·7	—	—	—	,, ,,
216	May 4	13 42·2	13 51·8	0·7	0 42	—
217	,, 4-5	23 48·3	0 23·3	2·3	2 8	—
220	,, 11	4 25	4 32·9	0·5	0 34	—
221	,, 11	5 10	—	—	—	Thickening of line.
229	,, 14	17 58·6	—	—	—	,, ,,
241	,, 27	20 10	—	—	—	,, ,,
249	June 1	10 30·4	—	—	—	,, ,,
251	,, 1	14 41	—	—	0 3	,, ,,
256	,, 3	21 0	—	—	—	,, ,,
261	,, 7	11 24·3	12 39·7	5·0	3 7	—
262	,, 8	0 9·1	0 24·3	0·5	0 26	—
282	,, 15	6 21·9	—	—	—	Thickening of line.
284	,, 15	14 35·1	14 58·6	6·9	3 5	—
287	,, 17	5 39·7	5 41·2	0·3	0 17	—
288	,, 20	5 55·1	—	—	—	Thickening of line.
293	,, 25	9 54·1	—	—	0 3	,,
306	,, 28	20 58·2	—	—	—	Thickening of line.

Period of Pendulum, 19 secs.
Sensibility 1mm. = 0″·37 from Jan. 1-April 11; 0″·41 from April 12-May 9; 0″·37 from May 10-June 18; 0″·41 from June 19-June 30.

Register from the Solar Physics Observatory, Kodaikânal, Madras.
Director, J. Evershed.

No.	Date	Commencement	Max.	Max. Amplitude	Duration	Remarks
			1911			
		H. M.	H. M.	MM.	H. M.	
1	Jan. 1	10 27·4	10 36·2	1·3=2·1	1 20	$P_2$10h.32·6m.
2	,, 3	7 31·1	7 56·0	0·6=0·3	1 4	P_3 7h.54·9m.
3	,, 3-4	23 32·0		>18·0	4 28	Beyond range from 23h.41m. to 23h.54m. Turkestan.
4	,, 4	8 33·0	—	—	0 24	Widening of line.
5	,, 4	9 48·9	9 55·4	1·0=0·4	0 28	P_3 9h.54·3m.
6	,, 4	21 47·3	21 54·4	0·4=0·2	0 20	P_3 21h.52·8m.
7	,, 7	2 25·7	3 0·6	0·6=0·2	1 43	P_3 2h.56·6m.
9	,, 9	3 53·6	4 15·0	0·4=0·2	0 46	P_3 4h.12·9m.
10	,, 14	18 10·5	—	—	0 31	—
11	,, 16	8 59·2	9 25·4	0·5=0·2	0 55	—
12	Feb. 13	14 7·6	14 19·8	—	0 27	Widening of line. P_3 14h.18·8m.
13	,, 18	18 41·3	18 56·1	9·5=5·4	3 49	P_3 18h.51·5m.
14	,, 23	11 26·4	—	—	0 52	Widening of line.
16	Mar. 11	3 37·7	—	—	1 6	,, ,,
17	,, 14	21 8·0	—	—	1 4	,, ,,
19	,, 22	7 47·3	8 7·8	0·2=0·1	0 38	—
20	,, 27	9 7·1	—	—	0 11	Widening of line.
21	Apr. 4	16 14·1	16 21·2	0·3=0·1	0 10	Lomarda. P_3 16h.9·2m.
22	,, 7	7 1·4	7 41·3	0·4=0·2	1 6	P_3 7h.6·3m.
23	,, 10	19 2·7	—	—	0 36	Widening of line.
24	,, 10	20 8·6	—	—	0 14	,, ,,
25	,, 11	14 29·5	14 44·9	0·2=0·1	0 32	P_3 14h.30·5m.
26	,, 15	11 33·8	—	—	0 4	Widening of line.
27	,, 15	12 1·2	12 4·4	0·7=0·3	0 22	P_3 12h.3·6m.
28	,, 17	5 20·3	—	—	1 7	Widening of line.
29	,, 18	18 20·8	18 34·4	6·0=2·9	1 49	P_3 18h.25·8m.
30	,, 28	10 32·0	—	—	0 56	Widening of line.
31	,, 29	5 32·3	5 48·6	0·5=0·2	0 30	P_3 5h.46m.
33	May 4	13 34·5	13 46·9	0·7=0·3	0 37	P_3 13h.43·5m.
34	,, 4-5	23 48·0	0 30·6	2·5=1·2	3 17	P_3 27h.57·9m.
35	,, 11	4 19·7	4 26·4	0·4=0·2	0 40	Instrument adjusted 4h.51m. to 5h.
36	,, 27	20 33·6	—	—	0 52	Widening of line.
37	June 1	14 41·2	—	—	0 14	,, ,,
38	,, 3	21 12·4	—	—	0 36	,, ,,
39	,, 7	11 24·4	12 43·3	4·5=2·3	3 33	—
40	,, 8	0 12·0	—	—	0 51	Widening of line
41	,, 15	—	14 47·7	13·0=5·5	3 33	No P.T.S. P_3 14h. 35·1m.
42	,, 17	5 26·0	—	—	0 55	Widening of line.

Register from Colombo Observatory,
Superintendent, H. O Barnard, F.R.A.S., F.R.M.S.

No.	Date	Commencement	Max.	Max. Amplitude	Duration	Remarks
			1911			
		H. M.	H. M.	MM.	H. M.	
109	Jan. 1	10 29·1	10 37·1	4·8	0 55	—
110	,, 1	15 17·7	15 19·2	1·0	0 14	—
111	,, 2	23 3·5	23 48·8	0·2	1 10	—
112	,, 3	7 51·0	7 57·0	0·6	0 14	—
113	,, 3	23 32·5	23 44·9	>18·0	3 48	P_2 23h.37·4m.
114	,, 4	9 56·8	9 58·5	0·8	0 14	—
115	,, 4	15 21·0	—	—	0 5	Small.
116	,, 4	21 51·0	21 55·0	0·3	0 11	—
117	,, 5	—	1 0·5	0·5	>0 20	—
118	,, 6	—	1 2·5	0·5	>0 13	—
119	,, 6	11 39·7	—	—	0 3	Small.
120	,, 6	15 30·3	15 34·1	—	0 5	Small.

Register from Colombo Observatory—continued.

