

British Association for the Advancement of Science.

Circular No. 8, issued by the Seismological Committee, Professor J. W. JUDD, C.B., F.R.S. (Chairman), Mr. JOHN MILNE, F.R.S., Slide, Isle of Wight (Secretary).

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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 seven circulars and in the Reports of the Association, 1896 to 1899.

If observers at these and other places 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,

1†††

and is expressed in millimetres. Values less than 1 millimetre refer to the thickening of the line and indicate half its width.

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

At Shide, Kew, Bidston, and Edinburgh the instruments are at present so adjusted that a 4° turn of the screw results in a displacement of the outer end of the boom of 14 mm. One millimetre displacement therefore equals 0''·55.

The Register from Shide, Newport, Isle of Wight, England.
Observer, JOHN MILNE; Assistant, SHINOBU HIROTA.

The following entries refer to records obtained from three pendulums A, B, and C. These are given in their alphabetical order. When there are only one or two entries, the remarks indicate the instrument or instruments to which they refer. An amplitude of 0·2 mm. is equivalent to a slight thickening of the trace with a duration of from 1 to 5 minutes. Pendulum A is the type instrument standing on its own pier. Its period has been kept at 17 seconds, and 1 mm. deflection of the boom = 0''·55 arc.

B and C are on the same piers and on the same stand. B is parallel to A and has the same sensibility. C is oriented N. and S. and has a period of 20 seconds.

No.	Date	Commence- ment	Max.	Max. Ampli- tude	Dura- tion	Remarks
1902.						
666	Dec. 28	7. 4.6	H. M. 2 15.1	MM. 1.0	H. M. 0 38	—
	" 28	2 3.6	2 14.0	1.0	0 38	—
	" 28	2 0.6	2 14.9	1.0	0 38	—
667	" 30	5 28.1	5 33.2	0.5	0 15	B like A, but on C large tremors.
1903.						
668	Jan. 4	5 29.3	5 49.7	0.5	1 28	—
	" 4	5 34.3	5 49.7	0.5	1 35	—
669	" 4	5 29.3	5 53.8	0.5	2 55	—
	" 5	1 18.7	1 18.8	0.5	0 6	—
	" 5	1 18.7	1 18.8	0.2	0 7	—
670	" 5	1 15.0	1 16.0	0.2	0 3	—
	" 7	22 51.7	22 53.8	0.7	0 10	—
	" 7	22 45.6	22 52.8	0.2	0 14	—
671	" 7	22 43.5	22 45.6	0.5	0 13	—
	" 14	1 59.1	{ 2 36.7 } 2 39.7	3.0	2 0	Large waves also at 3h. 34.1m. Like C, the two booms having caught and moved together.
	" 14	1 59.1	2 37.7	3.5	1 5	
672	" 14	1 59.1	2 37.7	3.5	1 5	—
	" 17	16 30.9	16 54.5	0.5	0 58	—
	" 17	16 32.0	16 54.5	1.0	0 65	—
673	" 17	16 33.0	16 52.4	1.0	0 58	—
	" 19	13 5.1	—	0.2	0 3	—
	" 19	13 41.3	13 51.3	0.2	0 30	—
	" 19	13 38.0	13 51.3	0.2	0 30	—

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

No.	Date	Commencement		Max.		Max. Amplitude	Duration	Remarks
		H.	M.	H.	M.			
674	Dec. 24	6	10.1	6	15.1	1.0	0.32	—
	" 24	6	9.1	6	13.2	1.2	0.43	—
	" 24	6	7.1	6	12.2	0.7	0.30	—
675	" 24	16	2.9	—	—	0.2	1.15	—
	" 24	15	58.8	—	—	0.2	1.10	—
	" 24	15	58.8	—	—	0.2	1.10	—
676	Feb. 1	10	1.6	{ 10 16.9 10 18.9	—	6.0	1.5	—
	" 1	10	3.6	{ 10 14.8 10 17.8	—	5.0	1.0	Airtremors present.
	" 1	10	3.6	{ 10 11.7 10 13.8	—	6.0	1.0	" "
677	" 4	6	51.8	6	54.9	0.7	0.10	A and B records
	" 4	7	1.2	—	—	1.0	0.10	—
678	" 5	19	4.5	19	46.2	0.5	1.40	—
	" 5	19	6.5	19	51.0	0.5	1.25	—
	" 5	19	6.5	—	—	2.2	1.25	—
679	" 6	8	5.5	8	14.7	1.0	0.30	—
	" 6	8	17.8	8	14.7	1.0	0.30	Duration approximate.
	" 6	8	14.7	8	14.7	1.0	0.30	" "
680	" 9	5	45.4	—	—	0.2	—	—
	" 9	5	41.3	—	—	0.2	—	—
	" 9	5	41.3	—	—	0.2	—	—
681	" 10	3	55.1	4	1.3	0.2	0.18	—
	" 10	4	23.1	5	5.5	0.5	0.45	—
	" 10	4	23.1	4	56.2	0.5	0.45	—
682	" 11	—	—	16	34.4	0.2	0.68	A series of thickenings.
	" 11	16	18.9	17	17.9	0.2	1.26	" "
	" 11	16	14.8	17	0.3	0.5	2.2	" "
683	" 12	19	14.5	19	23.7	1.0	0.84	A and B records.
	" 12	19	7.1	19	24.2	1.0	0.56	—
684	" 23	12	38.4	—	—	0.2	0.3	A and B records.
	" 23	12	38.4	—	—	0.5	0.5	C eclipsed by tremors.
685	" 24	17	24.6	—	—	—	—	Tremors until 19h. 10m.
	" 24	17	24.6	18	56.9	0.2	—	—
	" 24	17	42.5	18	47.2	0.5	1.50	—
686	" 27	1	3.3	1	53.9	2.5	3.0	Durations and tremors approximate.
	" 27	1	8.3	1	58.5	3.5	4.20	—
	" 27	1	14.4	1	49.0	3.5	2.15	—
687	" 28	10	14.3	10	22.6	0.2	0.24	—
	" 28	—	—	10	24.6	0.5	—	Tremors spoil record.
	" 28	—	—	10	24.6	1.0	—	" "
688	Mar. 6	17	45.1	—	—	0.2	0.7	B Record. C very slight. A not working.
689	" 12	14	53.3	—	—	0.2	0.3	A and B records
	" 12	14	53.3	—	—	0.2	0.8	C barely visible.
690	" 15	14	46.6	14	58.9	0.5	0.30	—
	" 15	14	43.5	14	53.8	1.0	0.28	—
	" 15	14	46.6	14	53.8	1.0	0.56	—

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

No.	Date	Commencement		Max.		Max. Amplitude	Duration	Remarks
		H.	M.	H.	M.			
691	Mar. 18	14	47.6	—	—	—	—	A record.
692	" 22	15	1.3	15	9.5	0.5	0.13	A and B records.
	" 22	15	2.3	15	9.5	0.5	0.15	—
693	" 24	12	29.0	—	—	—	—	Thickening ends 13h. 32m.
	" 24	12	27.9	—	—	—	—	Thickening. On C not visible.
694	" 25	22	38.1	22	47.3	0.3	0.15	—
	" 25	22	37.1	22	45.3	1.0	0.20	—
	" 25	22	37.1	22	45.2	0.7	0.20	—
695	" 26	9	42.2	9	59.6	0.2	0.25	C record. A and B very slight.
696	" 28	8	28.6	—	—	0.2	0.5	—
	" 28	8	22.6	—	—	0.5	0.12	B also slight at 10h. 1m.
	" 28	8	21.6	8	23.6	0.7	0.9	—
697	" 28	0	14.4	—	—	—	—	B only, with slight movements at 3h. 32.1m., 5h. 10m., 6h. 20.1m., 6h. 39m., &c.
	" 29	17	22.6	—	—	—	—	Very slight.
	" 29	17	23.6	17	28.6	0.3	0.30	—
	" 29	17	19.5	17	26.7	0.5	0.30	—
699	" 30	3	54.9	—	—	—	—	A also 4h. 28.1m., 4h. 51m.
	" 30	1	39.0	—	—	—	—	B also 3h. 41m., 4h. 23.1m., 4h. 45m.
	" 30	4	21.5	—	—	—	—	C also 4h. 45m. All small.
700	April 3	10	19.5	10	21.5	0.3	0.20	—
	" 3	10	17.5	10	21.5	?	0.15	—
	" 3	10	17.5	10	30.7	0.3	0.25	Series of thickenings.
701	" 3	21	0.0	—	—	—	—	A also 21h. 27.1m., 21h. 44m.
	" 3	21	20.5	—	—	—	0.25	Slight thickenings.
	" 3	21	20.5	—	—	—	—	" "
702	" 10	16	4.0	—	—	—	—	A also 16h. 16m., 16h. 55.1m.
	" 10	16	29.6	—	—	—	—	Slight. Times approximate.
	" 10	16	29.6	—	—	—	—	" "
703	" 12	3	35.8	3	46.1	0.5	0.40	—
	" 12	3	33.7	3	47.1	0.5	0.45	—
	" 12	3	31.7	3	45.0	1.5	0.55	—
704	" 28	23	48.6	24	4.0	2.5	0.57	A also slight at 23h. 5.1m.
	" 28	23	48.1	24	3.5	2.6	0.70	B also slight at 23h. 4.1m.
	" 28	23	48.1	24	1.4	3.0	0.55	—

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

No.	Date	Commencement		Max.		Max. Amplitude	Duration	Remarks
		H.	M.	H.	M.	MM.	H.	
705	April 29	5	26.5	5	53.1	2.0	0 65	A slight at 3h. 5am., &c.
	" 29	5	37.7	5	50.0	0.5	0 50	B slight at 4h. 12.1m. to 4h. 50.1m.
	" 29	5	26.5	5	38.7	1.0	0 58	C slight at 4h. 13.1m. to 5h. 3.1m.
706	May 1	12	50.1	—	—	—	—	Only and slight.
707	" 13	6	56.6	7	0.7	0.5	0 80	A, B, and C, a series of thickenings.
	" 13	6	55.6	—	—	0.5	1 35	—
	" 13	6	55.6	—	—	0.5	0 85	—
708	" 15	12	12.6	—	—	—	—	Slight thickenings for 75 m. before and after these times.
	" 15	12	10.5	—	—	—	—	—
	" 17	1	27.9	1	46.3	0.2	0 35	B and C only. The latter is the larger.
710	" 23	23	3.8	23	19.0	0.2	0 25	B record. A is slight and C not visible.
711	" 25	{ 12 43.9 14 32.7	—	—	—	0.2	—	C records. A & B not visible.
712	" 26	{ 13 9.9	—	—	—	0.2	—	Band C records. C also at 13h. 9.1m. and 13h. 36m. A not visible.
	" 26	12 33.1	—	—	0.2	—	—	—
	" 28	14 18.0	—	—	0.5	0 5	—	—
	" 28	14 18.0	—	—	0.5	0 5	—	—
	" 28	14 17.0	—	—	0.2	0 5	—	C also at 12h. 46.1m. and 13h. 56.1m.
714	" 29	{ 5 33.8 and 9 41.7	—	—	0.7	0 8	—	—
	" 29	{ 5 25.6 and 9 41.6	5 35.8	—	0.5	0 22	—	—
	" 29	{ 5 19.5 and 9 41.6	5 27.6	—	0.5	0 22	—	C also slight at 7h. 53m.
	" 29	{ 9 41.6	9 47.0	—	1.5	0 15	—	—
715	" 30	3 21.6	—	—	0.2	—	—	—
	" 30	3 1.1	—	—	0.2	—	—	—
	" 30	3 1.1	—	—	0.2	—	—	—
716	" 31	7 54.9	—	—	0.2	—	—	C only.
717	June 2	13 31.9	13 47.3	—	1.5	0 60	—	A and B records only.
	" 2	13 35.0	13 43.2	—	2.0	0 85	—	Time approximate. C not working.

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

No.	Date	P.T. Commence		Max.		Max. Amplitude	Duration	Remarks
		H.	M.	H.	M.	MM.	H.	
718	June 4	15	36.1	15	39.2	0.5	0 10	All times approximate.
	" 4	15	24.0	15	39.7	0.2	0 25	—
	" 4	15	21.9	15	32.3	0.5	0 25	—
719	" 6	7	44.3	7	54.6	0.2	0 15	C only.
720	" 7	—	—	10	6.4	0.2	0 5	—
	" 7	9	30.3	9	55.6	0.7	0 60	—
	" 7	9	30.3	9	55.6	0.5	0 50	—
721	" 8	12	56.7	—	—	0.2	—	B and C only. B also slight.
	" 8	{ 12 44.4 14 34.1	—	—	—	0.2	0 6	About 14h. 34 m.
722	" 9	12	48.6	—	—	0.2	—	B and C only.
	" 9	12	7.1	—	—	0.2	0 14	—
	" 9	{ 8 15.7	—	—	—	0.2	—	C records only
723	" 10	{ 10 4.5	—	—	—	0.2	0 13	—
724	" 10	17 19.9	17 53.7	—	—	0.5	0 85	C record. B also slight.
	" 11	{ 7 47.6 8 27.4	8 35.3	—	—	{ 0.2 0.2	—	C records only.
726	" 11	13	42.5	—	—	0.2	0 17	C record.
727	" 17	20	29.2	—	—	0.2	—	C record only.
728	" 21	9	0.6	—	—	0.2	0 45	" "
729	" 22	14	51.3	—	—	0.2	0 7	C record, with a trace on B.
730	" 23	{ 11 23.4 12 26.3	—	—	—	{ 0.2 0.2	0 5	C records only
731	" 24	11	21.2	—	—	0.2	—	C record only.
732	" 24	13	32.5	—	—	0.2	—	B and C only.
	" 24	13	28.4	—	—	0.2	—	—
733	" 24	14	57.1	—	—	0.2	—	C only.
734	" 24	16	10.0	—	—	0.2	0 35	B and C only.
	" 24	16	19.0	—	—	0.2	—	—
735	" 25	14	30.5	—	—	0.2	0 5	B and C only.
	" 27	14	18.2	—	—	0.2	0 38	—
736	" 25	22	40.7	—	—	0.2	—	—
	" 25	22	47.9	—	—	0.2	0 7	—
	" 25	22	44.9	22 50.0	—	0.5	0 11	—

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

No.	Date	P.T. Commence		L.W. Commence		Max.	Max. Amplitude	Duration	Remarks
		H.	M.	H.	M.				
1903.									
419	Jan. 4	5	33.2	—	—	5 49.0	0.6	1 52	—
420	" 5	1	18.5	—	—	—	0.25	0 6	—
421	" 5	22	43.2	—	—	22 45.8	0.6	0 22	—
422	" 14	1	59.3	2	31.0	{ 2 37.0 2 38.2	17.0	3 4	Amplitude probably exceeded 17 mm. Traces overlap.
	" 17	Paper jam med.							

Register from National Physical Laboratory (Kew Observatory)—continued.

No	Date	P.T. Commence	L.W. Commence	Max.	Max. Amplitude	Duration	Remarks
		H. M.	H. M.	H. M.	MM.	H. M.	
423	Jan. 19	13 39.0	—	—	0.25	0 20	—
424	" 24	6 10.8	—	6 18.5	1.0	0 35	—
425	" 24	16 8.0	—	16 29.0	0.5	0 47	—
426	Feb. 1	10 1.2	10 11.6	10 17.0	4.5	1 4	Movements well defined.
427	" 4	6 50.7	—	—	0.5	0 6	—
428	" 5	19 15.0	—	19 45.7	1.8	1 28	Commencement of P.T. ill-defined.
429	" 6	8 10.6	—	8 23.0	0.6	0 42	—
430	" 10	3 25.5	—	3 53.0	0.4	0 54	Ill-defined.
431	" 11	16 35.0	—	17 20.0	0.4	0 58	"
432	" 11	17 54.5	—	—	0.25	0 32	"
433	" 12	19 15.0	—	—	0.25	0 15	"
434	" 27	1 8.6	—	{ 1 52.2 1 59.5 }	3.5	2 34	Commencement of L.W. uncertain.
435	" 28	10 18.0	—	10 27.7	1.6	0 38	—
436	Mar. 12	14 49.0	—	—	0.25	0 8	—
437	" 15	14 45.3	—	14 54.3	1.4	0 30	—
438	" 18	15 0.5	—	15 8.2	0.5	0 29	—
439	" 25	22 37.8	—	22 46.5	0.8	0 30	—
440	" 26	9 41.0	—	—	0.25	0 15	Ill-defined.
441	" 28	8 23.0	—	—	0.25	0 8	"
442	" 29	17 19.5	—	17 28.0	0.4	0 24	"
443	" 30	About 4h.	25 m. to 4h.	50m. a series of	—	—	very small movements.
444	April 3	10 17.0	—	—	0.25	0 11	—
445	" 3	From about 20h	50 m. to 21h	30m. a number of very small	—	—	movements.
446	" 12	3 31.5	—	4 1.0	0.6	0 43	—
447	" 12	13 13.4	—	—	0.25	0 10	—
448	28-29	23 51.8	—	0 3.2	1.5	1 5	—
449	" 29	5 33.5	—	5 48.5	1.5	0 56	—
450	May 13	6 58.0	—	7 46.0	1.6	2 2	Several small movements after 8h.
451	" 23	23 8.5	—	—	0.25	0 20	—
452	" 28	14 16.0	—	—	0.25	0 7	—
453	" 29	5 26.0	—	—	0.25	0 7	—
454	" 29	9 44.0	—	9 48.0	1.0	0 18	—
455	June 2	13 33.5	13 36.0	13 46.7	2.0	1 17	P.T. extremely small.
456	" 4	13 28.0	—	13 36.0	0.4	0 35	—
457	" 7	9 29.5	—	9 59.7	1.0	0 40	P.T. commence uncertain.
458	" 8	From 12n.	33m. to 12h.	50m. movement	—	—	masked by tremors.
459	" 8	14 46.2	—	14 56.0	0.4	0 15	—
460	" 10	17 46.3	—	—	0.4	0 13	Ill-defined throughout.
461	" 24	13 27.0	—	—	0.25	0 18	" "
462	" 24	16 11.0	—	—	0.25	0 40	" "
463	" 25	22 48.5	—	—	0.25	0 5	" "
464	" 29	14 30.4	—	—	0.4	0 9	" "

Dec. 10, 1902, 1 mm. = 0''55.
May 8, 1903, 1 mm. = 0''53.

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

No.	Date	P.T. Commence	L.W. Commence	Max.	End	Max. Amplitude	Duration	Remarks
		H. M.	H. M.	H. M.	H. M.	MM.	H. M.	
1903.								
314	Jan. 1	—	—	15 14.0	—	13 37.0	—	Slight.
315	" 2	—	—	22 55.2	—	23 19.7	—	—
316	" 3	—	—	5 24.9	23 41	6 51.3	0.8	Several maxima.
317	" 5	—	—	1 11.2	1 19.9	1 37.3	0.2	—
318	" 5	—	—	22 34.7	22 52.2	0 4.0	0.6	—
319	" 6	—	—	17 11.0	—	17 28.0	—	—
320	" 14	—	—	1 54.6	2 6.7	4 50.0	14.7	—
321	" 14	—	—	—	12 55.0	—	—	Recrudescence at 5h. 24m.
322	" 17	—	—	16 27.1	16 49.0	17 7.2	0.5	Possibly A.T.
323	" 19	—	—	13 36.9	15 52.6	14 13.4	0.3	—
324	" 20	—	—	13 49.0	—	13 58.0	—	Slight.
325	" 22	—	—	0 4.4	0 28.2	1 10.0	0.4	—
326	" 24	—	—	5 67.2	6 9.5	6 43.0	1.0	—
327	" 24	—	—	15 51.0	16 51.0	—	0.6	—
328	" 30	—	—	19 46.0	20 0.8	20 24.0	—	Air tremors this day.
329	Feb. 1	—	—	9 58.0	10 23.8	11 27.0	4.4	—
330	" 1	—	—	12 22.0	12 31.3	12 46.7	—	Slight.
331	" 2	—	—	10 8.4	10 40.7	10 51.3	0.4	—
332	" 4	—	—	6 44.1	6 52.4	6 58.0	0.6	—
333	" 5	—	—	19 5.8	19 48.3	20 51.0	1.4	—
334	" 6	—	—	8 2.8	8 19.3	9 15.0	0.7	—
335	" 8	—	—	5 45.2	5 54.3	6 3.9	0.2	—
336	" 9	—	—	5 41.7	5 45.0	5 56.2	0.2	—
337	" 9	—	—	21 16.2	—	21 24.0	0.1	—
338	" 10	—	—	3 17.5	3 60.0	4 21.8	0.5	—
339	" 11	—	—	16 30.0	17 13.6	?	0.5	—
340	" 12	—	—	19 17.1	19 26.2	19 34.0	0.3	—
341	" 16	—	—	—	17 15.0	—	—	Doubtful disturbance.
342	" 23	—	—	12 29.7	12 37.8	12 44.2	0.1	—
343	" 24	—	—	16 40.5	16 52.2	16 18.0	0.5	A.T. troublesome.
344	" 27	—	—	1 3.9	1 53.3	3 50.4	4.8	—
345	" 28	—	—	10 1.5	10 23.0	10 56.8	1.6	—
346	Mar. 1	—	—	17 14.2	17 22.4	17 37.6	0.2	—
347	" 2	—	—	—	10 50.0	—	—	Possibly A.T.
348	" 9	—	—	—	18 4.0	18 12.0	—	Slight.
349	" 12	—	—	14 37.4	14 47.0	14 59.8	0.2	—
350	" 15	—	—	6 44.2	6 55.5	7 3.1	0.1	—
351	" 19	—	—	—	14 59.0	—	—	Small. Similar disturbance 20h.
352	" 21	—	—	10 57.0	—	11 8.0	—	Small.
353	" 22	14 46.0	—	14 57.2	15 6.0	15 21.3	0.3	—
354	" 24	—	—	—	13 2.2	—	—	The Derbyshire earthquake.
355	" 25	—	—	22 35.8	22 47.7	22 58.0	0.4	—
356	" 27	—	—	9 46.0	10 2.9	10 13.7	0.2	—
357	" 28	—	—	8 14.2	8 28.7	8 45.1	0.3	—
358	" 28	—	—	9 50.2	—	10 0.3	0.1	—
359	" 29	16 55.0	—	17 17.7	17 26.2	17 59.6	0.4	—
360	" 30	—	—	1 27.0	1 28.7	1 49.6	0.3	—
361	" 30	—	—	3 43.0	3 52.6	4 10.4	—	Small. ? A.T.
362	Apr. 1	—	—	15 1.3	15 5.0	15 10.2	0.1	—
363	" 3	—	—	10 1.9	10 12.0	10 29.0	0.2	—
364	" 3	—	—	21 10.0	21 15.4	21 42.2	0.2	—
365	" 4	—	—	7 13.2	7 19.6	7 24.7	—	Small.
366	" 10	—	—	5 19.2	5 31.8	5 37.0	—	Renewed at 6.30. ? A.T.
367	" 10	—	—	16 34.8	16 39.2	16 52.0	0.1	—
368	" 12	—	—	3 27.0	3 42.2	4 12.0	0.6	—
369	" 12	—	—	17 51.0	—	18 4.0	—	Small.
370	" 21	—	—	—	2 30.0	—	—	Line thickening.
371	" 22	—	—	—	23 51.2	0 4.0	0.52.3	—
372	" 29	—	—	—	1 50.0	—	—	Slight disturbance.
373	" 29	5 0.0	—	5 28.6	5 52.7	6 31.3	1.0	—
374	May 7	—	—	—	23 30.0	—	—	—
375	" 13	6 56.0	—	7 0.7	7 23.4	8 34.0	1.2	—
376	" 14	—	—	17 48.2	18 13.0	19 13.0	0.1	—
377	" 15	—	—	12 13.0	12 26.5	13 0.4	0.2	—
378	" 15	—	—	3 41.1	3 11.2	3 23.6	0.5	—
379	" 16	—	—	6 38.0	6 47.2	6 55.0	0.1	—
380	" 17	—	—	1 43.9	1 50.3	2 7.9	0.3	—

Register from Liverpool Observatory, Bidston—continued.

