

EARTHQUAKES.

In April, 1903, a Milne seismograph belonging to the Seismological Committee of British Association was transferred from Oahu College to the Magnetic Observatory. pendulum points north, thus recording east-west motion. The period of the pendulum was between 19 seconds and 20 seconds. The sensitiveness, i. e., the amount of tilt to a displacement of 1 mm. in the end of the pendulum, was determined at various times follows:

1907		1908	
	"		"
Feb. 15	0.34	Feb. 15	0.37
Apr. 16	0.38	Apr. 15	0.42
June 15	0.44	June 16	0.51
Aug. 15	0.53	Aug. 14	0.60
Oct. 16	0.50	Oct. 14	0.48
Dec. 14	0.39	Dec. 15	0.41

On most days there was an irregular disturbance ascribed to air currents, beginning at midnight and lasting up to the time of the inspection of the instrument in the morning (8^h mean time). In May, 1908, the instrument was incased in a box made of $\frac{1}{4}$ -inch felting this disturbance was largely eliminated. Up to that time the amplitude of the disturbance was often sufficient to conceal small seismic disturbances and confuse all but the principal portion of larger ones.

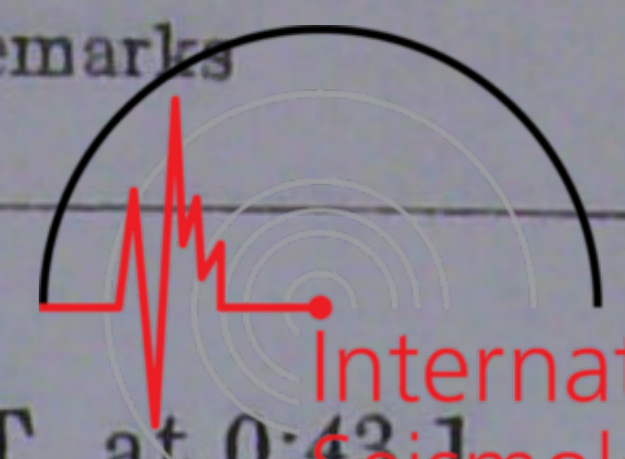
The following table is a register of the earthquakes recorded during 1907 and 1908. Phases are given in Greenwich mean time counted from midnight. It will be seen that a majority of the recorded disturbances are tremors of short duration and small amplitude, in many cases a mere swelling of the line, without well-defined phases, and the beginning has been tabulated as the beginning of the principal portion.

The seismograph was not recording at the following times:

Date.		G. M. T.		Cause.
		<i>h</i>	<i>m</i>	
1907	Apr. 21	12 43	to 15 51	Clock stopped.
	May 5	3 51	to 8 32	Do.
	Nov. 4	2	to 19	Lamp out.
	Nov. 7-8	17	to 19	Do.
1908	Jan. 4	15 45	to 19 13	Clock stopped.
	Jan. 5	1 15	to 2 45	Do.
	Jan. 5	7 40	to 8 55	Do.
	Jan. 5	18 43	to 21 37	Cleaning clock.
	May 30	19 54	to 21 10	Covering instrument.
	Aug. 6	3 15	to 16 47	Clock stopped.
	Aug. 12	13 37	to 18 58	Do.
	Sept. 13	17 27	to 18 53	Do.
	Oct. 11	12 59	to 18 53	Do.
	Oct. 26	4 41	to 9 31	Do.

The indications are that from December 18 to 31, 1908, the pendulum was not entirely free. It was readjusted on December 31.

Register of earthquakes.