No.	Date	Commencement	Max.	Max. Amplitude	Duration	Remarks
		H. M.	H. M.	MM.	H. M.	
121	Jan. 7	2 25·0	2 55·5	0·9	1 21	—
122	,, 8	10 26·7	10 29·0	0·2	0 7	—
123	,, 9	4 13·6	4 16·9	0·5	0 8	—
124	,, 10	0 51·0	0 57·0	0·3	0 11	—
125	,, 10	16 55·0	17 11·5	—	0 38	Small
126	,, 11	10 27·8	—	—	0 4	Small
127	,, 11	23 49·5	0 55·9	0·6	0 17	—
128	,, 12	19 3·4	—	0·2	0 5	—
129	,, 13	? 0 44·0	0 50·0	0·6	0 25	—
130	,, 14	< 0 4·7	0 54·0	0·4	—	—
131	,, 14	18 12·5	18 15·9	0·4	0 19	—
132	,, 16	9 7·0	9 21·9	0·4	0 40	P_2 9h.10·5m.
133	,, 18	< 0 44	0 46·3	0·5	>0 31	—
134	,, 19	< 0 45	0 55·0	0·5	>0 21	—
135	,, 19	10 32	—	—	0 4	Small
136	,, 20	< 0 44	0 48·0	0·4	>0 16	—
137	,, 22	< 0 47	0 50·0	0·5	>0 11	—
138	,, 24	21 7·1	21 10·2	—	0 4	—
139	Feb. 5	< 6 24	6 28·7	0·5	>0 25	—
140	,, 18	18 52·5	18 59·7	7·0	2 7	—
141	,, 18	22 4·0	22 15·0	6·2	0 24	—
142	,, 21	4 27·5	4 29·3	0·6	0 6	Several slight thickenings of trace.
143	,, 23	1 32·0	—	—	—	—
144	,, 23	10 59·3	11 0·8	—	0 4	—
145	,, 23	11 29·5	11 56·5	0·3	0 42	—
146	Feb. 26	13 42·5	13 50·0	0·2	0 18	—
147	Mar. 27	10 10·7	10 12·0	0·2	0 3	—
148	,, 31	22 21·1	22 33·5	0·2	0 14	—
149	Apr. 7	7 7·1	7 40·0	0·2	0 50	—
150	,, 10	20 0·5	—	—	0 31	Trace.
151	,, 11	14 2·6	—	—	0 48	Trace.
152	,, 15	12 3·1	—	—	0 15	Trace.
153	,, 17	6 10·1	6 16·0	0·2	0 22	—
154	,, 18	18 26·0	18 37·8	5·0	1 9	—
155	,, 21	3 19·8	3 25·0	0·2	0 17	Air tremors, April 20–24 inclusive.
156	,, 28	10 29·7	—	—	0 56	Trace.
157	,, 29	5 48·8	5 51·1	0·3	0 9	—
158	May 4	13 39·5	13 48·5	1·4	0 34	Air tremors, May 2–4.
159	,, 4–5	23 47·8	0 27·4	1·2	2 49	—
160	,, 11	4 13·3	4 22·1	0·5	0 34	—
161	June 7	11 23·9	12 40·9	6·0	3 23	—
162	,, 15	14 33·6	14 47·4	7·6	3 27	—
163	,, 17	5 36·1	—	0·2	0 26	—

Air tremors noticeable on Jan. 6, 7, 13, 23 and 28. Air tremors noticeable at the beginning of the month, notably 3rd—7th mornings (only). They also appeared during the last few days of May.

Sensitivity:—Angle per mm.
Jan. 0″.58
Feb. 0″.57
Mar. 0″.47
April 0″.45
May 0″.50
June 0″.57

Register from Cocos, Keeling Islands.

Observer, H. G. Thomas.

No.	Date	Commencement	Max.	Max Amplitude.	Duration	Remarks
			1911			
		H. M.	H. M.	MM.	H. M.	
1	Jan. 1	10 28	10 43	1·0	0 46	—
2	,, 3	23 38	23 53	5·0	2 12	—
3	,, 4	—	22 33	1·5	—	—
4	,, 7	2 25	2 32	1·0	—	—
5	,, 10	—	16 23	1·5	—	—
6	,, 16	10 1	10 26	1·0	—	—
7	Feb. 2	18 20	18 37	2·5	—	Times approx. Shutter working badly.
11	,, 11	4 4·5	4 7	3·5	0 34	—
12	,, 18	3 1	3 2	1·5	0 5	—
13	,, 24	16 55	16 56	1·5	0 5	—
14	,, 30	16 0	16 3	1·5	0 6	—
15	June 15	14 14	14 25	2·25	0 51	—

Many records are very irregular due to insects, especially small spiders, getting into the case overnight. In 24 hours the boom is often fixed by webbs to the sides of small opening leading into clock box.

During April records were discontinued.

Register from Seismological Institute, Tokyo, Japan.
Observer, C. Yasuda.

Times given in the "Remarks" column refer to Omori's machine.

No.	Date	Commencement	Max.	Max. Amplitude	Duration	Remarks
			1909			
		H. M.	H. M.	MM.	H. M.	
807	Jan. 28	0 43·3	0 43·3	2·0	0 5	—
808	Feb. 2	8 6·5	8 6·5	0·3	0 3	—
809	,, 5	7 37·4	7 37·4	0·5	0 7	—
810	,, 7	2 1·1	2 3	3·5	0 10	—
811	,, 11	3 33·9	3 33·9	0·5	0 3	—
812	,, 11	4 49·3	4 56·5	0·5	0 15	—
813	,, 15	22 21·5	22 25·3	0·5	0 9	—
814	,, 22	9 30·8	9 35·4	1·5	1 20	—
815	,, 24	1 54	1 54·5	5·0	0 9	—
816	,, 25	3 24·9	3 33·1	1·0	0 21	—
817	Mar. 10	23 57·7	0 4·9	3·0	0 40	23h.57·3m. Origin near Oshima, Satsuma.
818	,, 11	14 1·4	14 1·9	3·5	0 16	14h.1·9m. Origin off Awa, Kazusa.
819	,, 11	20 29·5	20 30	5·0	0 18	20h.28·6m. ,,
820	,, 11	23 29·1	23 29·6	1·2	0 13	23h.28·7m. ,,
821	,, 12	0 22	0 23·1	2·0	0 14	0h.21·4m. ,,
822	,, 12	0 59·5	1 0·6	3·5	0 16	1h.0·7m. ,,
823	,, 12	18 34·3	18 34·8	2·6	0 12	18h.33·6m. ,,
824	,, 12	23 14·9	23 18·5	7·0	1 0	23h.14·5m. ,,
826	,, 13	2 36·6	2 37·2	2·5	0 11	2h.36·1m. ,,
827	,, 13	14 31	—	—	—	14h.39·6m. ,,
828	,, 28	7 28	7 28·7	1·3	0 12	7h.27·2m.
829	,, 29	8 30·7	8 34·3	1·0	0 18	8h.30·4m. Eruption of Tarumae.
830	April 2	11 32·1	11 33	1·2	0 19	11h.32·1m. Origin off Iwaki.
831	,, 10	19 57·7	20 5·1	2·4	1 0	19h.57·2m. N. Formosa.
832	,, 25	0 24	0 24·2	2·5	0 6	0h.17·1m.
833	,, 27	12 50	13 5·4	4·0	1 15	12h.49·7m. Ceram Island.
834	May 17	8 21·7	8 28·4	0·5	0 45	8h.21·2m.
835	,, 24	3 24·7	3 26·1	1·2	0 5	3h.25.5m.