No.	Date	P.T. Commence		L.W. Commence		Max.	End	Max. Amplitude	Duration	Remarks
		H. M.	H. M.	H. M.	H. M.					
381	May 22	—	—	—	—	5 50.0	—	0 17	—	Small.
382	" 25	—	—	5 33.0	—	5 50.0	—	0 13	—	"
383	" 26	—	—	16 9.2	16 14.4	16 22.0	—	0 16	—	"
384	" 28	—	—	6 22.0	6 27.2	8 59.9	—	0 11	—	"
385	" 28	—	—	4 18.0	—	4 29.0	—	0 11	—	"
386	" 29	—	—	14 12.0	14 18.3	14 27.0	—	0 2	—	"
387	" 29	—	—	4 50.0	4 55.5	5 15.7	—	0 7	—	"
387	" 29	—	—	9 8.6	9 17.2	9 30.0	—	0 7	—	"
388	June 2	13 28.1	13 35.4	13 46.5	15 4.4	15 4.4	—	2.5	1 36	—
389	" 2	—	—	16 0.0	16 5.1	16 19.5	—	0 3	0 19	—
390	" 2	—	—	18 12.2	18 24.5	18 33.0	—	0 1	0 21	—
391	" 4	—	—	14 49.2	15 6.8	16 9.0	—	0 8	1 20	—
392	" 7	—	—	9 38.2	9 56.0	10 20.2	—	1 0	0 44	—
393	" 8	—	—	6 47.3	6 57.9	7 23.0	—	0 5	0 35	—
394	" 10	—	—	15 6.0	15 12.2	15 21.7	—	0 3	0 16	—
395	" 10	—	—	17 41.2	17 51.5	18 50.0	—	0 6	1 8	June 11, 14th.?
396	" 17	—	—	20 21.8	20 31.5	20 40.4	—	0 3	0 19	—
397	" 19	—	—	10 6.3	—	—	—	—	—	Short; North Wales earthquake.
398	" 25	—	—	21 10.0	21 14.8	21 30.0	—	0 1	0 20	—
399	" 21	—	—	8 58.7	9 2.9	9 19.4	—	0 2	0 21	—
400	" 24	—	—	10 14.2	10 17.6	10 21.9	—	—	0 8	Small.
401	" 24	—	—	16 8.1	16 22.9	16 44.2	—	0 2	0 36	—
402	" 25	—	—	14 17.3	14 24.0	14 50.2	—	0 2	0 33	—

1 mm. = 0''55.

Register from Royal Observatory, Edinburgh. Director, RALPH COPELAND; Observer, THOMAS HEATH.

No.	Date	P.T. Commence		L.W. Commence		Max.	End	Max. Amplitude	Duration	Remarks
		H. M.	H. M.	H. M.	H. M.					
1903.										
161	Jan. 4	—	—	5 54.2	7 23.0	0.5	1 50.0	—	—	—
162	" 5	22 40.5	—	22 47.0	23 4.5	0.25	0 24.0	—	—	Large number of A.T.'s.
	" 7-8	—	—	—	—	—	—	—	—	—
163	" 14	2 0.5	2 11.0	2 37.0	4 52.0	1.0	2 51.5	—	—	A.T.'s very frequent.
164	" 17	15 57.0	16 20.5	16 22.5	17 51.0	1.0	1 54.0	—	—	—
	" 15-17	—	—	—	—	—	—	—	—	—
165	" 22	0 19.5	—	0 43.5	0 50.0	0.25	0 30.5	—	—	—
166	" 24	6 6.0	6 10.5	6 11.5	6 39.0	1.0	0 33.0	—	—	—
167	" 24	15 58.5	—	16 27.5	16 50.0	0.5	0 57.5	—	—	Probably A.T.'s.
168	" 29	15 31.5	—	—	17 18.0	0.2	1 40.5	—	—	—
169	Feb. 1	10 0.5	10 8.0	10 14.8	11 36.0	6.0	1 38.5	—	—	—
170	" 1	12 27.0	—	12 32.5	12 36.0	0.35	0 9.0	—	—	—
171	" 2	10 10.0	—	10 13.5	10 30.0	0.25	0 20.0	—	—	Possibly A.T. Frequent A.T.'s.
	" 1-2	—	—	—	—	—	—	—	—	—
172	" 4	6 50.5	—	6 54.0	6 58.5	0.3	0 8.0	—	—	—
173	" 5	19 14.5	19 35.0	19 36.5	20 28.0	0.7	1 13.5	—	—	—
174	" 6	8 8.0	8 13.0	8 16.0	8 45.5	0.8	0 37.0	—	—	—
175	" 7-9	3 46.5	—	3 54.5	4 13.0	0.3	0 28.5	—	—	Large number of A.T.'s.
176	" 11	16 34.0	—	17 14.5	17 46.5	0.25	1 12.5	—	—	—
177	" 12	19 18.0	—	19 20.0	19 34.0	0.3	0 16.0	—	—	—
178	" 24	18 35.5	—	—	18 49.0	—	0 13.5	—	—	Line notchy.
179	" 27	0 35.5	1 43.0	1 32.0	5 27.0	5.2	4 31.5	—	—	—
180	" 28	10 17.0	—	10 35.5	11 5.0	0.35	0 48.0	—	—	—
181	Mar. 12	14 47.0	—	14 50.5	14 57.0	0.3	0 10.0	—	—	—
182	" 15	14 41.0	14 48.5	14 51.0	15 38.0	0.6	0 57.0	—	—	—
183	" 22	15 2.5	—	15 6.0	15 13.0	0.3	0 10.5	—	—	—
	" 22-23	—	—	—	—	—	—	—	—	Frequent large A.T.'s.
	" 24-25	—	—	—	—	—	—	—	—	Frequent A.T.'s.
184	" 25	22 40.0	—	22 47.0	22 55.0	0.5	0 10.0	—	—	1+++—3

Register from Royal Observatory, Edinburgh—continued.

No.	Date	P.T. Commence		L.W. Commence		Max.	End	Max. Amplitude	Duration	Remarks
		H. M.	H. M.	H. M.	H. M.					
185	Mar. 28	8 23.5	—	8 29.0	8 33.0	0.25	0 9.5	—	—	—
186	" 29	17 20.0	—	17 27.5	17 41.5	0.25	0 21.5	—	—	—
187	" 30	4 22.5	—	—	4 31.5	—	0 9.0	—	—	Small zigzag line.
	" 30-31	—	—	—	—	—	—	—	—	Frequent A.T.'s. Slight thickening.
188	Apr. 10	16 50.0	—	—	16 59.0	—	0 9.0	—	—	—
189	" 12	3 31.0	3 44.5	4 0.7	4 25.0	0.5	0 54.0	—	—	—
190	" 14	—	—	5 40.2	5 44.5	0.35	0 4.3	—	—	No P.T.'s.
191	" 28-29	23 52.5	0 2.5	0 8.5	0 39.0	2.0	0 46.5	—	—	—
192	" 29	5 32.0	—	5 50.0	6 38.5	0.5	1 6.5	—	—	—
193	May 13	6 56.0	7 5.8	7 42.0	9 41.0	0.5	2 49.0	—	—	Mostly zigzag line.
194	" 15	12 19.0	—	12 49.5	13 8.5	0.2	0 56.5	—	—	Zigzag line.
195	" 16	3 12.5	—	—	3 28.0	—	0 13.5	—	—	—
196	" 17	1 47.0	—	1 59.5	2 0.2	0.2	0 12.6	—	—	Slight tremors.
197	" 23	22 53.5	—	23 9.0	23 33.0	0.2	0 39.5	—	—	—
198	" 26	6 29.0	—	6 34.0	6 34.0	0.2	0 5.0	—	—	—
199	" 28	14 14.0	—	14 15.5	14 19.5	0.25	0 5.5	—	—	—
200	" 29	5 22.0	—	5 33.0	5 37.0	0.4	0 15.0	—	—	—
201	" 29	9 43.0	9 48.0	9 47.5	10 1.0	0.4	0 18.0	—	—	—
202	June 2	13 31.5	13 35.5	13 35.0	15 4.5	1.5	1 33.0	—	—	—
203	" 4	15 36.0	—	15 38.5	15 46.0	0.55	0 10.0	—	—	—
904	" 7	9 30.0	9 56.0	9 58.0	10 22.5	0.5	0 52.5	—	—	—
205	" 24	16 28.0	—	16 31.0	16 40.0	0.2	0 12.0	—	—	—
206	" 25	22 44.0	—	22 46.5	23 0.5	0.2	0 16.5	—	—	—

May 4 . 1° of foot-screw = 3.70 mm. measured on photographic paper.

" 11 . 1° " = 3.65 mm. " "

" 15 . 1° " = 3.40 mm. " "

Mean 1° = 3.58 mm. " "

0''533 tilt of pillar = 1 mm. amplitude at end of boom.

The Register from the Toronto Observatory, Ontario, Canada. Director, Professor R. F. STUPART; Observer, JAS. YOUNG.

No.	Date	P.T. Commence		L.W. Commence		Max.	End	Max. Amplitude	Duration	Remarks
		H. M.	H. M.	H. M.	H. M.					
1903.										
438	Jan. 4	5 30.7	—	5 52.0	6 52.0	0.3	1 21.3	—	—	Small and prolonged.
439	" 14	1 54.4	2 1.8	2 11.2	4 28.6	18.0	2 34.2	—	—	Very large and important. Magnetometers vibrated.
	Bifilar Magnetometer	2 05.4	2 8.2	2 9.4	—	—	—	—	—	—
440	" 17	16 18.4	—	16 24.2	*17 37.0 about 25h. uncertain	2.0	1 20.6	—	—	Small and well defined.
441	" 21	23 53.8	—	24 19.0	—	0.3	1 6.2	—	—	Small, but well marked.
442	" 23	19 38.4	—	—	19 42.5	0.1	0 3.1	—	—	Thickenings.
443	" 24	5 40.8	5 43.0	5 48.1	5 41.5	2.0	1 0.7	—	—	Medium and well marked.
444	" 24	15 49.8	—	—	—	0.3	—	—	—	Small air-current marked ending.
445	Feb. 1	10 9.2	10 27.6	10 36.0	*11 31.0	1.1	1 21.8	—	—	Medium.
446	" 2	—	10 6.0	10 8.5	*10 34.0 uncertain	1.1	—	—	—	Medium.
447	" 5	*18 5.0	—	—	19 44.0	0.4	0 55.0	—	—	Very small.
448	" 6	8 28.0	—	—	8 35.5	0.1	0 8.3	—	—	Marked thickenings.
449	" 10	3 22.0	—	—	*3 25.0	0.06	0 03.0	—	—	More thickening.
450	" 12	25 26.2	—	—	22 28.5	0.1	0 3.3	—	—	Very small.

Register from Toronto Observatory, Canada—continued.

No.	Date	P.T. Commence	L.W. Commence	Max.	End	Max. Amplitude	Duration	Remarks
		H. M. P.T.'s masked by air current	H. M.	H. M.	H. M.	MM.	H. M.	
451	Feb. 24	1 28.0	—	18 49.0	—	0.05	—	Mere thickenings.
452	" 27	1 28.0	—	2 28.2	3 10.5	0.7	1 42.5	Small and well defined.
453	" 28	9 54.6	—	10 5.2	10 23.5	0.2	0 28.9	Very small, but well defined.
454	Mar. 1	16 18.4	—	16 55.5	17 11.0	0.1	0 52.6	Thickenings.
455	" 15	14 25.6	14 32.5	14 24.9	15 50.0	3.0	1 24.4	Medium and well defined.
457	" 29	16 49.0 about	—	—	*17 0.0	0.1	0 11.0	Very small, but well marked.
458	Apr. 3	9 51.0	9 56.9	9 57.1	*10 33.0	1.1	0 42.0	Small and decided.
459	" 12	3 17.0	3 22.8	3 24.1	*4 30.0	1.1	1 13.0	" " "
460	" 12	17 31.9	—	—	*17 40.0	0.15	0 8.1	Very small.
461	" 21	8 47.7	—	—	9 57.7	0.05	0 10.0	Mere thickening.
462	" 29	0 25.8	—	—	0 53.0	0 0.85	0 10.2	Small and well defined.
463	" 29	4 40.0	5 16.0	5 24.0	6 18.5	1.0	1 38.5	Medium and marked.
464	May 13	7 2.0	—	7 37.0	8 26.5	0.15	1 24.5	Prolonged thickening.
465	" 15	12 22.0	—	—	12 58.0	0.05	0 34.0	Mere prolonged thickening.
466	June 2	13 26.3	13 36.4	13 44.8	gradual 0 15.30	0.5	2 3.7	Large, well defined; double maximum. Thickening.
467	" 7	10 12.2	—	—	*10 24.2	0.05	0 12.0	Thickening.
468	" 10	Attending instrument	—	—	*13 34.0	0.05	—	Minute thickenings.
469	" 11	13 33.0	—	—	13 35.0	0.05	0 2.0	Mere thickening.
470	" 16	0 30.2	0 31.2	0 32.2	0 36.5	0.3	0 6.3	Small.

* About. 22nd switching of boom 12h. to 20h. G.M.T. Period of boom 14.8 seconds. 1 mm. deflection = 0.73.

Register from Victoria, British Columbia. Superintendent, E. BAYNES REID. Observer, F. H. DENISON.

No.	Date	P.T. Commence	L.W. Commence	Max.	End	Max. Amplitude	Duration	Remarks
1203.								
442	Jan. 4	H. M. 5 19.0	H. M. 5 28.6	H. M. 5 35.2	H. M. *7 8.0	MM. 1.1	H. M. 1 47.0	Small, well defined, and extended.
443	" 14	1 55.6	—	2 18.5	4 32.0	6.7	2 36.4	Large and continuous, sudden start.
444	" 17	16 11.5	16 32.0	16 34.3	*18 1.0	5.5	1 49.5	Large.
445	" 21	23 47.1	—	24 3.1	24 48.1	0.5	0 59.0	Medium, and well marked.
446	" 23	19 54.0	—	—	20 5.0	0.1	0 11.0	Thickenings.
447	" 24	5 33.4	5 37.6	5 41.5	6 45.0	5.1	1 11.6	Large.
448	" 24	15 45.7	—	16 17.6	*17 0.0	0.5	1 14.3	Small and extended.
449	Feb. 1	9 57.0	10 20.0	10 25.0	*11 31.0	2.1	1 34.0	Medium and marked.
450	" 2	10 0.0	—	—	10 2.5	0.1	0 2.5	Marked thickenings.
451	" 5	10 10.0	—	10 11.0	10 48.0	0.3	0 38.0	Small.
452	" 5	19 8.3	19 19.5	19 04.2	*20 18.0	0.8	1 9.7	Small, but well marked.
453	" 6	8 18.0	—	8 24.5	*8 42.0	0.4	0 24.0	Small, lasting a short time.
454	" 10	3 16.0	—	3 18.4	3 26.8	0.4	0 10.8	Very small.
455	" 12	22 10.0	—	—	22 20.0	0.2	0 10.0	Marked thickening.
456	" 24	13 20.0	—	13 30.0	*13 58.0	0.1	0 38.0	Thickenings.

* About.

Register from Victoria, British Columbia—continued.

No.	Date	P.T. Commence	L.W. Commence	Max.	End	Max. Amplitude	Duration	Remarks
		H. M.	H. M.	H. M.	H. M.	MM.	H. M.	
457	Feb. 27	1 8.7	—	2 9.2	3 29.0	0.8	2 20.3	Small and prolonged. P.T.'s long time ahead of L.W.
458	" 28	10 10.7	—	10 18.6	10 32.0	0.2	0 21.5	Very small.
459	Mar. 1	17 3.0	—	—	17 17.5	0.1	0 14.5	Thickenings.
461	" 20	16 51.8	14 14.4	14 15.7	16 1.6	5.1	—	Medium.
462	" 20	17 15.3	—	—	16 53.9	0.1	0 3.7	Thickening.
463	Apr. 1	8 19.0	—	—	17 47.5	0.2	0 32.2	Thickening.
464	" 3	9 40.6	—	9 46.8	8 25.5	0.2	0 8.5	Small, well marked.
465	" 12	3 17.1	3 21.1	3 29.0	4 7.0	3.0	0 40.9	Medium, well marked.
466	" 12	17 38.9	17 41.1	17 43.0	17 51.0	0.5	0 12.1	Small, well defined.
467	" 21	9 27.8	—	9 41.9	*10 0.0	0.2	0 32.2	Three distinct thickenings.
468	" 29	4 32.0	—	—	5 1.0	0.1	0 29.0	Mere thickening, boom partly anchored.
469	May 13	6 51.2	—	7 51.3	8 25.0	0.3	1 33.8	Small, and 29th extended.
470	" 15	12 7.2	—	12 9.3	*13 7.0	0.3	0 59.8	Small.
471	June 2	13 21.8	13 22.1	13 31.7	15 6.1	6.0	1 44.3	Large, began suddenly. Two marked maximums.
472	" 10	17 0.0	—	—	18 11.0	0.15	1 11.0	Extended thickenings.
473	" 11	13 18.1	—	13 20.6	13 27.0	0.2	0 08.9	Small and well defined.
474	" 16	0 25.3	—	—	0 33.2	0.2	0 7.9	Marked thickening.
475	" 25	22 56.3	—	—	23 0.3	0.05	0 4.0	Mere thickening.

* About. Period of boom 15 seconds. 1 mm. displacement = 0.76.

Register from the Observatorio de Marina de San Fernando, Spain. Director, Capitan de Fragata JACOBO TORO.