International
Seismological
Centre

No.	Date	First P. T.	P. P.	Maximum	End	Maximum amplitude	Remarks
		<i>h m</i>	<i>h m</i>	<i>h m</i>	<i>h m</i>	<i>mm</i>	
323	1907. Jan. 1	0 36.9	0 57.3	1 01.3	2 38	0.6	Second P. T. at 0:43.1.
324	1	22 51.3	23 00.3	23 03.9	23 12	0.6	
325	2	12 04.3	12 14.5	12 21.5	.. ..	4.1	Second P. T. at 12:11.1.
326	2	14 14.9	14 18.5	14 19.9	16 12	1.5	
327	4	5 34.1	5 44.5	6 19.4	9 35	8.1	Second P. T. at 5:37.6.
328	6	.. ..	23 24.3	.. ..	23 30	..	Tremor.
329	7	14 15.2	.. ..	14 42.2	15 25	0.3	
330	8	.. ..	1 27.0	.. ..	1 35	..	Do.
331	8	5 36.0	6 23.0	6 28.0	7 54	0.5	
332	11	.. ..	0 01.4	0 03.3	0 11	0.9	Probably local.
333	12	8 00.5	8 02.3	8 07.3	9 01	0.9	
334	14	9 28.1	9 36.9	9 37.5	10 12	0.5	Do.
335	14	.. ..	21 00.4	21 26.0	21 44	0.2	Tremors.
336	15	.. ..	12 20.3	12 21.3	12 24	0.3	Do.
337	18	.. ..	23 15.8	.. ..	23 19	0.3	Do.
338	Feb. 3	.. ..	6 52.8	6 57.8	7 10	0.4	Do.
339	3	19 46.0	20 00.5	20 12.3	20 55	2.5	Second P. T. at 19:53.3.
340	16	21 30.5	21 38.5	21 42.7	22 08	1.7	Second P. T. at 21:36.4.
341	17	.. ..	7 49.9	7 52.8	.. ..	0.8	Tremor.
342	Mar. 3	.. ..	1 41.0	.. ..	1 49	..	Do.
343	8	.. ..	0 45.2	.. ..	0 48	0.2	Do.
344	13	1 01.3	1 11.3	1 13.7	1 22	0.3	Do.
345	19	.. ..	22 38.3	22 46.8	22 52	0.5	Do.
346	22	.. ..	7 32.8	7 37.3	7 46	0.2	Do.
347	29	20 58.2	21 09.3	21 36.6	22 12	0.8	Second P. T. at 21:08.0.
348	31	22 08.0	22 14.2	22 14.4	23 52	2.7	
349	Apr. 7	.. ..	10 08.3	.. ..	10 19	0.4	Tremor.
350	15	6 17.8	6 26.2	6 37.2	9 57	11.0	Second P. T. at 6:23.0.
351	18	21 12.0	21 32.2	21 42.8	.. ..	6.2	Second P. T. at 21:21.6.
352	19	0 11.1	0 19.0	0 38.3	2 43	3.2	Second P. T. at 0:15.2.
353	24	23 46.2	23 59.0	24 05.3	24 46	0.5	
354	May 3	.. ..	21 12.0	21 17.6	21 33	0.2	Tremor.
355	4	6 00.6	6 13.0	6 21.4	7 39	2.0	Second P. T. at 6:08.3.