Register from Seismological Institute, Tokyo, Japan—continued.

No.	Date	Commencement	Max.	Max. Amplitude	Duration	Remarks
		H. M.	H. M.	MM.	H. M.	
836	May 26	2 18·8	2 27	1·5	0 50	2h.11·2m.
837	June 3	18 49·9	19 16·5	6·0	1 40	18h.49·2m. Sumatra.
838	,, 6	3 33·7	3 35·2	1·5	0 4	—
839	,, 24	0 9·6	0 15	3·5	0 8	—
840	July 3	21 11·7	21 12	3·5	0 8	—
841	,, 7	15 59·9	16 0·1	0·3	0 5	Off Choshi.
842	,, 7	21 48·7	22 5·1	1·8	1 12	21h.46·9m.
843	,, 8	0 57·5	0 57·5	2·0	0 9	—
844	,, 27	19 0·5	19 4·1	1·0	0 9	—
845	,, 30	0 9·2	0 10·1	1·0	0 5	—
846	Aug. 14	—	—	—	—	6h.31·8m. Origin 136°20'E. 35°28'N.
847	,, 15	5 37·5	5 38	1·0	0 5	Time uncertain; after shocks of 846.
848	,, 15	11 27	11 27·5	0·3	0 2	After shocks of 846.
849	,, 16	12 5·9	12 6·6	1·0	0 4	,,
850	Sept. 8	17 56·9	17 3·1	0·5	0 27	—
851	Oct. 6	13 40·5	13 40·7	1·5	0 1	—
852	,, 8	5 24·8	5 24·9	0·5	0 1	—
853	,, 8	11 17·7	11 17·9	0·6	0 1	—
854	,, 23	10 51·9	10 53	1·0	0 5	—
855	,, 30	0 33·6	0 40·8	0·3	0 15	—
856	,, 30	13 22·7	13 22·9	1·0	0 4	—
857	Nov. 8	16 37·9	16 53·3	0·5	0 8	—
858	,, 10	6 15·7	6 18·8	8·0	1 0	6h.15·5m. Off E coast of Kushu.
859	,, 20	12 31·6	12 31·6	0·5	0 12	—
860	,, 21	7 14·5	7 23·2	0·5	0 41	—
861	,, 24	14 40·7	14 42·8	0·4	0 5	Ariake Bay, Kushu.
862	,, 24	23 57·8	23 58·1	1·0	0 6	—
863	,, 29	23 44·6	23 44·9	0·5	0 2	23h.44·8m. Off Kajima.
864	Dec. 4	23 49·3	23 49·6	2·0	0 5	—
865	,, 23	0 56·4	0 57·5	2·0	0 4	—
		1910				
		H. M.	H. M.	MM.	H. M.	
866	Jan. 1	1 46·8	1 47·7	1·0	0 5	—
867	,, 1	23 7·2	23 7·7	0·7	0 5	—
868	,, 4	1 23·1	1 24·2	0·5	0 7	—
869	,, 5	0 31·6	0 32·7	0·5	0 6	—
870	,, 7	1 3·1	1 4·6	1·0	0 5	—
871	,, 7	7 38·1	7 38·6	0·5	0 2	—
872	,, 8	14 51·2	14 57·7	1·0	0 45	—
873	,, 15	23 24·6	23 58·8	1·1	0 5	—
874	,, 22	6 0·3	6 1	1·1	0 5	—
875	,, 22	9 6·4	9 35·5	0·5	1 22	—
876	Feb. 12	18 10·6	18 11·7	17·5	1 40	18h.11·2m. Off Awa, Kazusa.
877	Mar. 21	0 1·4	0 1·7	2·5	0 7	—
878	,, 23	21 4·8	21 27·4	0·5	1 22	—
879	,, 25	16 56·7	17 5·4	0·5	0 31	—
880	,, 28	3 20·1	3 20·6	0·9	0 8	—
881	,, 30	16 36·5	16 46·6	1·0	2 9	—
882	April 1	23 45·6	23 47·1	3·0	0 8	—
883	,, 2	13 2·7	13 3	4·0	0 8	—
884	,, 5	0 35·5	0 36·5	1·0	0 9	—
885	,, 20	21 36·2	21 43·4	0·5	0 21	—
886	,, 23	0 12·6	0 12·9	2·0	0 7	—
887	,, 23	5 15·7	5 16	1·0	0 3	—
888	,, 29	16 18·1	16 20·7	0·7	0 50	—
889	May 1	18 48·8	18 49·5	0·5	0 7	—
890	,, 4	17 49·6	17 51·1	3·0	0 20	Off Hitachi.
891	,, 6	0 5·8	0 6·3	1·5	0 3	—
892	,, 6	23 1·8	23 2·8	0·5	0 7	Eruption of Asama.
893	,, 6	23 19·8	23 20·4	0·3	0 6	,,
894	,, 9	9 48·2	9 48·9	1·5	0 5	9h.48·7m. Off Hitachi.
895	,, 9	9 53·4	9 54·3	3·6	0 20	9h.54m. ,,
896	,, 9	15 47·3	15 48·1	2·0	0 6	15h.47·9m. ,,
897	,, 10	9 35·7	9 36	0·5	0 8	9h.35·1m. Off S. coast of Izu.
898	,, 10	13 56·2	13 56·9	7·0	0 31	13h.56·5m. Near Miyake Island.
899	,, 12	3 22	3 23	4·5	0 15	3h.22·5m. Off Awa, Kazusa.
900	,, 22	6 26·5	6 30·1	18·0	1 27	6h.26·7m. Off coast N.E. Japan.
901	June 1	7 2·1	7 9·3	0·5	2 0	—
902	,, 4	0 26·2	0 21	3·0	0 8	—
903	,, 9	11 50·3	11 52	2·0	0 41	11h.50m. Near Bonin Island.
904	,, 9	11 48·5	11 49·5	0·5	0 6	—
905	,, 16	6 40·6	6 49·8	6·0	2 0	6h.40·9m.