No.	Date	P.T. Commence	L.W. Commence	Max.	End	Max. Amplitude	Duration	Remarks
1203								
186	Jan. 5	H. M. 22 50.0	H. M. —	H. M. 22 52.5	H. M. 23 8.5	MM. 1.0	H. M. 0 15.5	—
187	" 14	1 58.1	—	2 20.1	2 29.1	4 55.6	4.0	2 37.0
188	" 24	6 9.0	—	6 15.0	6 22.5	6 51.0	0.9	0 42.0
189	" 24	16 15.0	—	16 27.0	16 30.5	17 20.0	0.7	1 5.0
190	Feb. 1	10 5.0	—	10 14.5	10 20.0	11 27.0	4.8	1 22.0
191	" 2	9 14.5	—	—	9 55.0	11 25.5	0.9	2 12.0
192	" 5	19 17.0	—	19 48.0	19 56.0	20 20.0	1.7	1 3.0
193	" 6	8 13.0	—	8 13.0	8 23.0	9 1.0	0.7	0 48.0
194	" 10	3 57.0	—	4 2.0	4 28.0	0.7	0 31.0	—
195	" 27	1 9.0	—	1 47.6	2 2.1	3 40.6	3.0	2 31.0
196	March 15	14 46.3	—	14 54.7	14 58.6	15 42.7	1.0	0 59.4
197	" 25	22 43.0	—	—	—	—	—	Very small movements.
198	" 29	16 47.0	—	17 20.0	17 29.0	17 58.0	0.5	1 11.0
199	" 30	4 32.0	—	—	4 58.0	5 5.0	0.5	0 37.0
200	April 3	10 14.5	—	—	10 27.5	—	0 15.0	Very small.
201	" 12	3 33.7	—	3 49.7	4 4.7	4 25.7	0.9	0 52.0
202	" 12	23 44.7	—	—	23 51.7	23 54.7	0.7	0 10.0
203	" 28-29	23 52.3	—	—	24 2.8	24 47.3	2.0	0 59.0
204	" 29	4 44.3	—	5 26.0	5 54.0	6 33.0	2.0	1 48.7
205	May 13	6 51.5	—	6 47.5	7 50.5	8 37.5	1.5	2 6.0
206	" 23	23 1.5	—	23 12.0	23 14.0	23 39.0	0.6	0 44.5
207	" 29	8 20.8	—	9 43.6	9 48.7	10 20.8	0.95	1 0.2
208	June 2	13 29.2	—	13 30.0	14 6.2	15 16.9	3.25	2 47.7
209	" 4	15 16.5	—	15 26.0	15 29.0	15 49.4	1.5	0 22.9
210	" 7	9 24.4	—	10 5.8	10 7.7	10 26.8	0.6	1 2.5
211	" 10	17 51.4	—	18 2.3	18 4.1	18 45.9	0.57	0 54.5

Time approximate.

Register from Abbassia Observatory, Egypt.
Director, Captain H. G. LYONS; Superintendent, B. H. WADE.

No.	Date	P.T. Commence	L.W. Commence	Max.	End	Max. Amplitude	Duration	Remarks
1903.								
141	Jan. 4	H. M. 5 5	H. M. 5 45	H. M. 5 48	H. M. —	MM. 0.5	H. M. 1 55	Distinct tremor.
142	" 5	7 33	7 47	7 47.5	8 23	0.3	0 50	Minute.
143	" 14	doubtful	2 12	2 15.5	—	2.0	2 30	Beginning and ending elongated thickenings; termination difficult to determine.
144	Feb. 1	9 40	10 7	2 50	—	1.7	—	—
145	" 5	19 17	19 52.5	2 14.0	—	1.5	—	—
146	" 16	doubtful	7 3	2 18.0	—	1.5	—	—
147	" 27	0 59	1 8	10 13	—	1.2	1 50	—
148	Mar. 18	18 30	18 47	10 22	—	1.0	0 55	Minute.
149	" 22	14 45	14 49	19 24	20 12	0.5	—	From 7.30 intermittent irregular thickenings.
150	" 26	22 27	22 40	20 25	—	0.5	—	—
151	April 28	23 41	23 46	7 4	—	0.5	—	—
152	May 16	3 13	3 21	7 31.5	—	1.0	—	—
153	" 17	1 23	1 26	—	—	—	—	—
154	June 4	15 11.5	15 14.0	0 31	1 38	1.0	0 15	—
				15 14.5	15 36	1.5	0 25	—

1 mm. = 0^h.5.

Register from the Royal Observatory, Cape of Good Hope, South Africa.
Director, Sir DAVID GILL, K.C.B., F.R.S.

No.	Date	P.T. Commence	L.W. Commence	Max.	End	Max. Amplitude	Duration	Remarks
1903.								
185	Jan. 3	H. M. 23 7.0	H. M. —	H. M. 23 10.0	H. M. —	MM. 0.25	H. M. 0 12	—
186	" 4	5 33.0	5 40.0	5 52.8	—	0.5	1 52	—
187	" 14	2 7.4	2 16.9	2 52.3	4 14.6	0.5	5 0	Times approximate.
188	" 17	16 39.5	17 6.4	17 7.6	17 11.8	0.9	1 20	—
189	" 22	1 4.0	—	1 17.5	—	—	0 20	Slight thickening of trace.
190	" 24	15 59.8	16 19.6	16 30.8	16 37.7	1.1	1 11	—
191	Feb. 1	10 6.1	10 41.8	10 44.9	10 54.5	2.0	1 45	—
192	" 2	9 50.2	10 8.1	10 9.6	10 31.6	1.4	1 18	—
193	" 5	18 14.7	20 14.8	20 53.5	20 31.6	0.9	1 45	—
194	" 6	8 34.3	8 37.2	8 38.5	8 39.7	0.6	0 40	—
195	" 11	16 15.7	16 36.9	16 37.8	17 1.9	0.8	1 40	—
196	" 25	—	—	18 35.0	—	—	0 5	Slight vibrations here.
197	" 27	0 55.1	1 6.2	19 35.0	—	—	2 56	Subsidence very gradual.
198	" 28	10 5.3	10 37.7	1 25.1	—	4.9	2 56	—
199	Mar 15	13 33.0	—	10 42.4	10 47.3	1.1	1 13	—
				—	—	—	0 22	Slight thickening of trace.

* See note p. 240.

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

No.	Date	P.T. Commence	L.W. Commence	Max.	End	Max. Amplitude	Duration	Remarks
200	Mar. 25	H. M. 23 6.5	H. M. 23 7.5	H. M. 23 8.5	H. M. 23 11.0	MM. 0.6	H. M. 0 15	Times approximate; hour marks not on film because of sudden change in level.
201	April 12	3 45.2	—	4 14.0	—	0.25	0 40	—
202	" 24	20 18.5	—	20 22.0	—	0.2	0 32	Subsidence very gradual.
203	" 25	2 1.7	—	2 14.0	2 26.0	0.5	4 20	—
204	" 29	0 10.0	0 18.8	0 24.5	0 38.3	3.7	0 53	End difficult to fix.
205	" 29	5 9.5	—	—	—	0.5	2 0	Slight thickening of line during 2 hours.
206	" 29	Frequent slight tremors, most probably not of seismic origin. Found spider-web close to vane. No. 206 probably due to same cause.						
207	June 2	13 16.1	14 0.0	14 30.4	—	0.6	2 0	Subsidence very gradual.
208	" 2	21 0	—	—	—	—	—	Frequent small vibrations. Air tremors or insects. Not seismic.
	" 3	13 0	—	—	—	—	—	—
	" 4	15 15.2	15 54.0	15 57.1	15 59.0	0.75	0 22	Subsidence gradual.
	Several sudden changes of level this day and frequent small oscillations from June 4, 20h., to June 5, 10h.							
209	" 7	9 58	—	10 8.2	10 17.1	0.4	—	—
210	" 10	17 38	17 41.0	17 42.0	17 43.2	0.65	0 9.5	—
211	" 24	16 23	16 35.5	16 47.0	17 4.0	0.4	—	Subsidence very gradual.
212	" 24	22 0	—	—	—	—	—	Slight frequent tremors during whole of this time
213	" 25	7 55	—	—	—	—	—	—
214	" 27	4 39	—	—	—	—	—	Slight frequent tremors during whole of this time
	" 29	—	—	17 39.0	—	0.2	—	Slight thickening.

Jan. 6, 11am. of Boom motion = 0^h.22

Boom period = 25 sec.

Feb. 13, " " = 0^h.21

" " = 28 sec.

Mar. 4, " " = 0^h.15

" " = 26 sec.

May 18, " " = 0^h.18

" " = 25.5 sec.

" 27, " " = 0^h.15

" " = 26.4 sec.

June 18, " " = 0^h.22

" " = 24.7 sec.

" 27, " " = 0^h.17

" " = 26.8 sec.

* Previous to January 1, 1903, the amplitudes quoted in this column were Total Amplitudes. They have now been altered to Semi-amplitudes, to conform with the instructions for uniformity issued by Professor Milne.

Register from Alipore Observatory, Calcutta.
G. W. KÜCHLER, Assistant Meteorological Reporter.

No.	Date	P.T. Commence	L.W. Commence	Max.	End	Max. Amplitude	Duration	Remarks
1903.								
211	Jan. 4	H. M. 5 23.0	H. M. 5 32.1	H. M. 5 33.1	H. M. 6 54.5	MM. 1.25	H. M. 1 31.5	Sensitivity = 4 mm.
212	" 5	0 56.2	—	0 56.6	1 2.3	1.00	0 6.1	—
213	" 5	22 14.6	22 20.2	22 22.8	22 53.8	1.50	0 39.2	—
214	" 14	2 8.5	2 57.3	2 58.8	4 31.7	11.00*	2 32.2	*The maximum amplitude has been measured from the base line.
215	" 24	17 13.0	17 26.7	17 28.2	17 53.6	0.50	0 40.7	—
216	" 25	5 58.2	—	6 3.9	6 3.5	0.60	0 9.7	—
217	" 25	14 22.2	—	—	—	—	0 9.2	Thickening of line.
218	Feb. 1	9 39.8	—	—	11 4.2	—	1 24.4	The maximum, &c. cannot be ascertained, as the trace is bad but displacement large.

Register from Alipore Observatory, Calcutta—continued.

No.	Date	P.T. Commence	L.W. Commence	Max.	End	Max. Amplitude	Duration	Remarks
219	Feb. 5	H. M. 18 35.7	H. M. 19 27.1	H. M. 19 33.2	H. M. 20 6.8	MM. 3.00	H. M. 0 58.0	Thickening of line.
220	" 5	19 8.8	19 27.1	19 33.2	20 6.8	3.00	0 58.0	Every day from February 5 to 6, air tremors from about 1h. to 3h.
221	" 6	—	—	—	8 28.1	—	—	The commencement and maximum are not known, as the trace begins with the displacement.
222	" 8	5 26.0	—	5 30.1	5 35.2	0.50	0 9.2	Air tremors from about 1h. to 3h. on the 7th, 8th, and 10th.
223	" 10	3 10.7	—	3 31.5	3 39.1	0.50	0 28.5	—
224	" 10	8 18.8	—	8 19.3	8 22.9	0.50	0 4.1	Doubtful.
225	" 11	16 12.0	16 34.9	16 42.0	17 5.4	2.00	0 53.4	—
226	" 12	18 52.9	—	18 53.9	19 3.0	2.00	0 19.2	Doubtful air tremor from about 1h. to 3h. on February 11, 1903.
Air tremors from 2h. to 4h. on February 16. 1h. to 3h. on February 21. 2h. to 4h. on February 23. 2h. to 3h. on February 24.								
227	" 27	0 51.3	0 56.3	Between* 1 8.0 and 1 12.6	3 20.8	—	2 29.5	*As the boom moved over the whole of the trace for some time, the time of maximum and the maximum amplitude cannot be determined.
228	" 27	4 18.2	4 21.8	4 22.3	4 42.1	1.00	0 22.9	—
Air tremors from 1h. 30m. to 2h. 30m. on February 28 and March 1. 1h. 30m. to 2h. 30m. every day from March 7 to 10. 1h. 0m. to 2h. 30m. on March 12. 1h. 0m. to 3h. 30m. on March 14, 15, and 16. 2h. 0m. to 3h. 0m. on March 17. 1h. 30m. to 3h. 0m. on March 20.								
229	Mar. 22	14 45.3	14 51.9	14 53.5	15 15.8	1.75	0 35.5	—
Air tremors from 0h. 30m. to 2h. 30m. on the 21st; from 2h. to 3h. on the 22nd; and 1h. 30m. to 4h. 30m. on March 24.								
230	" 28	8 4.7	8 7.7	8 8.8	8 15.4	2.00	0 10.7	—
231	" 30	3 37.3	3 40.9	3 42.4	4 23.1	1.50	0 45.3	—
Air tremors from about 1h. 30m. to 2h. 30m. on the 28th and 29th, and from 2h. to 2h. 30m. on March 30.								
232	April 3	10 18.7	—	—	10 43.1	—	0 24.4	Thickening of line.
233	" 3	21 3.0	—	—	21 28.4	—	0 25.4	"
Air tremors from about midnight to 3h. on the 4th and 6th; from 1h. to 2h. on the 7th; from 10h. of April 8 to 4h. of April 9. Air tremors from about 1h. to 3h. on April 10, 12, 13, 15, 16, and 17. The roller did not drive the paper regularly from April 17 to 24. Air tremors from 1h. to 3h. on the 1st; from 1h. to 3h. on the 5th; from 0h. 30m. to 2h., and 13h. 30m. to 16h. 30m. on the 7th; from 1h. to 3h. on May 8.								
234	May 13	6 45.0	6 53.7	7 7.9	8 14.0	1.25	1 29.0	—
Air tremors from about 1h. to 4h. from May 3 to 15.								
235	" 15	12 4.8	12 6.4	12 14.5	12 41.9	0.50	0 37.1	—
236	" 17	0 54.8	1 1.7	1 4.3	3 0.7	2.25	2 6.1	—
Air tremors from about 1h. to 3h. on the 15th, 18th, 18th to May 22, 1903.								
237	" 23	22 17.0	22 27.0	22 28.0	23 13.0	2.25	0 66.0	Times are given correct to minute only, as the watch was not rated.
238	" 25	14 56.0	—	—	15 6.0	—	0 10.0	Thickening of line.
Air tremors from about 1h. to 2h. on the 23rd; from 1h. to 6h. on the 25th, and 1h. to 5h. on May 26. The roller did not drive the paper regularly from May 26 to 29.								

Register from Alipore Observatory, Calcutta—continued.

No.	Date	P.T. Commence	L.W. Commence	Max.	End	Max. Amplitude	Duration	Remarks
239	May 29	H. M. 7 34.2	H. M. —	H. M. 7 38.2	H. M. 7 40.3	MM. 0.50	H. M. 0 6.1	Sensibility 1°=5 mm.
240	June 1	1 8.2	1 20.4	1 30.0	3 31.5	1.50	2 23.4	Doubtful.
241	" 2	13 30.3	13 40.0	14 5.4	14 52.7	1.50	1 22.4	—
Air tremors from 1h. to 3h. on June 3 and 5.								
242	" 7	9 13.5	9 25.7	9 28.7	9 58.7	1.25	0 45.2	Sensibility 1°=4 mm.
243	" 8	5 58.5	—	—	6 42.3	—	0 43.8	Thickening of line.
Air tremors from 1h. to 3h. on the 6th, 7th, 8th, and 9th.								
244	" 10	16 55.5	—	17 12.3	17 57.5	0.50	1 2.0	—
245	" 11	8 12.1	—	—	8 19.7	—	0 7.6	Thickening of line.
Air tremors from about 1h. to 3h. on June 10, and 0h. to 2h. on June 11 and 12.								
246	" 23	8 53.9	—	—	9 40.7	—	0 46.8	Thickening of line.
Air tremors from 1h. to 2h. 30m. on June 24, and 1h. to 3h. 30m. on June 26.								

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

No.	Date	P.T. Commence	L.W. Commence	Max.	End	Max. Amplitude	Duration	Remarks
1903.								
2	Jan. 4	H. M. 5 26.6	H. M. 5 38	H. M. 5 40.0	H. M. 6 43.4	" 1.0	H. M. 1 16.8	—
3	" 5	0 56.4	—	0 58.5	1 7.0	0.5	0 19.6	—
4	" 5	22 13.3	—	22 31.3	22 46.8	0.4	0 26.5	—
14	" 14	2 7.9	2 52.5	2 54.9	4 44.7	1.2	2 38.8	—
16	" 17	14 24.4	—	15 9.2	15 14.2	0.5	0 49.8	—
26	" 22	0 23.1	—	0 32.9	0 53.1	0.3	0 30.0	—
35	" 24	16 55.8	—	17 18.2	17 38.2	0.6	0 42.4	—
46	Feb. 1	9 47.0	9 54.0	9 54.8	11 9.9	5.2	1 22.9	—
61	" 2	11 6.4	—	11 17.7	11 31.8	0.4	0 25.4	—
68	" 5	19 15.4	—	19 42.2	20 30.2	2.1	1 14.8	—
81	" 6	7 32.5	—	8 2.3	9 8.0	0.8	1 35.5	—
84	" 11	16 14.2	16 40.3	16 43.5	17 5.9	1.0	0 51.0	—
108	" 12	18 54.6	—	18 57.5	19 9.5	0.5	0 14.9	—
109	" 27	0 51.2	1 4.6	1 7.5	3 22.5	8.6	2 31.3	—
109	" 27	3 58.7	—	4 21.0	4 39.3	0.7	0 40.6	—
114	" 28	11 7.3	—	11 14.7	11 32.6	0.3	0 25.3	—
200	Mar. 22	14 40.5	—	14 51.2	—	1.8	—	End of disturbance not determinable being lost in shifting time.
239	" 30	3 38.4	—	4 2.6	4 19.3	0.8	0 40.9	—
354	Apr. 25	11 40.7	—	11 45.7	12 28.2	0.5	0 47.5	—
382	" 28&29	23 52.3	0 1.0	0 1.6	0 35.0	3.5	0 42.7	—
385	" 29	4 38.8	5 19.5	5 23.5	6 48.0	1.5	2 9.2	—
446	May 13	6 58.0	—	7 1.4	8 0.0	0.8	1 22.0	—
466	" 17	—	1 2.0	1 5.4	1 44.1	2.3	—	Commencement masked by tremors.
528	June 2	13 34.6	—	14 8.3	14 41.5	0.8	1 6.9	—
533	" 8	5 58.4	—	6 12.3	6 52.5	0.4	0 34.1	—

Where no distinction of P.T. or L.W. can be made, the commencement of disturbance is entered in the column 'P.T. Commence'.

Between January 1 and February 25, 1 mm. of amplitude=0°50.

Between February 26 and June 30, 1 mm. of amplitude=0°44.

Register from the Kodaikānal Solar Physics Observatory, Madras.
Director, C. MICHIE SMITH. Ag. Director, C. P. BUTLER.

No.	Date	P.T. Commence	L.W. Commence	Max.	End	Max. Amplitude		Duration	Remarks
						Mm.	Arc		
1903									
1	Jan. 6	H. M. 10 39.0	H. M. —	H. M. 17 56.0 19 10.0 19 45.0 22 38.0 23 01.0	H. M. —	—	—	H. M. —	Succession of slight disturbances during the whole of this period with distinctly indicated maxima at times shown.
"	7	—	—	1 29.0	8 29.0	—	—	22 50.0	—
2	"	8	—	0 28.8	8 29.0	0.5	0.3	—	—
3	"	8	—	16 49.8	—	—	—	—	Thickening of line.
4	"	8	—	16 43.5	—	0.25	0.1	—	—
6	"	8	—	17 00.3	—	0.5	0.3	—	—
6	"	8	—	17 23.8	—	0.25	0.1	—	—
7	"	8	—	17 31.5	—	0.25	0.1	—	Thickening of line.
8	"	8	—	22 27.4	—	—	—	—	—
9	"	9	—	2 53.0	—	—	—	—	Thickening of line.
10	"	10	2 38.3	—	3 04.5	—	—	0 28.2	Slight continuous disturbance.
11	"	10	—	22 10.8	—	—	—	—	Thickening of line.
12	"	10	23 11.9	23 10.9 23 23.1 23 29.3	—	—	—	0 28.2	" "
13	"	14	2 11.4	2 58.7 3 00.8 3 08.8 3 16.5	23 40.1	2.0 1.0 1.2 1.2	1.1 0.8 0.7 0.7	—	" "
14	"	15	—	10 09.9	—	—	—	1 45.3	Widening of line.
15	"	16	—	17 04.9	—	0.4	0.2	—	—
16	"	18	—	9 12.3	—	—	—	—	Widening of line.
17	"	24	17 06.1	17 15.8	17 30.1	0.3	0.2	0 24.0	—
18	"	25	—	17 16.8	—	0.5	0.3	—	—
19	"	26	—	5 37.2	—	0.4	0.2	—	—
20	"	27	—	3 45.7	—	0.5	0.3	—	—
21	"	28	—	6 04.9	—	0.75	0.4	—	—
22	Feb. 1	9 47.7	9 64.9	9 57.5 10 03.1 10 08.7	—	2.5 3.5 2.0	1.4 1.9 1.1	—	—
23	"	3	—	5 39.5	10 56.4	—	—	1 08.7	Too near hour mark for determination.
24	"	5	19 18.5	19 41.1	20 01.6	0.5	0.3	0 43.1	—
25	"	6	7 57.0	7 59.5	8 18.0	0.65	0.3	0 21.0	—
26	"	11	16 17.1	16 24.8	—	0.5	0.3	—	—
				16 42.3	16 51.1	—	—	0 34.0	—
27	"	13	—	10 22.8	—	—	—	—	Thickening of line.
28	"	14	—	10 35.4	—	—	—	—	—
29	"	24	—	9 47.7	—	—	—	—	Thickening of line elongated.
30	"	27	0 60.3	0 64.9	1 04.1 1 05.7 1 07.2 1 11.8	7.0 8.0 6.5 7.0	4.1 4.7 3.8 4.1	—	—
31	Mar. 2	—	—	0 13.7	2 32.6	—	—	1 42.3	Thickening of line.
32	"	10	—	10 35.0	—	—	—	—	" "
33	"	20	—	10 31.8	—	0.5	0.2	—	Thickening of line.
34	"	27	—	10 32.3	—	—	—	—	Record for March 28-30 spoiled by accident to film.
35	Apr. 7	—	—	6 15.0	—	—	—	—	Thickening of line.
36	"	8	2 57.8	—	3 00.9	—	—	0 03.1	Thickening of line elongated.
37	"	8	—	10 30.1	—	—	—	—	Small shock.
38	"	13	—	5 03.7	—	2.0	1.1	—	? Accidental oscillation.

Register from Kodaikānal.—continued.