356	4	8 46.4	9 01.6	9 09.8	10 48	2.8	Second P. T. at 8:54.3.
357	12	7 52.8	7 56.4	8 01.7	8 51	0.3	Tremor.
358	13	21 10.8	21 27.5	21 34.3	22 58	2.5	Second P. T. at 21:18.5.
359	14	.. ..	4 03.3	4 09.0	4 52	0.4	Tremor.
360	25	.. ..	14 17.2	14 17.5	.. ..	1.6	See note.
361	26	.. ..	11 23.3	11 29.8	11 52	0.4	Tremor.
362	27	.. ..	5 24.3	5 29.8	5 57	0.2	Do.
363	27	.. ..	11 54.8	11 57.7	12 01	0.2	Do.
364	31	12 51.8	12 57.6	13 02.3	14 13	3.1	
365	June 1	9 02.5	9 17.4	9 21.8	12 00	1.5	Second P. T. at 9:08.3.
366	5	3 44.0	3 58.4	4 02.3	6 13	3.2	Second P. T. at 3:47.5.
367	13	.. ..	10 04.0	10 05.8	.. ..	0.6	See note.
368	20	.. ..	12 14.4	12 18.0	12 22	0.2	Tremors.
369	24	.. ..	3 58.8	4 25.0	4 40	0.2	Do.
370	25	3 04.4	3 15.0	3 19.4	3 47	1.5	
371	25	.. ..	18 15.6	18 38.0	20 37	2.8	Beginning uncertain, second P. T. at 18:05.3.
372	25	.. ..	23 01.5	23 03.3	23 10	0.2	Tremor.
373	26	.. ..	1 41.6	.. ..	1 45	0.1	
374	26	.. ..	5 13.2	5 27.8	5 53	0.6	Intermittent tremors.
375	26	14 28.0	.. ..	.. ..	14 54	0.3	Doubtful.
376	26	.. ..	17 45.2	17 50.4	18 26	2.0	Second P. T. at 17:35.3.
377	27	.. ..	1 32.4	.. ..	1 38	0.1	Tremors.
378	27	22 42.3	22 50.3	22 53.5	23 43	2.2	Second P. T. at 22:46.3.
379	29	9 56.6	.. ..	.. ..	10 03	0.2	Tremor.
380	July 1	13 20.3	13 29.1	13 44.6	.. ..	1.3	
381	4	.. ..	0 31.6	0 33.6	1 02	0.4	Tremors.
382	5	.. ..	16 11.4	16 13.7	.. ..	0.8	Second P. T. at 16:02.9. See note.
383	7	.. ..	13 42.8	.. ..	13 51	0.2	Doubtful.
384	9	19 16.1	19 29.9	19 40.6	21 16	1.4	
385	12	.. ..	2 14.8	2 18.0	2 21	0.2	Tremor.
386	12	.. ..	17 37.4	17 41.8	18 14	0.2	Do.
387	16	.. ..	14 38.4	14 40.3	14 42	0.4	Doubtful, may be air tremors.
388	20	13 50.3	14 12.6	14 22.4	.. ..	1.4	Second P. T. at 13:59.6.
389	29	.. ..	1 05.3	1 12.6	2 31	0.2	Tremors.
390	29	19 52.5	20 09.9	20 15.7	20 49	0.6	