Register from Seismological Institute, Tokyo, Japan—continued.

No.	Date	Commencement	Max.	Max. Amplitude	Duration	Remarks
		H. M.	H. M.	MM.	H. M.	
906	June 17	5 33·2	5 36·8	0·8	0 15	5h.32·5m. Off S. coast Formosa.
907	,, 18	13 26·5	13 26·5	1·0	0 4	—
908	,, 26	15 58·7	15 59·2	1·0	0 15	Sagami Bay.
909	,, 28	13 56·4	13 57·3	1·4	0 8	N. Shimosa.
911	Sept. 7	7 31·7	7 41	1·5	0 35	—
910	,, 10	18 18·3	18 18·8	0·3	0 3	—
912	,, 13	18 35·1	18 35·4	3·5	0 2	18h.35·1m. Off E. coast of Bo-so.
913	,, 17	23 17·1	23 29·9	1·2	0 22	—
914	,, 20	0 1·1	0 1·6	5·0	0 7	—
915	,, 26	10 26·5	10 27·1	5·0	0 8	10h.26·8m. Near Kajima.
916	Oct. 8	6 33·7	6 33·9	1·0	0 3	6h.34·5m. N. Shimosa.
917	,, 13	14 56·9	14 57·4	10·5	0 22	14h.57m. Off Kajima.
918	,, 24	18 21·7	18 21·9	—	0 10	18h.21·9m. S. Shimotsuke.
919	,, 24	18 41·2	18 41·4	0·7	0 4	18h.41·6m. After shock of 918.
920	,, 26	1 14·5	1 14·8	1·0	0 7	1h.42·2m. Off Kajima.
921	,, 30	18 21·4	18 21·6	5·0	0 7	18h.21·1m. S. Shimotsuke.
922	Nov. 8	7 5·3	7 5·9	0·5	0 5	7h.5·2m. Off Hitachi.
923	,, 9	6 11·8	6 32·8	6·8	2 0	6h.11·8m.
924	,, 14	7 39·5	7 49·8	4·5	1 0	7h.38·6m. Off E. coast of N. Formosa.
925	,, 26	4 51·6	5 16·1	5·5	1 30	4h.51m.
926	,, 26	6 27·9	6 41·7	1·9	1 0	6h.27·4m.
927	,, 27	12 21·6	12 21·8	16·5	0 11	12h.21·6m. S. Shimotsuke.
928	,, 29	2 31·8	2 37·6	1·8	0 42	2h.31·3m. Off E. coast of S. Formosa.
929	,, 29	17 58·2	17 58·6	1·0	0 5	Off Awa, Kazusa.
930	Dec. 5	16 24·6	16 27·7	6·0	0 35	Off N.E. Japan.
931	,, 16	14 52·1	15 11·3	13·7	2 0	14h.51·5m.
932	,, 16	19 5	19 15·1	2·0	0 41	—
933	,, 23	—	0 45·5	2·3	0 30	0h.35·5m.
934	,, 26	5 40·2	5 47·4	1·5	0 27	5h.40·2m.

Period 15 seconds. 1° turn=1·3mm.

Register from the Honolulu Observatory.
Observer, O. H. GAARDEN.

No.	Date	First P.T.	Large waves begin	Max.	End	Amplitude	Remarks.
							1911
		H. M.	H. M.	H. M.	H. M.	MM.	
834	Jan. 1	11 03·5	11 19·2	11 23·2	12 11	0·4	P_2 at 11h.09·8m.
835	,, 1	—	19 20·8	19 23·1	19 30	0·4	Tremor.
836	,, 2	—	19 09·4	19 12·6	19 18	0·5	,,
837	,, 2	—	23 12·8	23 17·0	24 24	3·5	P_2 at 23h.05·5m.
838	,, 3	—	3 44·8	3 47·1	—	0·2	Tremor.
839	,, 3	23 40·1	23 57·6	24 24·6	4 13	7·6	P_2 at 23h.50·5m.
			24 11·6				
840	,, 4	—	8 59·0	9 02·1	9 08	0·4	Tremor.
841	,, 7	2 25·3	2 44·0	2 49·6	4 04	1·7	P_2 at 2h.32·9m.
842	,, 10	16 42·7	16 52·4	16 55·0	17 41	1·2	P_2 at 16h.47·7m.
843	,, 16	9 16·0	9 32·4	9 34·5	10 00	0·5	Tremors.
844	,, 17	—	1 41·1	1 42·0	1 48	0·4	Tremor.
845	,, 30	—	3 34·8	3 37·8	3 42	0·2	,,
846	Feb. 5	—	4 42·3	4 55·4	5 00	0·2	,,
847	,, 9	—	7 37·1	7 39·4	7 46	0·2	,,
848	,, 17	—	10 19·2	10 35·9	11 06	0·2	,,
849	,, 18	—	19 27·9	19 33·9	22 57	2·0	P_2 at 19h.15·1m.
850	,, 19	—	3 08·6	3 09·8	3 32	0·2	Tremors.
851	,, 19	—	6 30·0	6 32·0	6 36	0·2	Tremor.
852	,, 20	—	20 17·2	20 17·4	20 26	0·2	,,
853	,, 23	11 34·6	11 49·7	11 52·0	12 22	0·5	P_2 at 11h.39·0m.
854	,, 26	—	13 50·5	13 52·8	14 00	0·2	Tremor.

Register from Honolulu.—continued.