No.	Date	P.T. Commence G.M.T.	L.W. Commence G.M.T.	Max. G.M.T.	End G.M.T.	Max. Amplitude		Duration	Remarks	
						Mm.	Arc			
39	Apr. 13	H. M. —	H. M. —	H. M. 10 45.1	H. M. —	0.5	0.3	—	—	
40	"	12	—	10 45.6	—	1.5	0.8	—	? Accidental.	
41	"	20	—	3 58.1	—	—	—	—	Thickening of line.	
42	"	25	—	10 41.3	—	—	—	—	" "	
	"	25	—	10 52.3	—	—	—	—	" "	
43	"	28-29	23 56.4	23 59.0	0 11.8	0 25.2	0.6	0.3	0 23.8	—
44	May 11	—	—	5 16.9	—	—	—	—	Thickening of line.	
45	"	13	0 42.1	—	6 56.3	7 38.9	0.75	0.5	0 63.8	—
46	"	13	—	15 29.2	—	0.75	0.5	—	—	
47	"	17	0 49.8	0 64.4	1 01.6 1 02.8	—	—	—	—	
						1 53.4	—	—	1 03.6	—
48	"	22	—	2 58.5	—	—	—	—	Thickening of line.	
49	"	22	—	7 03.0	—	—	—	—	" "	
50	"	23	21 20.0	—	21 25.7	21 35.4	0.3	0.1	0 15.4	—
51	"	25	—	12 24.0	—	—	—	—	Thickening of line.	
52	"	26	—	12 25.0	—	—	—	—	" "	
53	"	26	—	9 14.6	—	—	—	—	" "	
53	June 2	13 41.6	—	13 50.3 13 55.4	—	—	—	—	Series of slight connected shocks.	
54	"	4	—	10 38.0	—	14 25.2	—	—	0 43.6	—
55	"	6	—	17 59.4	—	—	—	—	Thickening of line.	
	"	6	—	18 01.8	—	—	—	—	Two small sudden shocks.	
56	"	8	5 47.2	6 08.1	6 10.7	6 19.3	0.3	0.1	0 32.1	—
57	"	22	—	3 08.7	—	—	—	—	Thickening of line.	

Register from Batavia Royal Magnetical and Meteorological Observatory. Director, Dr. S. FIGEE.

No.	Date	Commence-ment	Dura- tion P.T.	Max.	Ampli- tude Double	Total Duration	Remarks		
								1903.	
458	Jan. 1	H. M. 6 32.7	M. —	H. M. 6 33.9	MM. 6.0	" 2.4	M. 15	—	
459	"	2	12 42.4	6.5	12 54.9	2.1	0.9	30	—
460	"	4	5 18.1	—	5 27.9	3.5	1.4	100	—
					45.9	7.5	3.1	—	—
					39.4	3.1	1.2	—	—
					58.9	2.1	0.9	—	—
461	"	5	22 16.9	8.7	22 26.6	2.2	0.9	80	—
					28.3	1.7	0.7	—	—
462	"	7	9 55.9	—	9 57.9	2.0	0.8	24	—
463	"	14	3 7.4	1.7	3 38.5	2.3	0.9	160	From 11h. 10m. till 11h. 23m. Slow oscillations of small amplitude.
					4 20.4	2.2	0.8	—	—
					23.7	2.4	1.0	—	—
					25.7	4.9	1.6	—	—
					35.7	4.5	1.8	—	—
464	"	17	23 33.2	—	23 42.8	0.5	0.2	12	—
465	"	19	13 41.7	—	13 56.7	1.1	0.4	65	—
					14 9.6	1.0	0.4	—	—
466	"	24	17 22.4	—	17 23.2	0.6	0.2	100	—
					18 21.7	0.5	0.3	—	—
					32.7	0.8	0.3	—	—
467	"	25	7 7.4	—	7 12.4	0.9	0.4	18	—
468	"	25	15 17.4	—	15 19.0	1.0	0.4	12	—
469	"	28	22 13.2	—	22 13.9	1.0	0.4	3	—
470	Feb. 1	9 43.4	6.6	10 3.4	13.0	5.3	—	100	—
					8.1	5.0	2.1	—	—
					11.4	6.2	2.5	—	—
471	"	1	15 27.4	—	12 32.0	1.0	0.4	14	—
472	"	2	10 29.1	—	10 30.1	0.8	0.3	30	—

Register from Batavia—continued.

No.	Date	Commencement	Duration P.T.	Max.	Amplitude Double	Total Duration	Remarks
473	Feb. 6	H. M. 18 51.5	M.	H. M. 19 14.5 42.5 48.8 48.4 60.6	MM. " 1.2 0.5 1.3 0.6 1.2 0.5 1.1 0.5 1.1 0.5	92	—
474	" 6	7 50.9	8.5	8 30 3.9 5.4 7.2	2.3 1.0 3.0 1.3 3.0 1.3 2.9 1.2	60	Slow oscillations, from 15h. 7m. to 9m. 8a.
475	" 8	1 2.4	—	1 11.9	1.3 0.6	80	—
476	" 10	3 1.4	—	3 12.5	1.3 0.6	47	—
477	" 11	6 31.5	—	6 52.7	1.0 0.4	4	—
478	" 11	16 9.1	—	16 14.5 18.8 23.8	8.2 3.5 9.2 4.0 8.2 3.5	90	—
479	" 12	19 11.0	—	19 11.5	0.9 0.4	5	—
480	" 12	20 12.7	—	20 14.7	0.7 0.3	5	—
481	" 14	7 5.1	—	7 5.6 8.6 8.7 10.3 12.0 14.1	0.7 0.3 0.5 0.2 0.5 0.2 0.7 0.3 0.4 0.2 0.4 0.2	10	The numbers 481 and 482 are analogous, as is shown by the relative times of maxima: max. 482 min. min. 4.0 3.9 3.0 2.9 0.9 1.0 0.7 0.7 2.4 2.4 4.5 4.7
482	" 14	13 51.8	4.0	13 56.7 67.7 59.6 14 1.3 3.0 5.3	1.0 0.4 0.6 0.3 0.6 0.3 0.8 0.3 0.5 0.2 0.3 0.1		7h. 9.6m. 14h. 0.6m. and the proportion of their amplitude: 1.4 1.2 1.2 1.1 1.2 0.8 1.15
483	" 18	12 30.9	—	12 41.2	0.7 0.3	27	—
484	" 24	17 45.1	—	18 3.7	1.0 0.4	33	—
485	" 24	22 7.7	—	22 10.3	0.7 0.3	19	—
486	" 27	0 44.3	9.2	1 7.2 8.7 11.7 16.8	29.0? 12.0? 27.0 11.6 17.0 7.3 15.0 6.5	80	Booms thrown off at Oh. 44.9m.; readjust at 1h. 6m. Origin, W. Java.
		3 36.0	—	3 3.7	7.0 3.0	20	—
		3 49.3	—	3 49.5	0.5 0.2	8	—
		3 54.5	—	3 57.9	15.0 6.5		—
		4 19.7	—	4 59.0	17.0 7.3		—
		5 8.2	—	4 19.8 5 9.0 7 20.1 21.1	13.9 5.6 2.7 0.7 0.5 0.2 0.5 0.2	12	—
		8 32.1	—	8 33.5	3.0 1.3	10	—
487	" 28	1 48.5	—	1 49.4	1.0 0.4	6	—
488	Mar. 1	3 6.2	—	3 7.5	1.0 0.4	8	—
489	" 1	10 49.4	—	10 51.7	0.7 0.3	20	—
		15 10.4	—	15 12.7	1.3 0.5	9	—
491	" 1	16 2.7	2.6	16 6.7	4.0 1.6	16	—
492	" 2	1 28.7	—	1 28.2	1.2 0.5	4	—
493	" 2	4 47.2	—	4 49.8	1.0 0.4	8	—
494	" 2	17 8.8	—	17 11.2	3.0 1.2	13	—
495	" 2	22 13.9	—	22 16.4	2.0 0.8	6	—
496	" 2	23 23.9	—	23 32.2	1.2 0.4	9	—
497	" 3	1 14.7	—	1 16.4	0.5 0.2	8	—
498	" 3	4 13.7	—	4 14.7	3.0 1.2	11	—
499	" 5	15 55.6	—	15 37.7	2.0 0.8	8	—
500	" 5	17 8.1	—	17 9.0	1.2 0.5	5	—

Register from Batavia—continued.

No.	Date	Commencement	Duration P.T.	Max.	Amplitude Double	Total Duration	Remarks
501	Mar. 23	3 48.2	—	4 6.4	1.6 0.7	37	—
502	" 26	8 55.7	—	9 6.7	1.0 0.3	30	—
503	" 30	3 26.7	—	3 34.7	12.7 4.3	66	—
				35.8	14.1 4.8		
				37.5	12.9 4.1		
504	Apr. 3	4 45.7	—	4 56.6	1.3 0.5	30	—
				58.4	1.1 0.4		
				6 1.4	1.2 0.4		
605	" 29	?	—	0 29.0	2.4 1.0	?	—
606	" 29	4 15.2	10.0	5 5.5	4.2 1.7	90	—
607	May 12	± 18 0	—	?	6.5 3.2	± 100	End at 1h. 9m. Motion of paper defective.
608	" 15	14 0.1	—	?	1.0 0.5	50	—
609	" 23	20 8.0	—	20 10.2	1.5 0.9	20	—
610	" 23	22 14.7	—	22 20.1	7.5 4.5	55	—
611	June 2	13 35.7	—	14 27.4	1.2 0.7	80	—
612	" 7	8 49.7	—	8 52.5	1.1 0.4	40	—
				9 2.7	1.1 0.4	60	—
613	" 8	5 31.1?	10.4	5 41.92	1.2 0.4	—	—
				54.7?	1.1 0.4		
614	" 9	11 37.7	—	11 54.7	0.9 0.3	30	—
615	" 9	14 31.3	0.4	14 32.4	12.0 4.1	10	—
617	" 10	16 49.7	—	16 36.9	0.9 0.3	33	—
617	" 14	9 53.5	0.6	9 54.2	5.0 1.7	10	—
618	" 25	22 36.7	—	22 38.2	0.8 0.3	15	—

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

No.	Date	P.T. Commence	L.W. Commence	Max.	End	Max. Amplitude	Duration	Remarks
1203.								
217	Jan. 2	H. M. 12 50.6	H. M. 12 56.5	H. M. 13 27.3	R. M. 13 27.3	MM. 0.2	H. M. 0 36.7	—
218	" 2	12 12.5	—	22 13.8	22 14.7	0.5	0 02.2	—
219	" 4	5 24.1	5 32.2	5 37.1	6 18.7	0.8	0 54.6	—
221	" 5	0 53.4	—	—	1 03.6	—	0 10.2	—
222	" 5	22 08.5	22 11.6	22 13.6	22 30.0	1.8	0 41.5	—
227	" 14	2 07.4	2 15.4	3 16.8	4 00.5	3.0	2 03.1	—
228	" 17	17 11.0	—	—	17 32.0	—	0 21.0	—
230	" 19	12 51.7	—	13 10.2	13 17.7	0.3	0 28.0	—
232	" 21	2 57.8	—	3 04.0	3 07.1	—	0 03.3	—
233	" 21-22	23 57.1	0 07.8	0 09.7	0 31.4	0.6	0 34.3	—
235	" 24	5 50.5	6 20.5	6 22.2	6 38.1	0.5	1 08.6	—
237	" 25	6 05.7	—	6 10.9	6 27.3	0.4	0 21.6	—
238	" 26	12 22.7	—	12 27.0	12 30.5	0.3	0 15.8	—
239	" 26	5 38.7	—	5 35.3	5 58.0	0.3	0 03.3	—
240	" 29	15 37.4	—	15 48.4	16 08.8	0.3	0 31.4	—
241	" 30	16 55.6	17 00.0	17 07.3	17 18.2	0.4	0 22.6	—
242	Feb. 1	9 35.8	9 37.7	9 38.6	12 06.0	> 28.7	2 31.1	—
244	" 2	10 40.9	—	10 49.5	11 05.5	—	0 24.6	—
245	" 2	13 19.4	—	13 22.1	13 29.1	0.9	0 08.7	—
248	" 3	12 22.5	—	12 24.0	12 43.2	0.3	0 20.7	—
252	" 4	22 43.5	—	22 43.7	22 49.9	—	0 05.4	—
253	" 5	3 26.0	—	3 26.3	3 53.0	0.9	0 03.0	—
257	" 5	18 28.1	19 14.0	10 15.5	20 23.1	5.1	2 04.0	—
258	" 6	2 43.0	—	2 47.7	2 55.3	0.3	0 12.3	—
259	" 6	7 36.5	7 39.2	7 40.2	8 59.5	14.0	1 23.0	—
261	" 7	10 58.6	—	11 02.4	11 13.8	1.0	0 15.2	—
262	" 7	13 37.8	—	13 38.2	13 46.2	0.9	0 05.4	—
263	" 7	23 12.7	—	23 13.0	23 19.1	0.4	0 06.1	—
265	" 8	5 21.4	—	5 21.9	5 30.7	0.9	0 03.3	—
267	" 9	5 26.8	—	5 26.8	5 35.0	—	0 17.7	—
267	" 9	29 28.7	—	20 49.2	20 56.6	0.5	0 13.9	—
268	" 10	3 02.7	3 10.2	3 15.1	> 3 30.6	1.0	> 0 27.9	—
269a	" 11	16 14.5	—	16 28.2	17 05.7	0.8	0 51.2	—
269b	" 11	18 52.5	—	19 54.2	19 58.8	0.2	0 07.8	—

Register from Irkutsk—continued.

No.	Date	P.T. Commence	L.W. Commence	Max.	End	Max. Amplitude	Duration	Remarks
266c	Feb. 11	H. M. 20 21.9	H. M. 18 53.1	H. M. 20 23.9	H. M. 20 56.9	MM. 0.5	H. M. 0 15.0	—
270	" 12	18 48.9	18 53.1	18 53.8	19 02.9	1.1	0 14.0	—
271	" 12	22 27.9	—	22 31.0	22 30.6	0.4	0 11.7	—
272	" 23	12 10.8	—	12 18.7	12 28.1	0.3	0 08.3	—
279	" 24	17 57.5	—	18 05.0	18 11.2	0.3	0 13.7	—
280	" 26	17 12.3	—	17 15.0	17 19.0	0.3	0 06.7	—
281	" 27	0 50.2	1 01.8	1 17.3	2 42.7	11.1	1 46.5	—
284	Mar. 5	5 52.8	—	5 56.3	6 01.8	0.2	0 09.0	—
287	" 12	14 25.8	14 25.8	14 26.7	14 32.4	1.0	0 08.6	Altaí earthquake.
288	" 15	6 13.7	—	6 20.1	6 24.1	0.3	0 05.4	—
289	" 15	14 42.5	—	14 54.9	15 07.9	0.4	0 23.4	—
293	" 21	10 47.1	—	—	10 55.6	—	0 08.5	—
296	" 22	14 47.8	14 57.2	14 59.9	15 18.8	0.4	0 31.0	—
298	" 25	23 28.6	—	—	23 30.9	—	0 11.3	—
299	" 26	8 58.8	—	9 02.8	9 20.7	—	0 21.9	—
301	" 28	8 03.2	8 05.2	8 10.2	8 28.2	0.4	0 25.0	—
305	" 30	4 39.2	—	4 39.6	5 48.1	0.3	0 03.2	—
309	" 31	6 37.2	—	—	6 46.0	—	0 08.8	—
311	April 1	14 23.0	14 27.4	14 28.6	14 39.7	0.5	0 14.7	—
312	" 3	9 57.4	10 00.6	10 05.5	10 29.0	0.7	0 21.6	—
314	" 3	20 43.0	20 49.4	20 50.6	21 08.0	1.0	0 20.0	—
315	" 3-4	23 59.2	0 00.5	0 01.4	0 03.2	0.3	0 10.0	—
318	" 6	3 04.3	—	—	3 26.4	—	0 22.1	—
319	" 10	19 50.2	—	19 52.4	19 57.5	0.1	0 07.3	—
320	" 12	4 14.6	—	—	4 28.4	—	0 13.8	—
324	" 21	9 33.2	—	9 38.9	9 46.9	—	0 12.8	—
326	" 28-29	23 55.4	0 06.4	0 09.8	0 51.7	1.0	0 59.3	—
327	" 29	4 32.6	—	—	5 25.9	—	0 53.3	—
330	May 1	16 30.7	—	16 34.1	16 38.7	—	0 08.9	—
332	" 13	6 42.3	6 55.1	6 56.1	7 39.3	1.1	1 03.6	—
338	" 23	22 28.2	—	22 31.2	23 05.4	—	0 37.4	—
341	" 28	4 49.7	4 53.7	4 54.6	5 07.7	1.1	0 13.0	—
342	" 29	10 09.3	—	10 10.6	10 16.1	0.4	0 16.6	—
345	June 2	13 26.3	13 33.7	13 34.9	14 55.7	1.9	1 29.4	Local origin.
348	" 4	13 03.0	—	13 01.3	13 11.8	0.6	0 10.8	—
349	" 4	13 40.9	—	—	15 39.3	—	0 12.4	—
350	June 7	9 18.0	9 23.2	9 28.1	9 30.0	1.5	0 33.0	—
353	" 10	16 59.5	—	17 32.2	17 32.8	0.3	0 33.3	—
365	" 24	16 14.1	—	16 23.2	16 45.9	—	0 31.8	—
366	" 25	22 14.8	22 15.0	22 18.1	22 39.6	2.5	0 24.6	—
367	" 26	23 14.8	—	23 18.2	23 23.9	0.4	0 09.6	Local origin.

From February 15 to February 21 the instrument not in use.
 January-February : : : : : 1 mm. = 0".61 | May 1-15 : : : : : 1 mm. = 0".70
 March-April : : : : : 1 mm. = 0".69 | From May 21 : : : : : 1 mm. = 0".44

Register from Perth Observatory, Western Australia.
 Director, W. E. COOKE, M.A., F.R.A.S., &c.

No.	Date	P.T. Commence	L.W. Commence	Max.	End	Max. Amplitude	Remarks
1903.							
1	Jan. 2	12 44.5	12 49.4	12 58.4	13 35.9	2.4	—
2	" 3	—	—	22 51	—	0.2	Slight thickening.
3	" 4	5 17.0	5 23.7	5 42.6	7 9.1	8.0	—
4	" 9	1 48.8	1 56.4	2 1.4	2 21.4	1.15	—
5	" 14	2 8.8	3 3.2	3 55.8	5 0.8	3.1	—
6	" 17	17 18.9	17 29.2	17 33.9	18 24.2	1.1	—
7	" 19	12 44.0	12 57.4	13 2.6	13 35.2	3.4	—
8	" 24	—	6 55	—	6 59	0.25	Thickenings.
9	" 24	—	16 55	17 24	17 35	0.35	—

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Register from Perth, Western Australia—continued.

No.	Date	P.T. Commence	L.W. Commence	Max.	End	Max. Amplitude	Remarks
10	Jan. 26	H. M. 8 26	H. M. 8 35	H. M. 8 26	H. M. 8 35	MM. 0.35	Thickenings.
11	" 27	—	15 14	15 18	15 28	0.35	—
12	Feb. 1	10 7.2	10 20.3	10 23.3	11 16.3	1.3	—
13	" 4	—	7 40.0	7 40.8	7 48.4	0.3	—
14	" 5	—	0 16	—	0 19	0.45	Thickenings.
15	" 5	19 24.6	19 31.2	20 5.3	20 51.4	0.55	—
16	" 6	—	8 22.0	8 24.6	8 29.9	0.3	—
17	" 8	1 4.7	1 18.8	?	1 36.0	?	Watch wound and lamp trimmed during shock.
18	" 9	—	4 58.0	—	5 1.6	0.35	Thickening.
19	" 10	3 10.9	3 22.2	3 26.0	3 46.2	1.15	—
20	" 11	16 11.0	16 14.5	16 21.4	17 15.3	4.0	—
21	" 24	17 46.8	17 53.8	18 0.8	18 32.3	3.2	—
22	" 27	0 44.0	?	?	3 22.1	?	Watch wound, &c., during shock.
23	" 27	4 7.9	4 16.5	4 23.7	4 36.5	1.0	—
24	" 28	—	—	3 28	—	0.3	Thickening.
25	" 28	10 59.2	11 3.2	11 7.2	11 24.1	0.35	—
26	Mar. 13	—	—	5 14	—	0.25	Thickening.
27	" 15	15 24.3	15 34.8	15 41.0	16 30.0	0.3	—
28	" 23	—	4 11.0	4 12.0	4 25.6	0.55	—
29	" 24	—	18 57.3	19 3.4	19 22.4	1.5	—
30	" 26	—	8 56.0	9 7.9	9 27.8	0.3	—
31	" 27	14 30.0	to Mar. 30 ^h 0 ^m	30 ^h 0 ^m	—	—	Continual thickenings.
32	" 30	3 28.6	3 39.6	3 43.2	4 32.6	5.25	—
33	" 30	—	4 51.6	4 58.3	5 20.6	0.45	—
34	Apr. 1	—	17 39.3	17 43.0	17 48.3	0.35	—
35	" 10	3 0.4	—	{ 3 3.4 3 5.4 }	—	0.3	Thickening.
36	" 10	—	15 19.9	15 23.0	15 54.7	1.1	—
37	" 18	—	11 49.3	11 50.5	11 55.0	0.3	—
38	" 29	0 33.3	0 38.3	0 47.5	1 14.8	1.45	—
39	" 29	4 24.3	4 41.7	{ 4 45.3 4 56.0 }	6 1.1	{ 2.5 2.3 }	—
40	May 9	—	13 29.4	13 30.9	13 32.4	1.0	—
41	" 13	6 42.9	6 44.9	7 1.9	8 23.9	6.50	—
42	" 15	12 5.7	12 15.3	12 19.0	12 29.0	0.4	—
43	" 17	—	0 59	—	1 45	—	Slight thickenings.
44	" 23	20 16.2	20 21.0	20 28.2	20 35.3	0.35	—
45	" 23	22 22.9	22 31.6	22 36.5	23 0.8	1.3	—
46	" 31	6 54.3	6 59.4	7 0.9	7 12.9	0.35	—
47	June 2	—	12 0	—	15 0	—	Air tremors?
48	" 4	—	15 48	—	16 10	—	Very slight thickenings.
49	" 8	—	5 34.0	5 37.1	6 5.2	3.3	—
50	" 9	11 35.4	11 40.2	11 45.2	12 7.4	0.65	—
51	" 10	16 50.4	16 59.7	17 2.9	17 37.5	2.75	—
52	" 15	—	22 38.9	22 43.7	23 0.9	0.3	—
53	July 12	5 34.5	5 43.8	5 49.9	6 24.5	2.1	—
54	" 15	—	3 30	—	8 30	—	Very slight air tremors.
55	" 19	—	13 33.5	13 36.5	13 40.0	0.4	—

1 mm. = 0".47.