Register of earthquakes—Continued.

No.	Date	First P. T.	P. P.	Maximum	End	Maximum amplitude	Remarks
		<i>h m</i>	<i>h m</i>	<i>h m</i>	<i>h m</i>	<i>mm</i>	
391	1907. Aug. 5	6 56.8	7 27.2	7 29.0	8 38	0.9	Second P. T. at 7:03.
392	8	.. ..	9 26.5	9 29.6	9 36	0.2	Tremor.
393	9	19 26.0	19 39.2	19 43.3	20 45	0.6	
394	13	.. ..	20 52.2	21 01.4	21 12	0.2	Tremors.
395	13	22 02.1	22 04.2	22 08.0	23 01	0.6	
396	15	.. ..	20 55.0	20 59.8	21 03	0.2	Tremor.
397	16	.. ..	7 45.3	7 50.0	7 53	0.2	Do.
398	17	.. ..	17 42.8	17 55.9	.. ..	1.9	See note.
399	22	22 35.2	22 37.3	22 37.5	23 00	0.9	Doubtful.
400	27	.. ..	2 38.0	2 40.0	2 54	0.1	May be air tremors.
401	29	0 42.8	0 50.3	0 53.2	1 57	0.6	
402	Sept. 2	.. ..	16 17.6	16 18.6	20 10	26	Second P. T. at 16:15.3.
403	6	.. ..	5 25.0	.. ..	5 29	0.1	Tremor.
404	6	.. ..	22 15.0	.. ..	22 16	0.1	Doubtful.
405	6	.. ..	23 18.5	.. ..	23 22	0.1	Tremor.
406	15	.. ..	6 07.3	6 13.0	6 27	0.2	Do.
407	17	.. ..	19 51.0	.. ..	19 55	0.2	Do.
408	17	.. ..	20 14.8	.. ..	20 30	0.2	Do.
409	22	12 41.2	.. ..	12 48.5	12 55	0.6	Phases not well defined.
410	23	21 53.4	21 59.4	22 02.8	23 22	1.9	
411	24	.. ..	6 06.2	6 12.0	6 24	0.2	Tremors.
412	28	.. ..	3 28.4	.. ..	3 38	0.1	Tremor.
413	Oct. 2	1 42.6	1 45.4	2 15.0	2 47	1.0	
414	4	.. ..	20 09.8	.. ..	21 12	0.1	Tremors.
415	5	.. ..	4 09.0	.. ..	4 24	0.1	Do.
416	10	22 01.0	22 12.0	22 17.0	22 59	1.5	Second P. T. at 22:08.3.
417	11	.. ..	15 01.0	15 03.8	.. ..	.. ..	See note.
418	16	14 05.0	14 15.2	14 19.0	.. ..	5.9	Second P. T. at 14:10.8.
419	17	.. ..	3 42.6	4 23.4	4 54	0.3	Tremor.
420	21	4 42.4	5 15.2	5 39.1	8 09	1.5	Second P. T. at 4:48.7.
421	27	.. ..	0 22.5	0 26.4	0 32	0.2	Tremor.
422	30	.. ..	1 35.6	1 39.6	1 43	0.2	Do.
423	31	.. ..	19 48.0	19 54.4	19 59	0.2	Do.
424	Nov. 1	.. ..	1 30.0	1 32.1	1 36	0.1	Do.
425	2	.. ..	6 28.4	6 30.6	6 34	0.2	Do.
426	3	20 01.2	20 10.8	20 17.6	21 05	1.3	Second P. T. at 20:06.4.
427	13	.. ..	3 34.2	3 35.6	3 40	0.2	Tremor.
428	15	.. ..	14 32.1	14 34.7	14 40	0.5	Do.
429	16	.. ..	10 41.4	10 42.6	11 03	0.3	Do.
430	16	22 30.4	22 50.7	22 52.1	23 08	0.5	
431	19	.. ..	5 09.2	5 10.2	5 22	0.1	Do.
432	19	.. ..	22 02.6	22 05.1	22 18	0.2	Do.
433	21	20 26.3	20 53.4	21 04.4	22 31	0.5	Second P. T. at 20:40.1.
434	24	14 20.0	14 34.4	14 46.5	15 04	0.9	Second P. T. at 14:24.4.
435	26	3 12.4	3 21.4	3 25.4	3 52	1.4	Second P. T. at 3:17.8.
436	27	.. ..	2 12.2	2 16.1	2 24	0.3	Tremor.
437	28	.. ..	19 32.1	19 36.1	19 44	0.2	Do.
438	Dec. 14	.. ..	17 00.0	17 01.2	17 04	0.1	Do.
439	15	.. ..	18 08.2	18 10.8	.. ..	3.0	Second P. T. at 17:52.4.
440	20	7 22.8	.. ..	7 23.4	7 34	2.0	See note.
441	23	1 23.0	1 37.8	1 41.8	2 00	1.0	Local shock.
442	25	9 26.1	9 31.2	9 38.0	9 45	0.5	Second P. T. at 1:30.8.
443	30	5 37.7	5 58.4	6 06.3	8 32	2.2	Tremors.
444	1908. Jan. 1	18 35.4	.. ..	18 36.4	18 41	1.1	Second P. T. at 5:46.8.
445	8	.. ..	1 47.8	1 49.8	1 51	0.1	Doubtful.
446	11	3 47.3	4 10.3	4 15.8	6 20	1.6	Tremor.
447	19	.. ..	7 37.3	7 40.7	7 51	0.2	Second P. T. at 3:56.4.
448	Feb. 1	23 23.2	23 44.3	23 48.1	25 01	1.0	Tremor.
449	2	.. ..	14 37.3	14 44.7	.. ..	1.1	Second P. T. at 23:32.6.
450	5	.. ..	22 53.7	22 57.0	23 05	0.5	See note.
451	9	.. ..	3 57.8	4 02.3	4 16	0.5	Tremor.
452	9	.. ..	.. ..	19 02.2	19 39	0.6	Do.
453	10	16 55.7	.. ..	16 56.3	17 07	1.2	Began while light was cut off.
454	14	9 06.3	9 14.9	9 17.0	.. ..	0.6	Possibly local shock.
455	18	.. ..	21 05.8	21 07.0	21 08	0.1	Second maximum at 9.35.3. See note.
456	25	.. ..	0 03.3	0 09.5	0 15	0.5	Tremor.
457	25	.. ..	2 25.1	2 25.3	2 29	0.1	Do.