No.	Date	First P.T.	Large waves begin	Max.	End	Amplitude	Remarks
		H. M.	H. M.	H. M.	H. M.	MM.	
855	Mar. 5	—	4 35·0	4 37·0	4 39	0·2	Tremor.
856	,, 6	—	18 04·7	18 11·2	18 20	0·2	,,
857	,, 11	3 25·2	3 40·8	3 47·0	4 48	1·5	P_2 at 3h.33·3m.
858	,, 13	14 41·8	15 00·4	15 03·0	—	0·5	P_2 at 14h.50·5m.
859	,, 19	—	4 43·0	5 00·0	5 05	0·2	Tremor.
860	,, 27	—	16 26·0	16 28·0	16 31	0·1	,,
861	April 1	—	0 31·0	0 31·3	0 37	0·2	,,
862	,, 1	2 13·0	2 20·0	2 20·3	2 49	0·2	P_2 at 2h.16·2m.
863	,, 2	—	7 23·0	7 23·5	7 26	0·2	Tremor.
864	,, 6	—	9 59·5	10 01·5	10 09	0·2	,,
865	,, 7	6 51·4	7 03·8	7 08·4	8 11	2·2	P_2 at 6h.57·4m.
866	,, 8	—	1 29·6	1 31·8	1 36	0·3	Tremor.
867	,, 10	18 55·5	—	—	20 19	—	P_2 at 19h.06·0m.
868	,, 11	—	13 47·8	14 00·8	14 02	0·3	Tremor.
869	,, 15	—	5 29·2	5 38·5	5 46	0·2	,,
870	,, 17	—	5 22·6	5 26·5	5 36	0·2	,,
871	,, 18	—	6 25·7	6 28·5	6 33	0·2	,,
872	,, 18	17 46·0	18 15·0	18 16·5	—	0·7	P_2 at 17h.54·7m.
873	,, 21	—	2 42·0	2 44·4	2 48	0·3	Tremor.
874	,, 22	—	18 58·4	19 01·8	19 03	0·5	,,
875	,, 23	—	1 31·0	1 32·5	1 34	0·2	,,
876	,, 23	19 04·5	19 15·2	19 15·3	11 31	0·3	P_2 at 19h.13·4m.
877	,, 28	18 51·5	18 58·0	18 58·5	19 14	0·4	P_2 at 18h.54·7m.
878	,, 30	—	4 48·5	4 52·4	5 00	0·4	P_2 at 4h.46·8m.
879	May 3	17 22·5	17 33·0	17 36·3	17 38	0·2	—
880	,, 4	13 53·5	14 14·6	14 22·2	14 34	0·2	P_2 at 23h.52·6m.
881	,, 4	23 46·5	23 56·5	24 05·4	27 27	4·5	P_2 at 23h.52·6m.
882	,, 9	—	19 59·3	20 00·1	20 07	0·1	Tremor.
883	,, 19	—	0 36·7	0 39·0	0 44	0·4	,,
884	,, 11	4 18·2	5 06·5	5 12·2	6 19	0·7	P_2 at 4h.38·1m.
885	,, 11	—	15 42·3	15 45·0	15 52	0·2	Tremor.
886	,, 12	—	13 23·0	13 24·0	13 29	0·1	,,
887	June 3	20 38·2	20 47·0	20 50·6	23 12	3·6	P_2 at 20h.44·0m.
888	,, 5	—	1 16·0	1 20·0	1 22	0·2	Tremor.
889	,, 5	—	3 23·3	3 28·0	3 36	0·5	,,
890	,, 6	—	13 09·0	13 13·0	13 16	0·2	,,
891	,, 7	11 05·2	11 19·0	11 29·0	15 03	25+	P_2 at 11h.11·2m.
892	,, 8	0 56·0	1 03·9	1 08·5	1 16	0·4	Tremor.
893	,, 15	14 37·1	14 46·0	14 59·7	18 26	17·0	First Max at 14h.48m.
894	,, 17	5 32·0	5 47·0	5 54·6	6 16	1·2	P_2 at 5h.38·7m.
895	,, 24	—	16 03·0	16 07·7	16 14	0·3	Tremor.
896	,, 25	—	10 10·3	10 12·3	10 30	0·1	,,
897	,, 28	7 25·7	7 44·8	7 47·9	7 58	0·5	P_2 at 7h.33·0m.
898	,, 28	—	16 31·0	16 32·5	16 35	0·1	Tremor.
899	,, 28	20 01·3	20 21·5	20 25·0	21 00	1·9	P_2 at 20h.11·2m.

REMARKS.

Period of pendulum: 20 seconds.

Sensitiveness: January to March, 0″·25 tilt per mm. deflection.
April to May, 0″·35
June 0″·39

Nos. 837, 849.—Beginning obscured by air tremors.
No. 839.—In Asiatic Russia.
No. 841.—Felt at Fairbanks, Alaska.
No. 858.—End obscured by air tremors.
No. 867.—Maximum occurring during the daily care of instrument.
No. 872.—Beginning and end uncertain.
No. 891.—Mexican earthquake.

Register from Perth Observatory, Western Australia.
Director, W. E. Cooke.

No.	Date	Commencement	Max.	Max. Amplitude	Duration	Remarks
			1910			
		H. M.	H. M.	MM.	H. M.	
	Mar. 11	2 40·6	—	0·5	0 06	—
	,, 22	7 56·0	—	0·5	0 06	—
	,, 30	17 04·7	17 27·4	7·5	2 23	—
	Apr. 1	13 16·7	13 26·6	2·5	0 17	—
	,, 16	12 35·0	12 49·0	2·0	1 00	—
	May 1	18 38·7	19 00·8	5·5	1 51	—
	,, 15	16 09·3	16 13·5	1·0	1 02	—
	June 1	6 04·0	6 25·3	9·5	1 58	—
	,, 1	18 21·0	18 33·7	0·7	0 31	—
	,, 16	6 38·7	—	—	3 06	Light poor, rather uncertain.
	,, 29	11 01·5	11 30·5	5·5	1 09	—
	,, 29	14 34·0	14 52·6	1·8	0 47	—
	,, 29	18 22·4	18 24·9	2·4	0 23	—

A much contracted form of the above appeared in Circular No. 22.