Register from the Johns Hopkins University, Baltimore, U.S.A.
Professor HARRY FIELDING REID.

No.	Date	P.T. Commence	L.W. Commence	Max.	End	Max. Amplitude	Duration	Remarks
1903.								
2	Jan. 4	H. M. 5 31	H. M. 5 35	H. M. —	H. M. 6 55	1.0	—	E.Q. No well-defined max.
5	" 17	16 30.4	16 35	16 40.6	17 28	2.2	—	E.Q.
8	" 22	0 14.7	0 16.2	0 26.9	0 46	1.3	—	
9	" 24	5 45	5 45	5 47	8 50	3.6	—	E.Q. Proper distance about 1h. long, the rest probably A.C.
10	" 24	15 48.2	15 56.2?	15 59.8	16 53	1.7	—	E.Q.
14	Feb. 1	10 13.5?	10 37.2	10 39	11 40	1.9	—	"
15	" 2	10 47	—	10 7.5	10 46	0.3	—	"
No record February 4, 16h. to 17h. No record February 6, 14h., to February 9, 21.7h. (Ribbon choked).								
17	" 12	22 29.2	22 32	22 34	22 39	0.7	—	E.Q. ?
19	" 24	18 39.5	—	—	19 32	0.4	—	E.Q.
No record February 26, 17h., to February 28, 15h.								
24	Mar. 15	14 37.6?	—	14 38.5	?	5.0	—	E.Q. Poor record.
25	" 20	15 42	—	—	15 52	0.2	—	—
No record March 22, 21h., to March 23, 13.6h.								
26	" 24	19 53	—	—	20 6	0.5	—	—
27	" 29	16 49	—	—	16 58	0.3	—	—
28	" 31	16 00	—	—	—	—	—	Record poor
No record April 1, 19.8h., to April 2, 0.2h. No record April 2, 14.5h. to 19.8h.								
29	Apr. 3	9 58.5	—	—	10 40	0.7	—	Probably E.Q.
35	" 12	15 20.8	15 22?	15 24.2	16 10	1.8	—	E.Q.
36	" 12	17 29	—	—	17 37	0.5	—	Swelling in line.
39	" 21	9 45.4	—	9 50	10 3	0.3	—	E.Q. ?
41	" 29	4 41.0?	5 14	5 30	6 11	1.2	—	E.Q.
No record May 12, 20h., to May 14, 0h.								
44	June 2	13 20.6	13 33	13 47	14 51	5.5	—	E.Q.
No record June 6, 23h., to June 8, 20.7h.								

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

No.	Date	P.T. Commence	L.W. Commence	Max.	End	Max. Amplitude	Duration	Remarks
1899.								
259	*Feb. 23	H. M. ?	H. M. ?	H. M. 19 31	H. M. ?	MM. 1.0	H. M. ?	—
261	*Mar. 1	? ?	? ?	? ?	? ?	? ?	? ?	—
269	" 23	14 51 ±	? ?	16 15	15 12.5	1.4	—	Thickening - sheet changed at 5h. 40m.
	" 24	4 14.7	? ?	5 29.5	? ?	—	—	Thickening.
275	Apr. 6	? ?	? ?	9 0.5	? ?	—	—	—
277	" 12	? ?	17 31.1	17 42.2	—	1.05	—	—
278	" 12	? ?	18 21.7	18 35.5	—	1.50	—	—
279	" 15	? ?	4 33.1	4 44.2	—	0.75	—	—
284	" 28	? ?	—	?	—	? ?	? ?	A.T.'s very large. Some movements probably seismic.
	May 6	—	—	4 55 ±	—	—	—	—
	" 17	7 33	—	—	8 8	—	0 0.35	Slight thickenings. Several small dislocations 8h. 5m. to 8h. 18m.
289	" 17	12 50	—	—	20 2	—	0 0.12	Several small dislocations.
	" 18	17 33.5	—	—	17 38.0	—	0 5.1	—
299	*June 23	? ?	23 15.8	23 24.3	? ?	1.50	—	—
307	*July 11	? ?	7 39.1	8 2.9	? ?	0.40	—	—
309	" 14	13 25.3	14 11.5	14 13.5	? ?	1.60	—	—
313	" 20	9 20 ±	—	10 8.9	11 30 ±	—	2 ±	—
321	*Aug. 2	15 30 ±	—	—	17 30	—	2 0	A.T.'s very large. Some movements probably seismic.
322	" 2	18 39	—	—	19 30	—	1 0	—
	" 7	—	—	17 8.5	—	1.10	—	—
	" 22	8 0	—	—	8 5 0	—	5 ±	Numerous slight tremors from 7h. to 13h., greatest amplitude between 8h. and 9h.
337	*Sept. 10	—	—	19 13.8	—	1.60	—	A.T.'s very active. Movements from 18h. 12.8m. to 19h. 19m. look seismic.
342	" 17	13 25 ±	14 1.7	14 7.7	—	0.80	—	Also several slight thickenings from 11h. 30m. to 12h. 30m. max. at 12h.
	" 20	? ?	1 26.7	1 38.9	—	1.50	—	—
	" 27	8 17 ±	—	8 50.9	10 17 ±	—	2 ±	Several thickenings. Slight dislocation at 9h. 11.8m.
371	Dec. 25	13 49	13 58	14 4.9	14 21	—	0 0.32	Several slight thickenings.
Scale values: 1 mill.=0.41 (Corresponding " =0.41 to the above 27 entries.)								
Scale Values: 1 mill.=0.29 " =0.29 " =0.29 " =0.30 " =0.30 " =0.30 " =0.30 " =0.30 " =0.32 " =0.29 " =0.27 " =0.26 " =0.29								

* These disturbances are all more or less masked by air tremors.

Register from the Royal Alfred Observatory, Mauritius.
 Director, T. F. CLAXTON, F.R.A.S. Assistant Director, A. WALTER, F.R.A.S.

No.	Date	P.T. Commence	L.W. Commence	Max.	Ampl.	End	Remarks
1903.							
1	Jan. 2	H. M. 12 53.9	H. M. —	H. M. 13 0.8	MM. 0.55	H. M. 13 1.8	Clock-driving defective after 13h. 4m.
2	" 3	23 19.0	—	23 23.2	—	23 25.2	Isolated thickening.
3	" 3	23 36.9	—	23 39.3	—	23 40.5	Slight thickening.
4	" 4	5 26.6	5 24.6	6 11.0	1.00	7 ±	Sheet changed at 5h. 50m.
5	" 5	—	—	12 43.8	—	—	Slight thickening.
6	" 6	1 30.2	—	2 13.0	—	3 8 ±	Frequent thickenings.
7	" 9	2 24.3	—	2 31.5	—	2 46.7	Thickening of trace.
8	" 14	2 18.8	2 22.4	2 24.7	1.50	2 47.8	Continuous small movements till No. 9.
9	" 14	—	3 5.1	3 21.4	4.00	4 7.2	Small tremors for several hours afterwards.
<i>Movements, origin of which is doubtful.</i>							
Jan. 7, very faint tremors from 4h. to 5h.							
Jan. 13-15, tremors throughout these days, especially Jan. 13, 23h. to Jan. 14, 4h., thickening of trace; Jan. 14, 9h., to Jan. 14, 14h., numerous irregular tremors.							
Scale value: 1 mill. = 0''56 arc.							
10	Feb. 1	H. M. 10 0.3	H. M. 10 11.8	H. M. 10 18.7	MM. 0.54	H. M. 10 53.1	* A few faint movements for several hours afterwards.
11	" 1	15 18.5	—	15 19.1	0.35	15 21.5	Isolated.
12	" 2	10 14.5	10 16.6	10 22.5	0.25	10 28.8	—
13	" 11	16 16.1	16 25.0	16 25.0	0.85	17 13.7	Commencement of L.W.'s sudden.
14	" 27	0 53.6	0 53.6	1 35.8	2.25	3 0.4	* A few faint tremors after.
Scale value: 1 mill. = 0''50 (Nos. 10-12), = 0''54 (No. 13), = 0''70 (No. 14).							
<i>Movements, origin of which is doubtful.</i>							
Small tremors occurred throughout the 8th, 9th, and 10th.							
15	Mar. 2	H. M. 0 3.1	H. M. —	H. M. 0 39.0	MM. 0.25	H. M. 0 6.5	—
16	" 11	7 58.0	—	8 4.3	—	8 12.3	Very slight thickening.
17	" 15	15 35.3	—	15 56.4	—	16 8.0	Thickening.
18	" 22	15 0.1	—	15 9.9	—	15 20.8	—
19	" 29	16 42.4	—	17 26.2	—	18 24.6	—
20	" 30	3 42.5	3 58.5	4 3.4	0.60	4 15.4	Small movements till 4h. 31m.
<i>Doubtful movements.</i>							
Mar.	1	H. M. 4 30	—	—	—	14 5	Irregular tremors.
"	2	4 30	—	—	—	8 30	" "
"	8	11 36	—	—	—	13 48	" "
"	10	6 30	—	—	—	11 45	Numerous thickenings.
"	11	0 20	—	—	—	4 30	Irregular tremors.
"	11	9 0	—	—	—	14 0	Several slight thickenings.
"	15	0 40	—	—	—	4 22	Continuous irregular tremors.
"	16	21 14	—	—	—	17 4 14	" "
"	26	3 10	—	—	—	5 24	Frequent irregular tremors.
Scale value: 1 mill. = 0''65 (March 1-10), = 0''22 (March 11-31).							
21	Apr. 1	H. M. 7 20.5	H. M. —	H. M. 7 29.0	MM. 0.15	H. M. 7 28.9	Isolated.
22	" 3	8 5.8	—	8 8.3	—	8 8.3	Mere thickening of trace.
23	" 4	7 24.0	—	—	—	7 27.0	Very slight thickening.
24	" 10	13 10.6	—	—	—	13 22.6	" "
25	" 12	3 46.2	—	5 54.7	0.20	5 10.2	" "
26	" 12	23 2.7	—	23 4.2	0.20	23 8.6	Isolated.

Register from the Royal Alfred Observatory, Mauritius—continued.

No.	Date	P.T. Commence	L.W. Commence	Max.	Ampl.	End	Remarks
27	Apr. 27	H. M. —	H. M. —	H. M. 8 12.9	MM. —	H. M. —	Isolated, very slight movement.
28	" 29	0 ±	0 12.5	0 17.5	1.50	0 52.0	—
29	" 29	4 10.7	5 1.2	5 14.8	1.45	7 16.2	Sheet changed between 5h. 36m. to 5h. 46m.
30	" 30	—	3 21.0	3 27.0	0.30	5 14.7	Thickening of the trace.
<i>Doubtful movements.</i>							
Apr.	6-7	D. H. M. 19 16	H. M. —	H. M. —	MM. —	D. H. M. 5 52	Tremors throughout. Especially active from 6d. 22h. to 7d. 5h.
"	10	15 40	—	—	—	15 58	Heavy rain about this time.
"	11	6 19	—	—	—	13 52	Continuous slight tremors.
"	13	22 30	—	—	—	23 30	Small regular waves.
"	14	0 41	—	—	—	4 30	Irregular tremors.
"	15	11 37	—	—	—	13 46	Small tremors all day on 15th and 16th. Especially active at times noted.
"	16-17	16 21 28	—	—	—	17 4 46	"
"	22-23	22 13 10	—	—	—	23 5 30	Irregular tremors.
"	25	6 48	—	—	—	8 20	Slight irregular tremors.
"	25	12 6	—	—	—	13 45	"
"	30	2 44	—	—	—	6 14	Frequent "irregular" tremors. Disturbance No. 30 occurred during these movements.
Scale value: 1 mill. = 0''23.							
31	May 9	H. M. 13 54.4	H. M. —	H. M. —	MM. —	H. M. 14 0.6	Duration. Isolated thickening.
32	" 13	6 14.5	6 58.0	7 1.3	2.0	18 ±	H. M. 0 6.8 6 ±
"	"	"	"	7 6.0	2.0	"	"
33	" 13	15 23.6	—	—	—	15 27.6	Isolated, very slight.
34	" 15	12 ±	—	—	—	13 5	Several thickenings.
35	" 16	3 4.6	—	3 13.1	—	3 22.3	±
36	" 17	0 30	1 5.2	1 7.2	0.85	3 45	3 18
37	" 23	20 31.1	—	—	—	20 32.1	0 11
38	" 23	23 30	—	22 50.9	0.50	23 11	0 41
39	" 28	4 36.7	—	—	—	5 16.0	0 39.3
<i>Movements, origin of which is doubtful.</i>							
May	7	D. H. M. 0 3	—	—	—	D. H. M. 0 5	Slight tremors.
"	8	—	—	—	—	0 5	Continuous tremors.
"	10	0 21 ±	—	—	—	0 22 ±	Small regular wave movements.
"	12-13	12 21	—	—	—	13 5 ±	Frequent irregular tremors.
"	13-14	13 18 ±	—	—	—	14 5	Continuous tremors.
"	14-15	14 22 ±	—	—	—	15 5	"
"	19-20	19 22 ±	—	—	—	20 3 ±	Slight regular movements.
"	20-21	20 22 ±	—	—	—	21 3 ±	"
"	23	0 6	—	—	—	0 10 ±	Numerous thickenings.
"	24	Numerous thickenings all day.	—	—	—	—	"
"	25	0 6	—	—	—	0 15 ±	Numerous slight thickenings.
"	26	0 6	—	—	—	0 12	"
"	29	0 3 ±	—	—	—	0 6	Irregular tremors.
"	30-31	30 18	—	—	—	31 4 ±	Frequent irregular tremors.
Scale value: 1 mill. = 0''28.							

Register from the Royal Alfred Observatory, Mauritius—continued.

No.	Date	P.T. Commence	L.W. Commence	Max.	End	Max. Amplitude	Value of 1 mm. (in arc)	Duration	Remarks
40	June 2	H. M. 1 30.0	H. M. —	H. M. —	H. M. 3 0.0	MM. —	"	H. M. —	Frequent thickening.
41	" 4	15 11.8	15 17.2	15 18.9	15 46.5	0.40	0.25	0 34.7	—
42	" 7	9 28.0	9 49.7	9 53.3	10 2.1	0.35	0.25	0 34.1	Isolated thickening.
43	" 8	5 45.9	5 55.2	6 56.4	6 32.7	0.60	0.25	0 40.8	—
44	" 9	11 51.6	12 5.0	12 9.1	12 26.9	0.40	0.25	0 35.3	—
45	" 10	16 58.5	17 30.6	17 32.2	17 41.5	0.45	0.25	0 43.0	—
46	" 15	23 2.5	—	—	23 22.3	—	—	0 19.8	Very slight widening.
47	" 17	20 28.4	—	—	20 37.7	—	—	0 9.3	Slight tremors.
48	" 24	13 49.3	—	14 4.3	14 16.4	—	0.25	0 27.1	—
49	" 25	19 26.6	—	—	19 29.8	—	—	0 4.2	—

Movements, origin of which is doubtful.

D.	H.	D.	H.	Remarks
June 4	4	to 0	13.1	Frequent but slight irregular tremors.
" 5	4	" 0	13.2	" " "
" 7	20	" 0	5	Frequent tremors.
" 10	20	" 0	5.4	Active tremors.
" 12	4	" 0	10.4	Occasional very slight thickenings.
" 13	3.2	" 0	4.2	Irregular movements; heating lamp out at 3h. 28m.
" 14	1.2	" 0	4.2	Irregular movements.
" 17	4	" 0	5.4	Very slight irregular tremors.
" 18	0	" 0	5	" " "
" 19	2.1	" 20	5	Slight tremors; most active from 3h. to 4.2h.
" 21	3.2	" 0	5.4	Slight irregular tremors.
" 21	20	" 22	3	" " "
" 23	22.1	" 0	5	Irregular tremors.
" 24	0.2	" 0	5	" " "
" 25	20	" 28	4.2	" " "

Register from the Botanical Department, St. Clair, Trinidad.
Superintendent, J. H. HART, F.L.S.

No.	Date	P.T. Commence	L.W. Commence	Max.	End	Max. Amplitude	Duration	Remarks
1903.								
114	Jan. 3	H. M. 21 30	H. M. 21 33	H. M. 21 35	H. M. 21 57	MM. 1	H. M. 0 27	—
116	" 10	18 21	—	18 25	18 29	1	0 8	—
116	" 14	1 57	2 4	2 17	3 36?	8	1 89?	Merged in morning tremors.
117	" 17	16 16	—	16 29	16 56	1.5	0 40	—
118	" 17	19 38	—	—	19 43	—	0 5	Thickening of line.
119	" 22	4 20	—	—	4 25	—	0 5	" "
120	" 24	15 45	15 53	15 55	16 19	5	0 34	—
121	" 25	15 29	—	—	15 36	—	0 7	Thickening of line.
122	" 26	15 50	—	—	16 4	—	0 14	" "
123	" 30	17 35	—	17 38	17 39	1	0 4	—
124	Feb. 2	19 9	—	19 13	19 18	1	0 9	—
125	" 7	12 19	12 20	12 21	12 36	14	0 17	Merged in morning tremors.
126	" 9	13 57	—	13 58	14 6	15	0 9	—
127	" 9	23 55	—	—	2 9	2	2 13	Series of tremblings.
128	" 10	18 28	—	18 31	18 55	1	0 7	—
129	" 14	19 53	19 57	19 59	20 3	fullswing	0 10	—
130	" 15	6 24	—	—	6 27	0.3	0 3	Thickening of line.
131	" 22	0 44	—	1 43	2 18	2	1 34	Series of tremblings.
132	" 24	20 27	—	20 33	20 37	2	0 10	—
133	" 28	9 51	9 52	10 3	10 15	1.5	0 25	—
134	" 28	16 28	—	16 30	16 36	1	0 8	—
135	" 29	16 45	—	—	16 45	—	0 3	Thickening of line.
135	Mar. 1	16 37	—	16 47	16 56	1	0 19	—
137	" 2	19 5	—	19 8	19 15	1.6	0 10	—
138	" 4	23 47	—	—	—	—	2 38	Series of tremblings.
138	" 5	—	—	—	2 31	—	—	—

Register from the Botanical Department, Trinidad—continued.

No.	Date	P.T. Commence	L.W. Commence	Max.	End	Max. Amplitude	Duration	Remarks
139	Mar. 5	H. M. 18 4	H. M. —	H. M. 18 6	H. M. 18 9	MM. 1	H. M. 0 5	—
140	" 7	12 54	—	—	12 59	—	0 5	Thickening of line.
141	" 9	19 14	—	—	19 18	—	0 4	" "
142	" 9	21 46	—	21 47	21 53	12	0 7	" "
143	" 10	15 18	—	—	16 22	—	0 6	Thickening of line.
144	" 10	16 35	—	—	16 38	—	0 3	" "
145	" 12	15 56	—	—	16 58	—	0 2	" "
146	" 13	19 32	—	—	19 38	—	0 6	" "
147	" 17	13 19	—	—	13 28	1	0 9	—
148	" 19	19 23	—	—	19 26	—	0 3	Shock felt at office.
149	" 21	13 28	—	13 33	13 38	1.5	0 10	—
150	" 22	13 59	—	—	14 8	—	0 9	Thickening of line.
151	" 24	12 50	—	12 55	12 58	1	0 8	—
152	" 24	18 39	—	—	18 44	—	0 5	Thickening of line.
153	" 29	12 59	—	13 1	13 13	fullswing	0 14	—
154	" 29	16 56	—	17 8	17 31	1	0 55	—
155	" 30	17 17	—	—	17 19	—	0 2	Thickening of line.
156	" 31	13 47	—	—	13 51	—	0 2	" "
157	Apr. 2	18 29	—	18 30	18 40	fullswing	0 11	" "
158	" 2	20 12	—	20 15	20 19	1	0 7	—
159	" 6	12 41	—	12 43	12 47	1	0 6	—
160	" 6	15 7	—	—	15 9	—	0 2	Thickening of line.
161	" 9	19 15	—	19 16	19 24	fullswing	0 9	—
162	" 11	17 30	—	—	17 32	—	0 2	Thickening of line.
163	" 13	0 25	1 19	1 21	1 29	fullswing	0 4	—
164	" 21	12 32	—	—	12 36	—	—	Series of small disturbances 1-3 mm. amplitude.
165	" 22	12 28	—	—	16 46	—	—	" "
166	" 22	19 34	20 10	20 23	22 24	2	2 50	" "
167	May 19	0 29	—	—	0 32	1	0 3	—
168	" 19	0 47	—	—	1 3	—	—	Several thickenings of line.
169	" 19	1 17	—	—	1 20	1	0 3	—
170	" 19	14 18	—	—	14 20	—	0 2	Thickening of line.
171	" 20	20 46	—	—	22 1	—	—	—
172	" 23	17 1	—	—	17 6	1	0 5	" "
173	June 2	13 39	—	13 53	14 58	1	0 59	—
174	" 2	18 13	—	—	18 15	—	0 2	Thickening of line.
175	" 14	13 21	—	—	16 9	—	2 25	Series of tremblings.
176	" 18	16 57	—	—	17 5	1	0 8	Shock felt at station.
177	" 18	18 38	—	—	18 48	—	0 10	Thickening of line.
178	" 20	13 57	—	14 3	14 16	14	0 19	—

Register from the Tiflis (Caucasus) Physikalisches Observatorium.
Director, S. HLASEK.

No.	Date	P.T. Commence	L.W. Commence	Max.	End	Max. Amplitude	Remarks
1903.							
1	Jan. 2	H. M. —	H. M. 12 53.5	H. M. 13 4.2	H. M. 15 24.0	MM. 0.4	—
2	" 4	6 25.4	5 28.5	5 29.7	7 46.7	1.2	—
3	" 5	22 13.4	22 34.2	22 37.1	23 28.0	1.7	—
4	" 6	—	15 12.9	15 18.6	15 59.7	0.2	—
5	" 10	—	1 43.8	1 49.4	1 59.6	0.5	—
6	" 14	2 2.7	2 14.3	3 19.3	5 0.0	7.9	—
7	" 17	—	15 28.8	17 17.8	19 11.5	0.8	—
8	" 19	—	13 3.0	13 41.8	14 34.0	0.4	—
9	" 21	—	0 4.6	—	0 29.4	0.2	—
10	" 21	—	2 58.7	—	—	0.2	—
11	" 22	0 6.6	0 18.5	0 30.6	1 20.1	1.0	—
12	" 24	5 57.4	6 21.6	6 29.6	7 32.7	0.8	—
13	" 26	—	8 37.2	8 37.6	9 0.1	0.7	—

Register from Tiflis (Caucasus) Observatory—continued.

No.	Date	P.T. Commence	L.W. Commence	Max.	End	Max. Amplitude	Remarks
14	Feb. 1	H. M. —	H. M. 9 51.3	H. M. 10 2.8	H. M. 10 2.8	MM. 30.5	—
15	" 2	10 7.2	10 11.7	10 17.4	11 46.5	0.9	—
16	" 2	—	13 42.3	13 45.9	13 51.3	0.4	—
17	" 3	—	12 31.3	12 32.4	13 7.9	1.3	—
18	" 5	—	2 43.1	2 47.9	2 57.3	1.3	—
19	" 6	18 40.6	19 14.1	19 43.9	—	8.0	—
20	" 6	7 43.2	7 53.9	8 4.9	—	5.0	—
21	" 7	—	13 58.7	14 4.2	—	1.4	—
22	" 10	3 41.4	3 46.7	3 49.9	4 45.5	1.5	—
23	" 11	—	16 17.4	16 28.9	18 6.9	1.0	—
24	" 12	—	18 59.4	19 10.3	19 27.9	1.0	—
25	" 23	—	12 15.0	12 29.7	—	0.4	—
26	" 24	6 45.1	6 48.0	6 50.5	7 1.2	1.5	—
27	" 24	—	17 50.0	18 43.5	—	1.1	—
28	" 27	0 55.3	1 5.4	1 52.9	—	5.0	—
29	" 28	10 14.8	10 36.4	10 52.5	—	0.5	—
30	Mar. 1	—	6 59.5	7 3.4	0 59.3	0.5	—
31	" 12	14 25.4	14 35.5	14 46.3	14 53.0	1.0	—
32	" 15	6 9.0	6 39.4	6 46.2	7 21.3	0.5	—
33	" 15	14 38.1	15 8.0	15 12.3	15 58.6	0.7	—
34	" 22	14 35.3	14 41.7	14 47.3	15 28.7	2.3	—
35	" 25-26	22 31.2	22 37.4	22 37.9	23 9.4	1.5	—
36	" 28	—	8 4.7	—	—	—	After 8h. 47m. pendulum regulated. Registration disturbed.
37	" 29	16 53.9	16 59.3	16 59.7	—	0.4	—
38	" 30	3 35.4	3 44.8	3 46.0	—	0.8	—
39	" 30	—	—	5 4.3	—	0.2	—
40	Apr. 1	—	1 8.0	1 8.8	—	0.3	—
41	" 1	—	14 53.5	14 56.3	15 7.1	0.5	—
42	" 2	14 6.3	14 8.8	14 7.0	14 11.9	1.3	—
43	" 3	—	10 8.3	10 28.7	—	1.0	—
44	" 3	—	21 11.8	21 14.5	—	1.1	—
45	" 4	—	0 20.7	0 25.6	—	0.5	—
46	" 12	—	3 40.6	4 0.1	4 49.5	0.8	—
47	" 16	—	3 7.8	3 35.3	4 10.8	0.2	—
48	" 19	—	13 30.9	13 31.9	—	0.2	—
49	" 19	—	13 59.2	14 0.1	14 31.9	0.8	—
50	" 21	—	9 53.1	10 3.0	—	0.7	—
51	" 22	—	21 31.5	21 31.7	—	0.4	—
52	" 27	—	16 16.1	16 16.4	—	0.2	—
53	" 28-29	23 41.0	23 41.8	—	—	—	Amplitude considerable, indefinite.
54	" 29	4 24.5	4 28.2	4 28.8	—	0.5	—
55	" 30	—	—	4 55.2	—	1.1	—
56	" 30	—	—	18 2.9	—	0.3	—
57	May 1	10 9.2	20 18.3	20 18.8	—	0.8	—
58	" 2	—	10 12.9	10 13.6	—	0.6	—
59	" 13	6 49.1	6 53.6	7 0.6	—	1.5	Microseismic disturbance. Registration uncertain.
60	" 17	0 56.2 ?	1 15.9 ?	1 31.1	2 12.6	0.7	—
61	" 23	—	22 21.0	22 58.4	23 43.7	0.6	—
62	" 26	—	6 15.4	6 16.9	6 53.5	2.8	—
63	" 28	—	3 58.7	4 0.0	4 21.0	3.7	—
64	" 29	—	9 38.8	9 39.9	—	0.5	Commencement doubtful.
65	June 2	19 27.8	19 37.2	19 38.6	?	4.0	—
66	" 2	23 58.6	23 59.7 ?	24 5.5	?	0.3	—
67	" 3	—	17 28.1	17 28.3	?	0.8	—
68	" 4	—	21 17.5	21 20.4	21 57.4	1.2	—
69	" 8	15 15.5	15 24.1	15 49.0	circa 17h.	1.0	—
70	" 8	—	11 44.3	—	13 22.0	?	—
71	" 9	17 6.0	17 10.7	17 18.2	?	0.6	—
72	" 10	—	18 23.7	18 23.9	?	0.4	—
73	" 10	—	22 53.3	23 42.6	?	0.9	—
74	" 24	14 57.1	14 57.4	14 57.7	?	0.6	—
75	" 24	—	19 8.3	19 14.3	19 50.1	0.4	—
76	" 24	21 44.7	21 45.2	21 57.1	23 3.0	4.0	—

Register from Tiflis (Caucasus) Observatory—continued.

No.	Date	P.T. Commence	L.W. Commence	Max.	End	Max. Amplitude	Remarks
77	June 26	H. M. ?	H. M. 4 32.4	H. M. 4 37.5	H. M. ?	MM. 2.1	—
78	July 8	—	4 42.5	4 42.7	4 48.9	0.9	—
79	" 8	?	?	9 43.5 ?	9 52.2 ?	0.1 ?	—
80	" 8	10 38.2	10 38.7	10 38.9	10 43.1	0.4	—
81	" 9	—	13 21.3	13 21.5	13 30.3	3.5	—
82	" 10	—	9 33.8	9 35.3	9 42.5	0.3	—
83	" 11	?	12 31.6	12 34.4	?	0.3	—
84	" 12	5 36.8	5 45.1	5 45.6	?	0.4	—
85	" 15	?	19 38.0	19 38.5	?	0.2	—
86	" 16	?	0 0.3	0 3.3	?	0.2	—
87	" 19	18 11.2	18 15.7	18 17.4	18 30.8	0.6	—
88	" 25	?	22 56.4	23 22.5	23 50.5	0.7	—
89	" 27	?	0 36.4	?	1 20.3	?	—

Register from Wellington, New Zealand.
Director, GEORGE HOBGEN, M.A.

No.	Date	P.T. Commence	L.W. Commence	Max.	End	Max. Amplitude	Duration	Remarks
1903.								
315	July 1	H. M. —	H. M. —	H. M. 5 49.5	H. M. 5 46.5	MM. 0.5	H. M. 0 06	—
316	" 1	—	—	8 00.4	8 03.0	sm.	0 02.6	—
317	" 1	—	—	9 06.5	?	sm.	?	—
318	" 1	15 33.0	—	—	—	—	—	Tremors (not air tremors).
319	" 2	—	—	—	11 14.0	—	19 31.0	? Local.
320	" 4	—	—	3 34.8	—	sm.	—	—
321	" 4	—	—	4 53.2	—	0.5	—	—
321	" 5	From	0 41.0	(large tremors till	3 23.0	1.0	—	Tremors.
321	" 5	—	—	—	5 40.0	—	—	—
322	" 6	7 23.0	—	7 39.8	—	2.5	—	? Local or insect (but followed by smaller shocks).
323	" 6	13 05.2	13 12.8	13 15.2	13 37.0	5.0	2.0	Boom period 15s. 1mm.=0°61' of arc.
324	" 8	8 30.0	—	—	16 40.0	—	—	Very small tremors (S.E. Australia).
325	" 8	—	—	22 41.0	—	v. sm.	—	—
326	" 11	22 50.0	—	—	—	—	—	Small tremors.
327	" 12	—	—	—	8 10.0	—	—	—
327	" 14	12 07.0	—	19 03.5	—	0.5	—	—
328	Aug. 9	14 37.3	14 43.6	14 47.2	15 05.0	2.6	13 13	Boom period 17.5s. Other tremors for 2h. before.
329	" 13	19 12.0	—	—	—	—	—	Small tremors with several small shocks.
330	" 16	8 11.6	8 19.5	8 22.5	8 28.3	4.5	0 52	Boom period 17s.
331	" 20	22 00.0	—	—	—	—	—	Small tremors.
331	" 22	—	—	—	about	—	—	—
332	" 22	3 29.0	4 06.5	4 23.9	—	—	28 40	Boom period 17.5s.
332	" 24	—	—	4 27.5	?	4	—	Large tremors till 22.30 on Aug. 23. Smaller till 9.25 on Aug. 24.
333	Sept. 5	12 39.0	—	—	—	—	—	Tremors, many large.
333	" 7	—	—	—	9 03.0	1.2	44 24	—

Register from Wellington (New Zealand)—continued.

No.	Date	P.T. Commence	L.W. Commence	Max.	End	Max. Amplitude	Duration	Remarks
		H. M.	H. M.	H. M.	H. M.	MM. sm.	H. M.	
334	Sept. 9	—	—	22 57.0	—	—	—	Probably local.
335	" 10	—	—	1 16.6	—	sm.	—	
336	" 10	—	—	8 02.6	—	sm.	—	
337	" to 12	16 40.0	—	—	about 6 50	—	—	
338	" to 14	14 41.0	—	—	—	—	—	
339	" 15	—	—	—	11 51.0	—	—	
340	" 16	2 01.5	—	2 03.4	—	1.0	0 26	
341	" 17	7 40.0	—	—	10 21.0	—	2 41	
342	" 18	—	—	—	—	—	—	
343	" 19	—	—	9 28.1	—	—	—	
344	" 19	—	—	9 30.9	—	—	—	
345	" 19	—	—	9 40.8	—	—	—	
346	" 19	—	—	9 46.8	—	—	—	
347	" 19	—	—	10 08.1	—	—	—	
348	" 19	—	—	10 34.0	—	—	—	
349	" 19	—	—	11 09.4	—	—	—	
350	" 19	—	—	12 05.5	—	—	—	
351	" 21	0 50.4	1 07.0	1 08.0	1 14.5	0.8	20 40 about	Preceded and followed by tremors and other small shocks till 21h. 30m.
352	" 22	1 42.0	2 06.2	2 09.2	—	—	—	Boom period 15s.
353	" 23	20 33.1 or 21 05.2	20 44.9	—	—	—	—	—
354	" 24	1 44.0	—	1 16.8	1 19.0	0.5	—	—
355	" 25	0 35.0	—	—	—	—	—	Small tremors.
356	" 28	15 12.5	15 16.8	16 19.0	16 25.0	1.0	0 12.5	Boom period 18s.
357	" 28	20 42.4	—	20 48.0	—	sm.	—	Probably local.
358	" 29	—	—	7 49.0	—	sm.	—	" "
359	" to 30	19 01.0	—	21 54.2	—	—	—	After - tremors many large.
360	Oct. 1	—	—	—	7 02.0	—	36 0	Tremors, large from about 6.30 on Oct. 3.
361	" 2	14 35.0	—	—	—	—	—	—
362	" 4	—	—	—	9 21.0	—	42 46 about	Local shocks and tremors.
363	" 5	14 59.4	14 57.0	14 59.2	15 14.0	1.5	0 22	—
364	" 7	3 00.0	—	—	—	—	—	—
365	" 8	—	—	10 00	—	—	31 00 about	Tremors, many larger. S.E. Australian region.
366	" 9	18 23.0	—	—	10 53.0	—	16 30 about	—
367	" 10	11 17.2	11 19.0	11 21.2	11 32.0	1.2	—	—
368	" 11	14 50.0	—	—	16 20.0	—	—	Tremors, many large.
369	" 22	20 00.0	—	—	—	—	—	—
370	" 23	—	—	12 00.0	—	—	16 00	" "
371	" 24	19 30.0	—	—	18 20.0	1.5	22 50 about	" "
372	" 28	—	9 47.0	9 56.0	10 03.0	0.9	0 22	—
373	" 29	—	—	20 27.0	—	sm.	—	—
374	" 31	22 18.0	—	22 41.0	—	sm.	—	—
375	Nov. 1	18 0	—	—	—	—	—	Tremors, mostly small.
376	" 2	—	—	—	22 0	—	—	—

Register from Wellington (New Zealand)—continued.

No.	Date	P.T. Commence	L.W. Commence	Max.	End.	Max. Amplitude	Duration	Remarks
		H. M.	H. M.	H. M.	H. M.	MM. sm.	H. M.	
373	Nov. 4	18 30	—	—	—	—	—	Tremors, mostly small.
374	" 6	—	—	—	3 10 about	—	32 40	—
375	" 7	1 33.5	1 34.2	1 35.0	1 42.0	1.0	9 00 about	Tremors till 10.30.
376	" 7	19 00.0	—	—	—	—	—	Tremors, mostly small.
377	" 8	—	—	—	5 30 about	—	10 30	—
378	" 8	14 00.0	—	—	—	—	—	—
379	" 9	14 00.0	—	—	12 00.0	—	22 0	—
380	" 9	14 00.0	—	—	—	—	—	—
381	" 10	—	—	—	7 00.0	—	17 0	—
382	" 11	1 05.0	—	—	—	—	—	Shock with long after-tremors till 7.10 on Nov. 12.
383	" 11	3 31.0	3 52.0	3 53.0	—	1.5	—	—
384	" 12	—	—	—	7 10.0	—	—	—
385	" 12	23 11.0	—	—	—	—	—	Tremors, many very large.
386	" 15	—	—	—	12 00.0	2.0	—	—
387	" 20	20 08.0 or 20 19.0 or 21 37.0	21 41.0	21 44.2	?	10.0	13 30 about	After-tremors and 'repeats' till 9.45 on Nov. 21.
388	" 25	19 40.0	—	—	—	—	—	Tremors.
389	" 26	—	—	—	21 00.0	—	—	Boom period 18-6s.
390	" 27	17 42.0	—	21 19.8	—	1.6	—	Tremors, many large.
391	" 29	22 30.0	—	—	—	1.4	—	—
392	Dec. 1	—	—	—	9 13.0	—	—	—
393	" to 12	23 55.0	—	23 59.5	—	2.3	—	—
394	" 13	—	—	—	0 38.2	—	—	Tremors till 7h. 46-6s.
395	" 14	4 32.0	—	—	16 13.0	—	—	Small tremors.
396	" 14	20 39.0	—	—	—	—	—	Tremors moderate.
397	" 15	—	—	—	7 30.0	—	—	—
398	" 16	12 52.2	—	—	—	—	—	Tremors small.
399	" 17	—	—	—	1 51.4	—	—	—
400	" 27	—	—	22 14.0	—	sm.	—	Local.
401	" 27	20 48.0	—	—	—	—	—	Tremors moderate.
402	" 28	—	—	—	12 04.0	—	—	—
403	" 28	19 08.0	—	—	—	—	—	Tremors, many large. ? S.E. Australian region.
404	" 29	—	—	—	7 36.0	—	—	—
405	" 29	23 38.5	—	—	—	—	—	Small tremors.
406	" 30	—	—	—	1 02.8	—	—	—

Range of temperature in room averages 3° to 5° F. in twenty-four hours.
 1 mm. of amplitude = 0.0051 of arc.
 N.B.—No air tremors are included. What Mr. Milne supposed to be air tremors on former list and rejected are undoubtedly earth movements—probably adjustments below sea-bed in the Thompson Deep.—G. HOBGEN, April 15, 1908.
 The large numerals in the first column refer to earthquakes recorded at other stations.—J. MILNE.

Register from Cordoba, Argentine Republic. Director, Mr. W. G. DAVIS.
Sub-Director, Mr. T. G. RECTOR.

No.	Date	P.T. Commence	L.W. Commence	Max.	End	Max. Amplitude	Duration	Remarks	
1902									
534	Jan. 7	H. M. 21 16.8	H. M. —	H. M. —	H. M. —	MM. —	H. M. —	T. very slight.	
535	" 9	—	—	0 17.8	—	0.1	0 6	Slight thickening.	
536	" 11	—	—	18 32.1	—	—	0 4	Three slight thickenings.	
537	" 16	2 16.8	—	—	—	11 30	0 5	T. slight.	
538	" 16	—	—	23 42.7	—	0.3	0 5	Slight, carrot-shaped.	
Register lost from 4h. 16.8m. to 7h. 16.8m. and 13h. to 16h. on the 17th.									
539	" 18	—	23 41.2	23 44.2	—	0.4	0 6	True earthquake movement, very small.	
540	" 21	—	21 53.9	22 3.1	22 45.8	1.3	0 51.9	Slight thickening.	
541	" 24	—	23 47.8	23 48.8	—	0.1	0 53.9	True earthquake movement, slight.	
542	" 28	18 57.5	19 4.1	19 3.1	19 29.0	0.5	0 31.5	True earthquake movement, slight. Slight dislocation, 1 mm. East.	
543	Feb 4	19 57.5	—	—	—	—	—	True earthquake movement, very slight.	
544	" 17	—	6 42.2	—	—	0.5	0 48.8	Apparently true earthquake movement.	
545	" 22	19 53.9	—	12 54.9	—	0.5	0 4	Apparently true earthquake movement.	
546	" 27	1 16.8	—	—	—	—	13 0	T. slight.	
547	" 28	3 42.8	—	—	—	—	14 0	C.I.M. slight.	
548	Mar. 4	10 13.2	—	10 15.2	—	0.5	0 22	Cigar-shaped thickening.	
549	" 4	11 59.0	—	12 2.0	—	0.5	0 34	" "	
Register lost from 18h. on 5th to 14h. on 7th.									
550	" 9	4 45.5	—	—	—	—	0.1	0 6	Slight thickening of line.
551	" 9	10 36.1	—	—	—	—	0.1	0 8	" "
552	" 10	2 38.8	—	—	—	—	—	Erratic movement; insects?	
Register lost from 1h. on 11th to 14h. on 12th.									
553	" 20	15 5.6	—	—	—	—	—	Slight dislocation with vibration, 1 mm. to W.	
554	" 20	18 19.3	—	—	—	—	—	Slight dislocation with vibration, 1 mm. to E. followed by T.	
Register lost from 0h. on 24th to 14h. on 28th.									
555	" 28	15 3.8	—	21 8.2	—	0.5	uncertain	True earthquake movement.	
Register lost from 3h. to 12h. on 29th.									
556	April 5	0 52.9	—	0 54.9	—	0.5	0 8.1	True earthquake movement, very slight.	
557	" 6	6 29.0	6 31.5	6 35.8	—	0.5	0 29.5	" "	
558	" 7	—	—	14 37.8	—	0.2	0 2.0	Slight >	
559	" 11	23 57.0	—	23 59.5	the 12th	16.5	1 2.0	Sudden, very violent, followed by beadlike movements.	
560	" 12	1 33.1	—	1 34.1	—	1.0	0 9	Carrot-shaped.	
561	" 12	6 24.8	—	6 27.5	—	1.25	0 11.7	" "	
562	" 12	11 57.0	—	11 58.0	—	0.5	0 5	Pronounced thickening.	
563	" 13	3 7.1	—	3 8.6	—	0.2	0 5	Slight thickening.	
564	" 13	21 51.9	—	21 54.3	22 30.4	4.0	0 38.5	Sudden and strong, followed by beadlike movements.	
565	" 15	8 37.1	—	8 38.6	—	0.2	0 3	Slight movement.	
566	" 15	14 0.0	—	14 0.1	—	0.1	0 4	Slight thickening.	
Register lost from 11 o'clock to 14h. on the 16th.									