No.	Date	Commencement	Max.	Max. Amplitude	Duration	Remarks
			1911			
		H. M.	H. M.	MM.	H. M.	
1	Jan. 2	22 58·2	23 18·0	2·8	1 48·3	—
2	,, 3	23 38·4	24 27·7	10·5	3 42·6	—
3	,, 7	2 23·5	2 47·3	1·9	2 4·5	—
4	,, 8	9 38·8	10 0·2	0·5	1 23·4	—
5	,, 10	16 42·0	16 56·4	1·8	1 35·3	—
6	,, 16	8 58·0	9 12·9	2·6	1 35·3	—
7	Feb. 18	19 2·4	19 50·5	1·5	1 38·8	—
8	Mar. 11	3 25·8	3 45·5	3·75	1 33·7	—
9	April 18	18 37·0	19 20·4	1·0	1 26·0	—
10	May 11	—	4 18·0	1·0	—	—
11	June 3	20 30·0	20 54·0	3·75	1 21·0	—
12	,, 7	11 22·0	12 35·5	4·0	2 51·5	—
13	,, 15	14 36·3	14 45·9	10·0	2 11·7	—
14	,, 28	20 2·0	20 22·0	1·25	1 8·0	—

Period 16 secs.
1mm.=0″·68.

Register from Sydney Astronomical Observatory, New South Wales. Officer-in-Charge, W. E. RAYMOND. *Observer*, W. C. GRAHAM.

No.	Date	Commencement	Max.	Max. Amplitude	Duration	P_2	P_3	Remarks.
			1910					
		H. M.	H. M.	MM.	H. M.	H. M.	H. M.	
469	July 3	6 17·9	6 23·9	0·4	0 36·8	6 20·6	6 22·1	—
470	,, 5	10 45·1	11 1·9	0·4	0 28·6	10 51·7	11 0·4	—
471	,, 6	2 43·0	3 18·7	0·25	1 48·0	—	—	—
472	,, 7	2 10·6	2 36·1	0·25	2 53·3	—	—	—
473	,, 7	8 23·7	8 49·0	2·5	2 4·4	8 38·7	8 46·7	—
474	,, 8	3 56·6	4 43·2	1·3	1 20·8	4 25·2	4 37·6	—
475	,, 10	3 23·1	3 29·1	0·3	0 29·8	—	3 37·6	—
476	,, 11	20 40·9	20 48·4	0·3	0 21·8	—	—	—
477	,, 12	21 8·7	21 14·7	3·7	1 21·1	21 10·5	21 12·4	—
478	,, 15	12 7·4	12 24·4	0·5	0 46·0	12 11·0	12 16·7	—
479	,, 24	15 27·2	15 56·2	0·7	1 6·6	15 35·9	15 43·5	—
480	,, 29	10 32·8	10 44·3	12·0	2 0·2	10 38·0	10 42·1	—
481	Aug. 2	6 49·8	6 56·5	0·6	0 25·0	—	6 51·8	—
482	,, 5	17 36·7	17 41·1	0·35	0 16·2	—	17 39·5	—
483	,, 6	20 18·3	20 24·9	0·4	0 20·4	—	20 23·3	—
484	,, 15	17 18·3	17 24·3	0·7	0 21·3	—	17 23·5	—
485	,, 16	7 52·7	8 13·7	0·4	0 35·5	—	8 7·3	—
486	,, 18	11 26·9	11 31·3	0·2	0 17·5	—	—	—
487	,, 20	20 58·4	21 1·9	0·3	0 15·3	—	21 0·2	—
488	,, 21	5 43·9	6 3·2	1·8	1 43·2	5 47·1	6 0·9	—
489	,, 22	19 13·2	19 26·5	0·25	1 23·6	—	—	—
490	,, 26	16 7·3	19 36·5	0·4	4 47·6	—	19 31·8	Two quakes.
491	,, 27	15 17·2	16 50·5	0·4	—	—	—	Air tremors.
492	,, 30-31	22 36·3	0 53·3	0·3	—	—	—	
493	Sept. 1	1 3·5	1 24·0	0·7	0 52·5	—	1 21·7	—
494	,, 1	14 51·0	15 1·0	0·8	0 37·8	—	14 58·6	—
496	,, 2	17 13·2	21 21·6	0·4	4 55·8	—	—	Two quakes.
498	,, 6	20 30·8	20 55·9	0·5	1 51·8	—	20 53·8	—
499	,, 7	7 15·9	7 27·3	9·0	1 57·2	7 21·5	7 26·4	—
500	,, 8	5 40·1	5 55·8	0·6	0 58·2	—	5 52·8	—
501	,, 9	1 36·8	2 3·5	0·9	2 51·5	—	2 1·8	—
502	,, 9	9 14·7	9 26·7	1·3	0 51·3	9 23·8	9 24·9	—
503	,, 10	—	12 39·7	0·5	—	—	—	Ats.
505	,, 14	14 12·3	14 22·4	0·6	0 26·0	14 18·5	14 20·5	—
508	,, 20	5 56·4	6 0·1	0·3	0 11·2	—	5 59·4	—
509	,, 21	5 23·8	5 38·0	0·15	0 53·8	—	—	—
510	,, 23	0 57·5	1 2·5	0·7	0 15·0	—	1 0·2	—
511	,, 24	4 1·4	4 9·9	0·3	0 39·6	—	4 8·9	—
512	,, 25	7 8·2	8 41·9	0·15	2 28·2	—	—	—
514	Oct. 2	2 24·0	4 55·6	0·4	—	—	—	—
516	,, 3	10 57·8	11 3·3	0·6	0 13·2	—	11 1·6	—
518	,, 5	5 42·4	5 45·4	0·6	0 7·8	—	5 43·2	—
521	,, 7	7 4·0	7 12·0	0·8	2 45·6	—	7 9·2	—
522	,, 7	11 56·0	12 6·6	0·8	0 47·3	—	12 4·2	—
523	,, 8	21 5·1	21 10·1	0·2	0 8·0	—	21 7·2	—
524	,, 18	2 29·7	2 50·2	3·5	2 12·0	2 40·0	2 47·1	—
525	,, 18	19 4·8	19 6·8	0·3	0 5·7	—	19 5·5	—
526	,, 20	5 19·2	5 36·7	1·5	0 43·0	—	5 33·5	—
527	,, 24	14 35·0	14 43·5	1·0	0 20·2	—	14 42·0	—
528	,, 30	7 46·9	7 53·1	1·5	0 38·7	—	7 51·7	—
529	Nov. 1	18 3·7	18 51·4	0·3	1 41·0	—	—	—
530	,, 2	13 37·5	13 51·4	0·6	0 18·2	13 45·5	13 47·5	—
531	,, 6	21 16·5	21 32·5	0·3	1 52·3	—	21 25·0	—
532	,, 8	17 5·8	17 9·5	2·2	0 25·7	—	17 7·5	—
533	,, 9	6 6·9	6 16·1	>17·0	4 1·4	6 11·6	6 13·4	—
534	,, 10	12 21·5	12 33·8	3·3	1 14·4	12 29·5	12 32·6	—
535	,, 15	14 43·9	15 13·1	1·0	2 14·3	—	15 6·9	—
536	,, 24	16 18·9	16 24·4	0·3	0 15·7	—	16 21·9	—
537	,, 25	19 14·2	19 23·2	1·9	0 45·2	19 18·9	19 21·1	—
538	,, 26	4 46·6	4 54·6	16·6	4 34·4	4 49·9	4 52·6	—
539	,, 29	2 43·7	2 59·2	0·4	0 53·7	—	2 57·5	—
540	,, 29	11 59·3	12 9·3	0·15	0 15·5	—	—	—
541	,, 30	14 50·2	14 52·2	0·25	0 7·0	—	14 50·8	—
542	Dec. 1	3 41·5	3 45·6	1·0	1 3·8	—	3 44·3	—
543	,, 1	15 50·9	16 5·6	4·3	2 37·5	15 56·0	16 4·4	—
544	,, 2	1 19·6	1 24·6	0·7	0 17·5	—	1 23·1	—
545	,, 3	1 20·9	2 29·6	0·4	1 33·1	—	—	—
546	,, 3	4 12·9	4 18·9	0·6	0 31·3	—	4 17·1	—
547	,, 3	7 59·9	8 6·9	3·5	1 7·9	—	8 4·4	—