Register from Cordoba, Argentine Republic—continued.

No.	Date	P.T. Commence	L.W. Commence	Max.	End	Max. Amplitude	Duration	Remarks
567	April 18	H. M. —	H. M. —	H. M. 3 45.8	H. M. —	MM. 0.2	H. M. 0 2	Slight thickening.
568	" 18	21 52.9	21 53.9	21 54.4	—	0.5	0 10	Small but apparently true earthquake movement.
569	" 19	2 32.1	2 39.1	2 45.3	—	3.0	1 36.5	Strong and well-defined.
570	" 19	5 23.9	—	5 28.0	—	2.0	0 5	" "
571	" 19	8 28.0	—	—	—	0.1	0 4	Very small thickenings.
572	" 19	16 35.6	—	—	—	0.1	0 1.5	" "
573	" 19	18 1.0	—	—	—	0.1	0 2.0	" "
574	" 20	16 43.2	16 44.2	16 46.3	17 22.9	3.0	0 39.7	Well defined.
575	" 20	23 22.9	—	23 23.9	—	0.2	0 14.2	Very slight.
576	" 21	19 41.2	—	—	—	0.1	0 4	Very slight thickening.
577	" 22	0 18.8	—	—	—	—	15 0	T. very slight.
578	" 23	0 18.8	—	—	—	—	14 0	C.I.M.
579	" 24	21 23.9	—	—	—	0.2	0 5	Slight >
580	" 25	22 52.9	—	22 54.9	—	17.0	1 3.1	Large, beginning abrupt followed by beadlike movements.
581	" 28	20 49.2	—	—	—	0.1	0 3	Very slight thickening.
582	" 29	13 44.2	13 47.3	13 48.3	13 55.4	0.5	0 11.2	Later part carrot-shaped.
583	May 4	10 2.8	—	—	—	—	—	Slight dislocation to W.
584	" 4	—	—	13 32.0	13 48.2	1.5	0 11.2	Double >
Register lost from 12h. 46m. to 14h. 16m. on 6th day and from 19h. 16.8m. on same day to 14h. on 8th.								
585	" 9	2 40.8	—	—	—	—	1 30.0	Erratic movements; insects?
586	" 9	12 32.8	—	—	—	—	1 14.0	Irregular bendings.
587	" 9	22 16.8	—	—	—	—	16 0.0	T. slight.
588	" 11	1 16.8	—	—	—	—	37 0	" "
589	" 12	9 7.1	—	9 9.2	—	0.5	0 8	True earthquake movement.
590	" 13	4 0.0	—	—	—	—	12 0	T. slight.
591	" 13	23 0.0	—	—	—	—	15 0	T. and C.I.M. slight, strongest between 8 and 12.
592	" 15	1 16.8	—	—	—	—	13 0	T. and C.I.M. slight.
593	" 16	2 0.6	—	—	—	—	14 0	T.
594	" 17	2 0.6	—	—	—	—	14 0	T.
595	" 17	18 45.8	—	—	—	—	—	Strong bending of line to E.
596	" 18	5 0.0	—	—	—	—	9 0	T. slight.
597	" 22	0 24.3	—	0 24.9	—	0.2	0 3	Slight, doubtful.
598	" 26	16 58.0	—	16 59.0	17 16.8	0.4	0 18.8	Small beadlike shock, followed by thickening of line.
599	" 27	—	—	—	—	—	15 0	T. very slight.
600	" 27	23 0.0	—	—	—	—	87 0	T. very slight, strongest during early morning hours.
601	" 28	6 46.8	—	—	—	—	—	Slight dislocation.
June Register lost from 7h. 46.8m. to 14h. on June 2.								
602	June 2	22 6.8	—	22 10.3	22 31.8	0.5	0 25.0	True earthquake movement.
603	" 4	—	—	—	—	—	14 0	C.I.M.
604	" 4	23 0.0	—	—	—	—	15 0	T. and C.I.M.
605	" 6	—	—	—	—	—	14 0	C.I.M.
606	" 7	4 0.0	—	—	—	—	10 0	T.
607	" 8	2 0.0	—	—	—	—	12 0	T.
608	" 12	4 0.0	—	—	—	—	10 0	T.
609	" 13	4 0.0	—	—	—	—	10 0	T.
610	" 17	—	—	23 52.8	—	0.1	0 1.5	Twoslight thickenings of line.
611	" 18	4 0.0	—	24 3.2	—	0.2	0 3.0	T. slight.
612	" 18	28 0.0	—	—	—	—	19 0	C.I.M.

Register from Cordoba, Argentine Republic—continued.

No.	Date	P.T. Commence	L.W. Commence	Max.	End	Max. Amplitude	Duration	Remarks
		H. M.	H. M.	H. M.	H. M.	MM.	H. M.	
613	June 19	23 0-0	—	—	—	—	17 0	C.I.M.
614	" 20	23 0-0	—	—	—	—	18 0	T. slight.
615	" 21	23 0-0	—	—	—	—	17 0	"
616	" 22	23 0-0	—	—	—	—	18 0	"
617	" 28	4 0-0	—	—	—	—	12 0	"
618	July 2	1 16-8	—	—	—	—	24 0-0	"
619	" 3	1 16-8	—	—	—	—	17 0-0	C.I.M. at times resembling true earthquakes.
620	" 3	21 46-8	—	—	—	—	20 0-0	C.I.M.
621	" 5	0 41-1	—	0 53-2	—	—	0 0	Erratic, dislocation to W. 1½ mm.
622	" 5	1 8-1	—	—	—	—	1-0	Erratic.
623	" 5	5 47-3	—	5 58-0	—	—	3-0	"
624	" 6	4 47-3	—	—	—	—	1-0	"
625	" 6	9 2-1	—	9 4-1	—	—	0 5	Erratic, slight dislocation to W.
626	" 6	20 1-0	—	—	—	—	0 8-0	Erratic, slight bending of line E. 1 mm. with T.
627	" 7	2 19-9	—	—	—	—	0 10-0	Erratic.
628	" 7	2 48-8	—	2 59-0	—	—	0 22-4	Strong and irregular, bending to E. followed by >; later line recovers former position.
629	" 11	22 46-8	—	—	—	—	18 30-0	T.
630	" 13	11 59-0	—	12 6-6	—	—	0 5	Mere thickening, T. since 9h.
631	" 14	7 16-8	—	—	—	—	7 0-0	T. slight.
632	" 16	4 16-8	—	—	—	—	11 0-0	"
633	" 16	18 2-1	—	18 2-6	—	—	0 3-0	Carrot-shaped, small.
634	" 17	0 16-8	—	—	—	—	17 0-0	T. slight.
635	" 18	0 16-8	—	—	—	—	17 0-0	"
636	" 19	0 16-8	—	—	—	—	16 0-0	"
637	" 20	9 6-1	9 15-3	9 17-3	—	—	2-0	Well-defined, preceded and followed by slight T.
638	" 21	4 16-8	—	—	—	—	10 0-0	T. slight.
639	" 22	7 18-8	—	—	—	—	7 0-0	"
640	" 27	20 18-8	—	—	—	—	42 0-0	T. and C.I.M.
641	" 29	22 16-8	—	—	—	—	18 0-0	T. and slight C.I.M.
642	Aug. 1	0 16-8	—	—	—	—	14 0-0	T.
643	" 1	—	—	2 37-6	—	—	0 12-0	Large >, passing limits of paper.
644	" 2	4 16-8	—	—	—	—	10 0-0	T. slight.
645	" 3	0 16-8	—	—	—	—	11 0-0	"
646	" 5	4 16-8	—	—	—	—	10 0-0	"
647	" 5	6 16-8	—	—	—	—	7 0-0	"
648	" 10	2 16-8	—	—	—	—	12 0-0	T. slight and C.I.M.
649	" 11	7 16-8	—	—	—	—	7 0-0	T. slight and C.I.M.
650	" 11	19 53-6	—	19 53-9	—	—	0 3-0	Small but well-defined.
651	" 12	0 46-8	—	—	—	—	13 30-0	T. slight.
652	" 12	17 19-8	—	—	—	—	0 3-0	Dislocation ¼ mm. to E. with vibrations.
653	" 13	0 16-8	—	—	—	—	16 0-0	C.I.M. strongest between 10h. to 12h.
654	" 14	1 16-8	—	—	—	—	13 0-0	C.I.M.
655	" 16	4 16-8	—	—	—	—	10 0-0	C.I.M. strongest between 9h. to 13h.
656	" 17	0 16-8	—	—	—	—	16 0-0	T. and C.I.M.
657	" 18	1 16-8	—	—	—	—	13 0-0	T.
Photo lost from 9h. to 14h. on the 21st.								
658	" 22	3 19-5	3 41-2	4 40-2	—	—	1-0	Well-defined shock.
659	" 23	1 16-8	—	—	—	—	14 0-0	T. and C.I.M. resembling true earthquake movement.
660	" 24	3 16-8	—	—	—	—	11 0-0	T. and C.I.M.

Register from Cordoba, Argentine Republic—continued.

No.	Date	P.T. Commence	L.W. Commence	Max.	End	Max. Amplitude	Duration	Remarks
		H. M.	H. M.	H. M.	H. M.	MM.	H. M.	
661	Aug. 25	4 16-8	—	—	—	—	10 0-0	T. and C.I.M. slight.
662	" 26	4 16-8	—	—	—	—	10 0-0	T. and C.I.M.
663	" 27	7 16-8	—	—	—	—	7 0-0	"
664	" 29	6 16-8	—	—	15 16-8	—	5 0-0	T., with thickenings of line.
665	Sept. 2	6 5-6	—	—	—	0-2	0 5-0	Slight, carrot-shaped.
666	" 9	3 16-8	—	—	—	—	9 0-0	T. and C.I.M. at times resembling true earthquake movement.
667	" 10	6 16-8	—	—	—	—	7 0-0	T. and C.I.M. slight.
668	" 10	—	—	19 36-6	—	0-4	0 4-0	> small.
669	" 11	4 16-8	—	—	—	—	10 0-0	T. slight.
670	" 14	4 16-8	—	—	—	—	10 0-0	T. and C.I.M. slight.
671	" 19	4 16-8	—	—	—	—	10 0-0	C.I.M. slight.
672	" 19	15 22-3	—	18 22-9	—	—	0 17-0	Dislocation 5 mm. to W. with vibrations, passing limits of paper.
673	" 19	23 16-8	—	—	—	—	15 0-0	C.I.M. slight.
674	" 20	19 16-8	—	—	—	—	19 0-0	T. and C.I.M. strongest between 7h. to 9h.
675	" 22	—	2 6-8	2 12-7	—	1-3	2 24-0	Well-defined, beginning of T. uncertain, followed by C.I.M.
676	" 23	6 16-8	—	—	—	—	8 0-0	T. and C.I.M. slight.
677	" 23	—	20 28-0	20 42-2	—	2-5	2 39-1	Well-defined.
678	Sept. 25	1 16-8	—	—	—	—	4-0	—
679	" 29	4 16-8	—	—	—	—	14 0-0	T. and C.I.M.
680	" 30	5 16-8	—	—	—	—	9 0-0	T. slight.
681	Oct. 2	2 16-8	—	—	—	—	12 0-0	T. and C.I.M.
682	" 7	6 16-8	—	—	—	—	8 0-0	T.
683	" 7	21 16-8	—	—	—	—	17 0-0	T. and C.I.M. strongest between 8h. to 11h.
684	" 11	0 16-8	—	—	—	—	14 0-0	T. and C.I.M.
685	" 13	4 16-8	—	—	—	—	9 0-0	T. and C.I.M. slight.
686	" 24	10 16-8	—	—	—	—	6 0-0	C.I.M. strongest at 12h.
687	" 24	22 16-8	—	—	—	—	16 0-0	T. and C.I.M.
688	" 26	9 32-8	—	—	—	0-1	4 44-0	Slight thickening of line.
689	" 27	0 16-8	—	—	—	—	24 0-0	C.I.M.
690	" 28	4 16-8	—	—	—	—	10 0-0	T. and C.I.M.
691	" 31	7 16-8	—	—	—	—	6 0-0	T. slight.
692	Nov. 2	7 6-4	—	7 7-6	—	1-0	0 12-0	Beginning abrupt, last part cigar-shaped.
693	" 7	4 37-1	—	4 42-2	—	—	0 15-0	Thickening of line.
694	" 8	4 16-8	—	—	—	—	10 0-0	T. and C.I.M.
695	" 8	2 16-8	—	—	—	—	12 0-0	"
696	" 10	2 16-8	—	—	—	—	12 0-0	T. and C.I.M. strongest at 8h. to 9h.
697	" 11	10 57-5	—	10 59-5	—	—	0 6-0	Thickening of line.
698	" 15	4 16-8	—	—	—	—	10 0-0	T. slight.
699	" 16	2 16-8	—	—	—	—	12 0-0	C.I.M. resembling true earthquake movement from 8h. to 9h.
700	" 20	20 50-8	—	21 35-8	22 20-8	0-5	1 30-0	Series of slight cigar-shaped movements, time approximate.
701	" 21	7 29-0	—	—	8 17-0	—	0 48-0	Thickening of line.
702	" 23	23 16-8	—	—	—	—	15 0-0	T. and C.I.M. strongest 8h. to 12h.
703	" 25	23 16-8	—	—	—	—	16 0-0	T. and C.I.M. strongest 7h. to 11h.
704	" 26	21 46-8	—	—	—	—	16 30-0	T. slight.

Register from Cordoba, Argentine Republic—continued.

No.	Date	P.T.		Max.	End	Max. Amplitude	Duration	Remarks
		Commence	Commence					
705	Nov. 28	H. M.	H. M.	H. M.	H. M.	MM.	H. M.	T. slight.
706	" 30	4 16.8	—	—	—	—	10 00	"
707	Dec. 6	6 16.8	—	—	8 50.3	—	8 00	Cigar-shaped thickening.
708	" 7	8 20.2	—	—	—	—	0 11.1	"
709	" 8	4 16.8	—	—	—	—	10 00	T. slight.
710	" 10	17 53.9	—	17 57.5	18 12.2	0.5	18 30	Small, bead-like.
711	" 12	4 18.8	—	—	—	—	10 00	T. very slight.
712	" 12	23 30.0	23 54.4	23 58.5	0 28.0	1.25	0 58.0	Well-defined.
713	" 12	2 16.8	—	—	—	—	14 00	T. and C.I.M.
714	" 15	2 16.8	—	—	—	—	12 00	T. slight.
	" 15	8 27.0	—	3 30.5	3 57.3	1.0	0 30.3	Well defined, not bead-like.
715	" 20	17 16.8	—	—	—	—	22 00	T. slight.
716	" 21	15 42.7	—	15 43.7	15 54.4	1.0	0 11.7	Slight shocks, followed by thickening.
717	" 25	6 16.8	—	—	—	—	14 00	T. and C.I.M.
718	" 25	8 16.8	—	—	—	—	6 00	T. slight.
719	" 28	14 46.6	—	—	20 46.6	—	8 00	Bending of line to E.
720	" 29	4 16.8	—	—	—	—	10 00	T. slight.
721	" 29	15 1.8	—	—	21 1.8	—	6 00	Bending of line to W.
722	" 31	4 16.8	—	—	—	—	13 30.0	T. slight.
1 mm. = 0.0085.								
E. S. O. S.								
723	Jan. 1	4 16.8	—	—	—	—	10 00	T. slight.
724	" 2	22 28.0	22 33.2	22 41.2	22 53.4	0.4	0 25.4	Well defined E.Q.
725	" 4	—	5 29.0	5 53.1	6 47.5	0.6	1 27.5	"
726	" 8	6 16.8	—	—	—	—	6 00	T. slight.
727	" 11	7 46.8	—	—	—	—	13 00	"
728	" 12	5 16.8	—	—	—	—	9 00	"
729	" 12	18 28.8	—	18 29.0	—	0.2	0 1.5	Slight thickening, doubtful.
730	" 14	0 57.3	—	1 5.1	2 57.3	3.5	2 00	Well-defined E.Q.
731	" 17	7 16.8	—	—	—	—	7 00	T. very slight.
732	" 17	—	16 19.8	16 41.2	17 28.5	0.5	1 8.7	Well-defined E.Q.
733	" 18	4 16.8	—	—	—	—	10 00	T. slight.
734	" 19	11 16.8	—	—	—	—	—	T. very slight.
735	" 20	2 16.8	—	9h. to 11h.	—	—	—	C.I.M.
736	" 21	3 16.8	—	10h. to 12h.	—	—	—	T. and C.I.M. slight.
737	" 22	7 16.8	—	—	—	—	—	T. slight.
Record lost from 14h. 16.8m. on 22.3 to 14h. 16.8m. on 23rd.								
738	" 24	6 16.8	—	6 20.9	—	—	0 80	Thickening of line, doubtful.
739	" 24	15 41.2	15 47.3	15 50.5	17 35.1	0.8	1 53.9	Well-defined E.Q.
740	" 29	15 16.8	—	—	—	—	6 00	Slight undulations.
741	" 30	17 46.8	—	*20 0.0	—	—	6 00	Bending of line to E., returning to its original position, deviation 1mm.
742	" 31	11 16.8	—	—	—	—	3 00	Slight undulations.
743	Feb. 1	1 16.8	—	*11 0.0	—	—	14 00	Slight T. and C.I.M.
744	" 1	15 16.8	—	—	—	—	9 00	Slight undulations.
745	" 2	9 49.8	9 51.4	9 52.4	11 21.0	8.0	1 32.8	Well-defined E.Q.
746	" 2	16 46.8	—	*18 0.0	—	—	5 00	Same as 741, preceded by undulations, max. deviation 1mm.
747	" 3	—	—	—	—	—	—	Slight undulations during the day.
748	" 4	5 16.8	—	—	—	—	9 00	T. slight.
749	" 6	7 16.8	—	—	—	—	6 00	"
750	" 6	—	—	—	—	—	—	T. and C.I.M. in the morning.
751	" 13	8 16.8	—	—	—	—	12 00	T. slight.
752	" 14	8 16.8	—	—	—	—	11 00	"
753	" 15	14 16.8	—	—	—	—	4 00	Slight undulation.

* About.

Register from Cordoba, Argentine Republic—continued.

No.	Date	P.T.		Max. Effect	End	Max. Amplitude	Duration	Remarks
		Commence	Commence					
754	Feb. 16	H. M.	H. M.	H. M.	H. M.	MM.	H. M.	> with dislocation to E.
	" 16	17 3.6	—	—	—	—	—	"
755	" 17	7 16.8	—	—	—	—	7 00	T. slight.
756	" 17	18 46.8	—	—	—	0.1	0 10.0	Slight thickening, doubtful.
757	" 18	6 16.8	—	*12 0.0	—	—	14 00	Slight T. and C.I.M.
758	" 19	4 16.8	—	—	—	—	10 00	T. slight.
Record lost from 9h. to 14h. 30m. on 21st and from 20h. on 21st to 14h. on 22nd.								
759	" 25	8 16.8	—	—	—	—	5 00	T. and C.I.M. slight.
760	Mar. 4	—	19 43.2	—	19 55.4	0.5	—	Slight > followed by thickening.
761	" 6	—	—	—	—	—	—	Slight undulations during afternoon.
762	" 8	4 16.8	—	—	—	—	10 00	T. slight.
763	" 9	4 16.8	—	—	—	—	11 00	"
764	" 10	16 16.8	—	—	—	—	6 00	Undulations, slight.
765	" 11	6 16.8	—	—	—	—	8 00	T. slight.
766	" 12	7 16.8	—	—	—	—	7 00	"
767	" 12	20 16.8	—	21 17.0	—	—	4 00	Same as 741, deviation 1mm.
768	" 13	12 35.4	—	—	—	—	—	Slight > with dislocation.
769	" 13	17 16.8	—	21 17.0	—	—	8 30.0	Same as 741, deviation 2mm.
770	" 15	17 46.8	—	21 17.0	—	—	6 30.0	"
771	" 16	18 46.8	—	21 17.0	—	—	4 00	Same as 741, deviation 2mm.
772	" 18	5 16.8	—	—	—	—	9 00	T. slight.
773	" 19	19 16.8	—	21 17.0	—	—	4 00	Same as 741, deviation 1mm.
774	" 20	18 16.8	—	21 17.0	—	—	5 30.0	"
775	" 21	7 16.8	9 18.8	—	15 16.8	—	8 00	T. and C.I.M.; resembling E.Q.
776	" 22	14 46.8	—	21 17.0	—	—	6 30.0	Same as 741, to W., deviation 1mm.
777	" 26	17 46.8	—	21 17.0	—	—	6 30.0	Same as 741, deviation 2mm.
778	" 27	18 16.8	—	21 17.0	—	—	5 00	"
779	" 28	18 46.8	—	21 17.0	—	—	3 30.0	Same as 741, deviation 1mm.
780	" 29	4 16.8	—	—	—	—	10 00	T. and C.I.M.
781	" 29	16 30.0	—	16 32.5	17 50.4	4.0	1 20.4	Well-defined E.Q.
782	" 30	—	1 38.9	—	1 54.4	0.3	0 17.5	Very slight, but well defined E.Q.
783	" 30	6 16.8	—	—	—	—	9 00	T. slight.
784	" 30	15 16.8	—	—	—	—	3 00	Slight undulations of line.
785	" 31	7 16.8	—	—	—	—	7 00	Slight T., followed by slight undulations.
786	Apr. 2	—	—	3 53.4	—	1.0	0 9.0	>
787	" 2	—	—	5 38.1	—	0.5	0 7.0	>
788	" 3	19 16.8	—	*21 17.0	—	—	4 00	Same as 741, deviation 3mm.
789	" 4	—	6 28.0	6 29.0	—	1.0	0 15.0	Well-defined E.Q., beginning and end marked by T.
790	" 4	18 16.8	—	*21 17.0	—	—	5 00	Same as 741, deviation 1mm.
791	" 6	9 16.8	—	—	—	—	11 00	T. slight.
792	" 7	4 16.8	—	—	—	—	58 00	T. and C.I.M.
793	" 10	—	7 22.9	7 23.9	—	0.4	0 30.0	Well-defined E.Q., beginning and end uncertain.
794	" 11	—	—	18 32.0	—	0.5	0 6.0	Abrupt thickening.
795	" 12	0 16.8	—	11h. to 12h.	—	—	16 00	T. and C.I.M.
796	" 15	1 16.8	—	—	—	—	40 00	T. and C.I.M. slight.
797	" 16	17 16.8	—	*20 47.0	—	—	5 30.0	Same as 741, deviation 2mm.
798	" 17	5 16.8	—	—	—	—	9 00	T. slight.
799	" 19	7 16.8	—	—	—	—	7 00	"

* About.

Register from Cordoba, Argentine Republic—continued.

No.	Date	P.T. Commence	L.W. Commence	Max. Effect	End	Max. Amplitude	Duration	Remarks
800	Apr. 20	H. M. 6 16.8	H. M. —	—	—	MM. —	H. M. 8 00	T. slight.
801	" 21	0 30.8	—	2 37.1	2 50.8	1.0	0 20.9	Well-defined E.Q.
802	" 21	6 16.8	—	—	—	—	8 0.0	T. slight.
803	" 25	2 51.4	—	—	3 1.6	0.1	0 10.2	Minute thickenings, probable E.Q.
804	" 26	1 16.8	—	—	—	—	*37 0.0	T. and C.I.M. slight.
805	" 29	—	4 35.1	4 43.2	—	0.5	0 12.0	Slight, probable E.Q.
806	" 30	1 16.8	—	—	—	—	13 0.0	T. slight.
807	" 30	—	20 16.8	—	—	—	—	Slight dislocation to W.
808	May 1	4 16.8	—	—	—	—	10 0.0	T. slight.
809	" 3	9 16.8	—	—	—	—	4 0.0	T. very slight.
810	" 6 & 7	22 51.4 0 36.1	1h. 51.4m. to 0h. 36.1m.	—	—	—	—	Two slight dislocations to W.
811	" 7	18 16.8	—	*21 0.0	—	—	5 0.0	Same as 741, deviation 2 mm.
812	" 8	4 16.8	—	4 27.0	4 33.5	0.2	0 16.7	Three slight thickenings, beginning and end uncertain, probable E.Q.
813	" 9	17 16.8	—	*21 17.0	—	—	7 0.0	Same as 741, deviation 2 mm.
814	" 10	5 16.8	—	—	—	—	10 0.0	T. slight.
815	" 10	21 16.8	—	*12 0.0	—	—	19 0.0	Slight T. and C.I.M.
816	" 12	0 16.8	—	9h. to 13h.	—	—	16 0.0	"
817	" 12	17 16.8	—	*20 0.0	—	—	6 0.0	Same as 741, deviation 2 mm.
818	" 13	4 16.8	—	*7 0.0	—	—	12 0.0	T. and C.I.M.
819	" 13	17 16.8	—	*20 3.0	—	—	7 0.0	Same as 741, deviation 2 mm.
820	" 14	6 16.8	—	13 6.1	—	0.5	9 0.0	Slight T. and C.I.M. with abrupt thickening doubtful.
821	" 15	7 16.8	—	—	—	—	9 0.0	T. slight.
822	" 15	17 16.8	—	*20 0.0	—	—	5 0.0	Same as 741, deviation 2 mm.
823	" 15	22 49.8	22 50.0	22 52.4	23 5.1	2.0	0 16.3	Well-defined E.Q.
824	" 16	—	2 12.2	2 15.3	3 37.6	10.0	1 35.4	"
825	" 16	5 47.3	5 48.6	5 48.8	6 35.1	4.5	0 47.8	"
826	" 16	6 46.8	—	—	—	—	8 0.0	T. slight.
827	" 16	22 16.8	—	—	—	—	41 0.0	T. very slight.
828	" 19	4 16.8	—	—	—	—	12 0.0	T.
829	" 19	17 16.8	—	*20 0.0	—	—	7 0.0	Same as 741, deviation 2 mm.
830	" 20	6 16.8	—	—	—	—	8 0.0	T. slight.
831	" 20	20 36.8	—	—	21 56.8	—	—	Minute thickenings, doubtful.
832	" 21	—	5 49.3	5 49.8	6 13.8	0.6	0 24.0	Well-defined E.Q.
833	" 21	6 16.8	—	—	—	—	8 0.0	T. slight.
834	" 21	18 16.8	—	*20 0.0	—	—	6 0.0	Same as 741, deviation 2 mm.
835	" 22	9 16.8	—	—	—	—	5 0.0	T. slight.
836	" 23	9 16.8	—	—	—	—	5 0.0	T. and C.I.M. slight.
837	" 23	18 16.8	—	*20 0.0	—	—	5 0.0	Same as 741, deviation 2 mm.
838	" 24	9 16.8	—	—	—	—	7 0.0	T. and C.I.M. slight.
839	" 26	10 16.8	—	—	—	—	4 0.0	T. slight.
840	" 27	16 16.8	—	—	—	—	22 0.0	"
From 16h. on the 27th a periodic movement occurs every hour, undoubtedly caused by watch, dispersed with few other movements, none of which can be assigned as seismic.								
841	June 4	4 16.8	—	—	—	—	11 0.0	T. slight.
842	" 5	0 16.8	—	—	—	—	8 0.0	"
843	" 7	3 16.8	—	10h. to 12h.	—	—	12 0.0	T. slight and C.I.M.
844	" 7	17 46.8	—	*21 0.0	—	—	8 30.0	Same as 741, deviation 3 mm.
845	" 8	7 16.8	—	—	—	—	7 0.0	T. slight.
846	" 9	8 16.8	—	—	—	—	6 0.0	T. very slight.
847	" 9	18 16.8	—	*21 0.0	—	—	7 0.0	Same as 741, deviation 2 mm.
848	" 11	1 16.8	—	—	—	—	13 0.0	T. and C.I.M. slight.

* About.

Register from Cordoba, Argentine Republic—continued.

No.	Date	P.T. Commence	L.W. Commence	Max. Effect	End	Max. Amplitude	Duration	Remarks
849	June 12	H. M. 10 16.8	H. M. —	H. M. —	H. M. —	MM. —	H. M. 4 0.0	T. slight.
850	" 15	7 16.8	—	—	—	—	7 0.0	T. and C.I.M. slight.
851	" 16	5 16.8	—	—	—	—	9 0.0	T. slight.
852	" 17	—	19 34.1	19 36.1	19 42.2	0.6	0 8.1	Well-defined E.Q.
853	" 18	22 16.8	—	—	—	—	18 0.0	T. slight.
854	" 18	22 16.8	—	11h. to 12h.	—	—	18 0.0	T. and C.I.M. slight.
855	" 21	7 16.8	—	—	—	—	8 0.0	T. slight.
856	" 22	4 16.8	—	—	—	—	12 0.0	"
857	" 22	19 16.8	—	*21 0.0	—	—	4 0.0	Same as 741, deviation 1 1/2 mm.
858	" 23	1 16.8	—	12h. to 13h.	—	—	15 0.0	T. and C.I.M.
859	" 24	0 16.8	—	12 0.0	—	—	16 0.0	"
860	" 25	4 16.8	—	—	—	—	10 0.0	T. slight.
861	" 26	5 16.8	—	—	—	—	10 0.0	"
862	" 27	6 16.8	—	—	—	—	11 0.0	"
863	" 27	19 16.8	—	*21 0.0	—	—	6 0.0	Same as 741, deviation 3 mm.
864	" 28	7 16.8	—	—	—	—	9 0.0	T. slight.
865	" 28	17 16.8	—	21 0.0	—	—	6 0.0	Same as 741, deviation 3 mm.
866	" 29	9 16.8	—	—	—	—	5 0.0	T. slight.
867	" 30	16 46.8	—	—	—	—	6 0.0	Same as 741, deviation 3 mm.

NOTE.—1 mm. deflection of the outer end of the boom corresponds to a tilt of 0"06.
Large numerals in the first column refer to earthquakes also recorded at other stations.
T.=Tremors; C.I.M.=Continuous irregular movements; see Circular No. 6, page 172.

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Director, Dr. F. ŌMORI. Observer, A. IMAMURA.

Appendix to Register, p. 218, Circular No. 7.

No.	Date	Met. Obs.	Time of Commencement	Intensity	Character
1900.					
44	March 12	Ishinomaki . . . Akita . . . Miyako . . . Kanayama . . . Yamagata . . . Kumagaya . . . Aomori . . . Fukushima . . . Kōfu . . . Yokohama . . . Tokyo . . . Mito . . . Nagano . . . Utsunomiya . . . Chōshi . . . Niigata . . . Numazu . . .	H. M. S. 1 33 56 1 31 32 1 34 30 1 34 59 1 35 0 1 35 7 1 35 9 1 35 21 1 35 30 1 35 32 1 35 38 1 35 37 1 35 28 1 33 51 1 35 6 1 35 27 1 36 5	Strong. " " Weak. " " " " " " Slight. " " "	Duration long. Vertical motion developed; houses shaken. Vertical motion developed. Houses shaken. Gentle. " Sharp; earthquake sound; houses shaken. Vertical motion developed; houses shaken. " Gentle. Vertical motion developed; houses shaken. Duration long. Sharp. Gentle. "

Tokyo (Japan)—continued.

No.	Date	Met. Obs.	Time of Commencement	Intensity	Character
			H. M. S.		
44	March 12	Iida	1 36 28	Slight.	Duration long.
		Maebashi	1 36 47	"	"
		Nagoya	1 37 6	"	Gentle.
52	April 24	Tainan	23 16 54	Weak.	"
		Taihoku	23 17 26	Slight.	Duration long.
		Oshima	23 16 1	"	Houses shaken.
		Tsu	23 18 30	"	Duration long.
		Oita	23 19 0	"	"
		Sascho.	23 19 5	"	"
		Tokyo	23 19 10	"	"
		Akita	23 19 13	"	Duration long.
		Wakayama	23 19 22	"	"
		Kofu	23 19 37	"	Duration long.
		Kumagaya	23 20 0	"	"
		Aomori	23 20 6	"	Gentle.
		Yokohama	23 20 34	"	"
		Osaka	8 20 28	"	"
		Iida	8 20 45	"	"
		Mito	8 20 59	"	"
		Fukushima	8 21 53	"	Duration long.
		Hikone	8 22 50	"	"
		Miyako	8 26 36	"	"
		Nagoya	8 23 35	"	Gentle.
66	Aug. 5	Ishinomaki	4 19 46	Strong.	Sharp; vertical motion developed; houses shaken.
		Mito	4 17 25	"	Sharp.
		Miyako	4 18 57	Weak.	Vertical motion developed.
		Choshi	4 19 35	"	Duration long.
		Akita	4 19 53	"	Vertical motion developed; houses shaken.
		Kanayama	4 20 35	"	Houses shaken.
		Yamagata	4 21 0	"	"
		Tokyo	4 21 5	"	"
		Yokohama	4 21 21	"	Houses shaken.
		Kofu	4 21 26	"	Sharp; vertical motion developed; houses shaken.
		Yokosuka	4 22 4	"	Gentle.
		Utsunomiya	4 22 10	"	"
		Aomori	4 22 12	"	"
		Fukushima	4 22 45	"	Sharp; vertical motion developed; houses shaken.
		Kumagaya	4 31 18	"	Vertical motion developed; houses shaken.
		Niigata	4 20 24	Slight.	Gentle.
		Maebashi	4 21 6	"	Duration long.
		Numazu	4 21 20	"	"
		Fukui	4 21 38	"	"
		Tsu	4 21 52	"	"
		Wajima	4 22 0	"	"
		Matsumoto	4 22 30	"	Duration long.
		Hikone	4 22 30	"	Gentle.
		Nagoya	4 22 42	"	"
		Iida	4 24 27	"	"
79	Nov. 5	Yokohama	7 41 41	Strong.	Vertical motion developed.
		Mera	7 40 30	"	Houses shaken.
		Nagatsuro	7 42 30	"	Sharp; windows rattled.
		Hamamatsu	7 41 20	Weak.	Sharp.

Tokyo (Japan)—continued.

No.	Date	Met. Obs.	Time of Commencement	Intensity	Character
			H. M. S.		
79	Nov. 5	Yokosuka	7 41 35	Weak.	Duration long.
		Tokyo	7 41 37	"	Gentle.
		Kofu	7 41 40	"	Duration long.
		Numazu	7 42 50	"	Clock stopped.
		Kyoto	7 43 21	"	Gentle.
		Fukushima	7 20 59	Slight.	"
		Iida	7 28 20	"	"
		Choshi	7 31 44	"	Gentle.
		Tadotsu	7 41 27	"	"
		Hikone	7 41 30	"	"
		Mito	7 41 46	"	Gentle
		Maebashi	7 41 57	"	Duration long.
		Osaka	7 42 2	"	"
		Yagi	7 42 19	"	Vertical motion developed.
		Gifu	7 42 25	"	"
		Matsuyama	7 43 25	"	"
		Utsunomiya	7 43 0	"	Gentle.
		Tsu	7 43 30	"	"
		Matsumoto	7 44 44	"	"
		Ishinomaki	7 45 18	"	"
87	Nov. 9	Nagatsuro	17 54 30	Strong.	"
		Yagi	17 25 40	Weak.	Gentle.
		Choshi	17 53 0	"	"
		Kumagaya	17 55 2	"	Duration long.
		Yokohama	17 55 21	"	Gentle.
		Tokyo	17 55 26	"	"
		Kofu	17 55 53	"	Vertical motion developed; houses shaken.
		Numazu	17 56 0	"	Clocks stopped.
		Utsunomiya	17 52 35	Slight.	"
		Nagoya	17 55 30	"	Gentle
		Osaka	17 56 7	"	"
		Gifu	17 56 54	"	Vertical motion developed.
		Fukui	17 57 26	"	Sharp.
		Matsumoto	17 57 35	"	"
		Hikone	17 57 45	"	"
		Tadotsu	17 57 43	"	Vertical motion developed.
		Mito	17 58 20	"	Gentle.
99	Nov. 24	Nemuro	7 56 36	"	Duration long.
		Aomori	7 57 55	"	"
		Mito	8 0 0	"	"
		Akita	8 0 48	"	"
		Ishinomaki	8 0 58	"	"
		Kashiho	8 1 20	"	"
		Tokyo	8 2 8	"	"
		Kumagaya	8 2 33	"	"
			1901.		
113	Jan. 13	Aomori	22 40 35	Strong.	Sharp; vertical motion developed; houses shaken.
		Niigata	22 34 9	Weak.	Gentle.
		Nemuro	22 37 14	"	"
		Akita	22 39 29	"	Duration long.
		Mito	22 42 10	"	Sharp; houses shaken.
		Ishinomaki	22 42 18	"	Houses shaken.
		Kashiho	22 42 50	"	Windows rattled.
		Choshi	22 46 46	"	Sharp.

Tokyo (Japan)—continued.

No.	Date	Met. Obs.	Time of Commencement	Intensity	Character		
113	Jan. 13	Sapporo	H. M. S. 22 40 49	Slight.	Duration long.		
		Ishinomaki	22 41 0	"	—		
		Utsunomiya	22 41 20	"	Gentle.		
		Fukushima	22 41 42	"	Houses shaken.		
		Maebashi	22 42 8	"	Gentle.		
		Tokyo	22 42 28	"	—		
		Kanayama	22 42 48	"	—		
		Miyako	22 43 14	"	—		
		Yamagata	22 43 25	"	—		
		Iida	22 43 40	"	—		
		Yokosuka	22 43 40	"	—		
		Kumagaya	22 46 53	"	—		
		127	April 5	Nemuro	23 31 29	Weak.	Gentle.
Ishinomaki	23 34 6			"	Duration long.		
Aomori	23 34 7			"	Gentle.		
Mito	23 32 50			Slight.	"		
Tokachi	23 33 4			"	"		
Sapporo	23 33 5			"	"		
Kusiro	23 33 33			"	Duration long.		
Kumagaya	23 33 41			"	—		
Wajima	23 34 10			"	—		
Kanayama	23 34 15			"	Houses shaken.		
Yokohama	23 34 19			"	Gentle.		
Yamagata	23 34 30			"	—		
Tsu	23 34 30			"	—		
Miyako	23 34 54			"	Gentle.		
Maebashi	23 35 41			"	Sharp.		
Kōfu	23 35 56			"	Gentle.		
Tokyo	23 36 26			"	—		
Iida	23 36 41			"	—		
Mito	23 57 33			"	—		
132	May 14			Akita	23 32 56	Weak.	Duration long.
		Hakodate	23 33 45	"	Clock stopped.		
		Matsumoto	23 39 46	Slight.	—		
		Nemuro	6 49 4	"	Gentle.		
		Fukushima	6 51 19	"	—		
		Aomori	6 51 47	"	—		
		Akita	6 52 50	"	—		
		Ishinomaki	6 53 17	"	—		
		187	Aug. 9	Miyako	9 22 39	Strong.	Houses shaken.
				Akita	9 24 18	"	Vertical motion developed; houses shaken.
Aomori	9 25 5			"	Sharp; accompanied by sound; windows rattled.		
Niigata	9 25 55			"	—		
Ishinomaki	9 24 9			Weak.	Houses shaken.		
Hakodate	9 24 10			"	"		
Yokohama	9 25 26			"	Clocks stopped.		
Kanayama	9 23 17			"	Houses shaken.		
Fukushima	9 24 19			"	Gentle.		
Mito	9 26 50			"	Houses shaken.		
Nagano	9 9 24			Slight.	Gentle.		
Kusiro	9 21 55			"	"		
Yamagata	9 23 20			"	—		
Fukui	9 23 50			"	Duration long.		
Iida	9 24 45			"	"		
Utsunomiya	9 24 52			"	—		

Tokyo (Japan)—continued.

No.	Date	Met. Obs.	Time of Commencement	Intensity	Character
187	Aug. 9	Kumagaya	H. M. S. 9 25 1	Slight.	Gentle.
		Tokyo	9 25 3	"	—
		Nemuro	9 25 27	"	Gentle.
		Nagoya	9 25 47	"	"
		Wajima	9 26 10	"	—
188	Aug. 9	Maebashi	9 27 13	"	—
		Aomori	18 34 0	Strong.	Walls fractured.
		Miyako	18 34 28	"	Houses shaken.
		Hakodate	18 34 44	"	Sharp; clocks stopped.
		Akita	18 35 8	"	Vertical motion developed; clocks stopped.
		Tokachi	18 37 40	"	Sharp.
		Sapporo	18 34 5	Weak.	Houses shaken.
		Ishinomaki	18 34 10	"	Sharp.
		Tokyo	18 35 47	"	Gentle; duration long.
		Kanayama	18 35 53	"	Sharp; houses shaken.
		Yamagata	18 36 0	"	Houses shaken.
		Mito	18 37 40	"	Sharp; vertical motion developed; houses shaken.
		Fushiki	18 37 50	"	Sharp.
		Yokohama	18 38 20	"	Clocks stopped.
		Maebashi	18 38 28	"	—
		Chōshi	18 40 17	"	Gentle.
		Fukushima	18 41 13	"	Vertical motion developed; clocks stopped.
		Kumagaya	18 41 52	"	Vertical motion developed.
		Nemuro	18 33 5	"	Gentle.
Gifu	18 31 19	Slight.	Duration long.		
Kamikawa	18 35 30	"	Gentle.		
Nagano	18 36 9	"	—		
Iida	18 36 32	"	Duration long.		
Nagoya	18 36 35	"	Gentle.		
Utsunomiya	18 37 8	"	—		
243	May 8	Safanomisaki	2 10 21	Weak.	Duration long.
		Miyazaki	2 20 0	"	Houses shaken.
		Kagoshima	2 19 21	"	Vertical motion developed; houses shaken.
		Wajima	2 21 14	Slight.	—
289	Nov. 21	Oshima	2 22 0	"	—
		Fukuoka	2 20 0	"	Unfelt; gentle.
		Matsuyama	2 22 5	"	Unfelt; vertical motion developed.
		Taito	7 12 0	Strong.	Houses shaken.
		Tainan	7 4 15	"	Vertical motion developed; houses shaken.
		Koshun	7 6 40	"	Clocks stopped.
		Taichu	7 2 50	Weak.	Houses shaken.
Taihoku	7 3 2	Slight.	Duration long.		
Ishigakijima	7 7 20	"	Sharp.		
Wajima	7 8 0	"	Unfelt.		
Akita	7 9 27	"	"		