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

No.	Date	Commencement	Max.	Max. Amplitude	Duration	P_2	P_3	Remarks.
		H. M.	H. M.	MM.	H. M.	H. M.	H. M.	
548	Dec. 4	11 6·0	11 13·0	8·3	1 17·0	—	11 10·2	—
549	,, 10	9 32·1	9 42·4	8·7	3 34·2	—	9 36·3	—
550	,, 11	14 17·2	14 29·7	0·4	0 24·3	—	14 19·4	—
551	,, 11-12	23 58·3	0 0·3	0·7	0 36·1	—	23 59·0	—
552	,, 13	9 17·2	9 22·2	0·35	0 11·2	—	—	—
553	,, 13	11 55·9	12 37·1	6·5	2 47·9	12 2·9	12 34·2	—
554	,, 14	20 52·6	20 57·6	2·0	1 1·4	—	20 57·1	—
555	,, 16	14 53·2	15 15·5	>17·0	3 39·6	15 3·7	15 14·0	—
556	,, 16	19 4·1	19 25·1	1·9	1 6·2	19 18·1	19 23·1	—
557	,, 16	23 34·5	23 45·0	0·3	0 21·6	—	23 44·3	—
558	,, 17	2 39·6	2 52·0	0·2	0 21·0	—	2 50·5	—
559	,, 18	2 52·2	3 15·7	1·5	0 33·7	3 4·0	3 10·5	—
560	,, 18	5 28·0	—	0·15	3 29·7	—	—	—
563	,, 26	2 43·3	6 7·2	0·5	7 12·9	—	6 0·0	—
565	,, 27	19 5·6	19 26·0	0·3	0 33·3	—	—	—
566	,, 29	13 21·5	13 36·1	0·7	0 53·5	—	13 33·7	—
567	,, 30	0 7·6	0 12·9	0·5	0 12·3	—	—	—
568	,, 30	0 50·4	1 15·2	1·5	3 35·0	—	1 12·2	—

July 1st to August 24th—Period = 13·1 secs.; 1mm. = 0″·53.
August 25th to Dec. 31st— ,, = 20·2 secs.; 1mm. = 0″·24.

July 18-19.—A terrific storm raged along the New South Wales coast, causing a slight oscillation of the pendulum of the Seismograph.

August 19th.—Many minute disturbances, probably Ats., from 0h. 40m. to 13h. 30m.

November 9th, No. 583.—The time of maximum of this disturbance is only approximate. The boom was swinging beyond the width of the seismograph band for over 4 minutes.

No.	Date	Commencement	Max.	Max. Amplitude	Duration	P_2	P_3	Remarks.
			1911					
		H. M.	H. M.	MM.	H. M.	H. M.	H. M.	
569	Jan. 1	10 59·9	11 22·4	0·55	0 49·8	—	11 20·8	—
570	,, 2	10 21·7	10 26·3	0·15	0 8·6	—	—	—
571	,, 2	11 3·7	11 19·7	0·5	0 41·5	—	11 15·7	—
572	,, 2	13 1·7	13 17·4	0·15	0 17·8	—	—	—
573	,, 2	22 53·9	23 1·9	4·7	0 50·7	—	23 0·1	—
574	,, 3	3 27·5	3 31·5	0·25	0 28·3	—	3 29·2	—
575	,, 3	8 19·1	8 26·0	0·5	0 23·8	—	8 24·1	—
576	,, 3-4	23 37·2	0 37·8	8·5	7 44·3	0 6·5	0 30·7	—
577	,, 4	8 42·2	8 47·9	0·5	0 14·4	—	8 46·8	—
578	,, 5	6 12·8	7 30·3	0·4	3 27·0	—	—	Probably Ats.
579	,, 7	2 28·2	2 42·7	4·4	1 10·4	2 35·2	2 40·2	—
580	,, 7	4 49·5	5 19·8	0·5	3 49·4	—	—	Probably Ats.
581	,, 8	9 25·5	9 35·7	1·5	0 24·8	—	9 33·3	—
582	,, 8	16 25·6	16 29·2	0·5	0 11·2	—	16 27·6	—
583	,, 8	18 34·4	18 39·4	0·6	0 11·7	—	18 37·9	—
584	,, 10	16 29·8	16 37·2	2·7	0 46·2	16 34·6	16 36·8	—
585	,, 18	13 43·3	13 47·3	0·4	0 9·8	—	13 46·3	—
586	,, 18	17 50·1	18 6·1	0·3	0 20·8	—	—	—
587	,, 24	18 25·9	18 33·9	0·15	0 25·0	—	—	—
588	,, 26	21 7·2	21 11·2	0·2	0 14·1	—	21 10·3	—
589	Feb. 7	9 45·0	9 48·0	0·25	0 16·2	—	9 47·5	—
590	,, 17-18	23 5·6	23 50·6	0·5	0 56·7	—	23 47·6	—
591	,, 18	19 6·0	19 43·2	1·1	3 1·7	19 27·0	19 38·1	—
592	,, 19	6 13·8	6 18·3	0·25	0 10·0	—	6 16·6	—
593	,, 23	11 15·0	11 23·0	0·6	0 19·8	—	11 18·0	—
594	Mar. 6	17 44·5	17 59·5	0·4	0 29·7	—	17 58·0	—
595	,, 11	3 25·7	3 30·9	3·5	1 22·8	3 27·3	3 29·7	—
596	,, 13	14 43·3	14 49·8	2·5	1 40·3	—	14 48·3	—
597	,, 20	18 39·4	18 47·4	0·15	0 14·2	—	—	—
598	,, 21	4 20·7	4 24·9	0·2	0 9·6	—	—	—
599	,, 22	13 19·8	13 23·0	0·5	0 21·1	—	13 21·8	—
600	,, 31	22 18·4	22 20·7	0·5	0 45·0	—	22 19·8	—
601	April 7	7 1·6	7 33·6	0·3	1 14·6	7 13·5	7 24·0	—
602	,, 11	13 34·8	13 44·8	2·5	1 14·5	13 39·5	13 43·4	—
603	,, 15	5 4·2	5 6·6	1·2	0 25·2	—	5 5·2	—
604	,, 18	18 44·5	19 20·5	2·0	1 54·6	19 11·7	19 17·5	—
605	,, 21	2 12·4	2 32·6	1·8	1 14·8	2 20·9	2 29·7	—
606	,, 23	8 5·0	8 9·0	0·15	0 8·5	—	—	—
607	,, 23	12 46·5	12 50·7	0·5	0 21·0	—	12 47·3	—
608	,, 26	1 15·2	1 27·7	0·4	0 26·8	—	1 25·4	—
609	,, 28	10 22·6	10 32·4	0·2	0 18·7	—	10 31·3	—
610	,, 28	10 49·9	10 56·2	0·15	0 16·5	—	10 53·9	—
611	,, 28	18 42·4	18 44·4	0·45	0 14·3	—	18 43·0	—

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

No.	Date	Commencement	Max.	Max. Amplitude	Duration	P_2	P_3	Remarks.
		H. M.	H. M.	MM.	H. M.	H. M.	H. M.	
612	April 29	6 31·9	6 35·9	0·25	0 8·7	—	—	—
613	May 4	13 43·9	14 2·9	1·2	0 39·5	—	13 55·9	—
614	,, 4-5	23 53·6	0 13·6	1·5	2 21·8	—	23 59·4	—
615	,, 11	4 3·5	4 30·5	1·0	0 59·0	—	4 28·1	—
616	,, 22	6 40·8	6 42·0	0·4	0 5·8	—	6 41·2	—
617	,, 22	11 19·6	11 21·6	0·45	0 8·0	—	11 20·4	—
618	,, 23	7 37·9	7 41·1	0·15	0 6·6	—	—	—
619	June 3	20 26·1	20 33·1	3·5	1 2·7	20 30·1	20 32·1	—
620	,, 5	1 0·4	1 3·6	0·2	0 8·4	—	1 2·5	—
621	,, 5	3 7·9	3 10·6	0·4	0 10·0	—	3 9·9	—
622	,, 5	4 48·4	5 7·9	0·2	0 54·5	—	—	—
623	,, 7	11 24·4	12 5·0	4·0	3 6·0	—	11 56·8	—
624	,, 15	14 35·7	15 4·6	11·1	4 9·1	14 52·7	15 1·2	—
625	,, 17	5 38·1	5 48·4	1·0	0 45·2	5 45·6	5 47·4	—
626	,, 28	7 25·8	7 31·5	0·7	0 23·5	—	7 29·8	—
627	,, 28	19 55·3	20 8·5	3·5	2 42·3	—	20 3·6	—

Period 19·8 secs.
Displacement Value 1mm. = 0″·25.

Register from Wellington, New Zealand.
Observer, GEORGE HOGBEN, *M.A.*

No.	Date	Commencement	Max.	Max. Amplitude	Duration	Remarks
			1910			
		H. M.	H. M.	MM.	H. M.	
1	July 29	10 43·7	10 58·0	3·0	—	—
2	Aug. 18	12 40·5	12 41·1	1·0	—	Local.
3	Sept. 7	7 4·5	7 39·4	4·0	—	P_2 7h.11·7m.
4	,, 9	9 13·4	9 27·4	1·8	—	—
5	Oct. 18	2 33·8	2 44·5	2·8	—	—
6	Nov. 9	6 7·3	6 18·6?	>17·0	...	P_2 6h.11·4m. Probable epicentre 149°E, 51°S or 151°E 48°S.
7	,, 26	4 46·5	4 56·1	>17·0	...	P_3 4h.51·2m.
8	Dec. 10	9 38·1	9 46·5	7·0	...	P_3 9h.41·7m.
9	,, 13	12 3·2	12 49·8	6·3	...	—
10	,, 16	14 56·2	15 27·5	15·3	...	P_3 15h·9m.

Period 18secs. to 18·5secs.
1mm. = 0″·7 of arc., but 14″·5 for part of October.

1911

		H. M.	H. M.	MM.	H. M.	
11	Jan. 2	22 53·4	23 4·1	12·3	0 41	Distance about 2,100 km.
12	,, 3	2 24·7	3 48·5	0·6	—	—
13	,, 3-4	23 51·6	0 46·7	1·0	—	P_2 0h.14·5m.
14	,, 9	17 43·9	17 43·5	0·6	0 2	Local. Principal shock 2-3 seconds. Rossi-Forel V.
15	,, 10	16 35·9	16 40·8	2·2	0 24	P_2 16h.37·1m.
16	April 17	23 8·0	23 14·8	3·0	0 10	P_2 23h.10·9m.
17	,, 21	2 16·2	2 22·5	1·4	0 22	P_2 2h.17·4m.
18	May 4	14 1·4	14 12·8	1·0	0 21	—
19	,, 4-5	23 59·0	0 28·9	1·5	1 2	—

Period 19·5 secs. 1mm. = 0″·7 of arc.
In Mr. Hogben's original MSS. he refers to phases P_1—P_5 and gives greater detail than is here reproduced.

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