The International Seismological Summary for 1925 April, May, June.

FORMERLY THE BULLETIN OF THE BRITISH ASSOCIATION SEISMOLOGY COMMITTEE.

The present number of the Summary deals with 147 epicentres, 38 of which are new and 109 repetitions from old epicentres. These numbers do not include a number of small repetitions from the epicentre 35°·7N. 134°·8E., of which there are 84 in all on May 23-29; nor 16 repetitions from 12°·0N. 123°·1E. on May 25 and 26.

Abnormal Focus.

The cases of abnormal focal depth are :—

Date.			Epicentre.		Focal Depth (below normal)
		d. h.	°	°	
1925	Apr.	19 15	33·0N.	137·5E.	+0·045
	Apr.	26 8	55·0S.	145·0E.	−0·030
	May	14 7	36·5N.	70·5E.	+0·020
	May	15 18	30·5N.	138·5E.	+0·050
	May	27 2	36·5N.	133·0E.	+0·050
	June	7 23	3·0N.	80·5W.	+0·045
	June	20 13	37·0N.	72·0E.	+0·040
	June	23 16	0·0	75·0W.	+0·025

On June 7 the antipodal observations at Manila and Batavia are in direct contradiction to the hypothesis of a deep focus; but they are both marked with queries and may not be observations of [P] at all. In the other cases the antipodal evidence is confirmatory when available (see for example May 27d. 2h.); but on June 20, for instance, there are no stations beyond $\Delta=98°$, the antipodes being in the South Pacific. Nevertheless it seems curious that there are no observations at La Paz or other South American stations; on 1924 Oct. 13d. there was a previous shock from the same epicentre recorded both at La Paz and La Plata.

On the other hand the single case of high focus on April 26 is supported by the consistent evidence of half a dozen stations in Europe, which give a mean [P] residual of +24 sec.; but the other evidence is weaker than usual, though it seems impossible to alter the T_0 by anything of the order of 24 sec.

On May 27d. 20h. occurs one of those difficult cases where there may have been a double shock, but with evidence that is not conclusive and is indeed somewhat conflicting.

The Earthquake of May 23, 1925.

This earthquake was investigated by K. Suda (Seism. Bull. of the Imp. Marine Obs. and Kobe Meteorolog. Obs., Kobe, Japan, Vol. I, No. 3, October, 1925), using the records at over 50 meteorological stations within about 500 km. of the epicentre. His determination 35°39′·4N. 134°46′·8N. is essentially adopted in the text. As noted on p. 51 of the Summary for 1922, it seemed possible that we should get good information about the *normal* depth of focus from this earthquake. The depth as determined by K. Suda is 60 km. An independent determination at Oxford using his data assigned a depth 150 km. *at most.* Other evidence has suggested for the normal depth of an earthquake a depth sensibly greater than this, so that it was expected to find evidence of a *high* focus. But except for the La Paz residual for [P] of +12 sec. there is no such evidence. In other words the indications of this earthquake are in favour of a moderate depth for the normal shock, say 150 km. at most, and probably less.

Gutenberg's S_cP_cS.

Attention may perhaps be drawn to the long series of observations of [S] (Gutenberg's S_cP_cS) on June 3d. 4h., for the epicentre 3°·0N. 126°·0E. There are four residuals which stand out so much that we may fairly omit them, viz., −23s. at 101°·9, +27s. at 104°·1, −29s. at 104°·2, and −12s. at 109°·5. The remaining 19 may be grouped as follows:—

Δ	[S]	Δ	[S]	Δ	[S]	Δ	[S]
°	s.	°	s.	°	s.	°	s.
86·5	+ 10	100·6	+ 11	105·0	0	106·9	+ 10
92·5	+ 5	101·2	+ 15	105·1	+ 4	106·9	+ 8
95·4	+ 5	102·6	+ 10	105·8	+ 15	108·1	+ 14
96·4	+ 12	104·1	+ 11	105·9	+ 9	109·4	+ 3
97·7	+ 4			106·2	+ 9	113·8	+ 11
Mean 93·7	+7·2	102·1	+11·8	105·6	+7·4	109·0	+9·2

The mean value is approximately constant at +8·9 sec.; but they cluster most about a rather higher value, say +10 sec.

Reports from Vessels.

May 4d. 11h. 25m. and 11h. 35m. American s.s. *Heffron*, in Lat. 14°35′N., long. 106°6′W., noted a series of heavy swells from about South (true) lasting about 10 minutes. Blackford personally stated that the first of the swells were in a group of three, and from 15-20ft. high and short.

(*Georgetown Seismol. Despatches*).

May 21d. 4h. 51m. Extract from Meteor. Log s.s. *Nore*, Capt. Parker, Colombo to Suez. Anchored in Suez Bay. Was informed by agents that there had been a slight quake at 1.30 a.m., sufficiently strong to wake everyone up.

(*Bull. Volcanologique*).

Reflected Waves.

As mentioned in the last number, greater attention has been paid to the reflected waves PR_1, PR_2, etc., and SR_1, SR_2, etc. The identifications of these at the observing station sometimes differ with that now suggested; thus in the notes to May 15d. 11h. the entry

Vienna $PR_1 = +21m.52s. = PR_2 - 3s.$

means that Vienna provisionally identified the phase as PR_1, but after the investigation given in the text we now suggest PR_2 with which the observation agrees within 3s. But it must be remembered that the tables are imperfect, and their imperfections tend to be emphasised in the reflected waves.

Nairobi Shock on 1928 January 6.

An interesting report on this shock by the officers of the Geological Survey has been received through the courtesy of the Governor of Kenya and the Colonial Secretary. There was a cleft formed about 10 miles long running N.W. to S.E. along the Laikipia Escarpment (say 0°17′N. 36°11′E. to 0°11′N. 36°17′E.), and, adopting the position 0°·2N. 36°·2E. (which is about that of the centre of this rift) for the epicentre, all the seismographic observations at present to hand are closely satisfied.

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University Observatory, Oxford.
1928 August 27.

1925 APRIL, MAY, JUNE.

April 1d. 17h. 20m. 0s. Epicentre 22°·0S. 172°·0E.

$A = -\cdot 918$, $B = +\cdot 129$, $C = -\cdot 375$; $D = +\cdot 139$, $E = +\cdot 990$; $G = +\cdot 371$, $H = -\cdot 052$, $K = -\cdot 927$.

	Δ	Az.	P.	O−C.	S.	O−C.	L.	M.
	°	°	m. s.	s.	m. s.	s.	m.	m.
Suva	7·1	58	1 48	0	3 12	− 1	4·0	4·8
Wellington	19·4	174	—	—	i 8 11	+ 1	e 9·9	11·9
Riverview	21·8	233	—	—	e 9 0	− 1	13·3	17·2
Sydney	21·8	233	7 30	+147	—	—	16·0	17·6
Melbourne	28·1	229	e 6 0?	− 9	—	—	—	20·0
Adelaide	31·9	238	—	—	—	—	e 16·5	26·4
Manila	62·0	302	e 13 0?	?PR_1	—	—	—	38·0
Hong Kong	71·7	305	22 27	?S	(22 27)	+101	—	43·0
Irkutsk	94·7	326	24 24	?S	(24 24)	−39	54·0	—
La Plata	106·0	139	—	—	—	—	49·9	55·8
La Paz	109·6	118	—	—	—	—	49·9	54·0
Toronto	118·2	50	—	—	—	—	58·8	63·5
Ekaterinburg	119·9	323	e 21 8	?PR_1	e 29 4	+16	59·0	73·8
Ottawa	120·9	48	e 21 34	?PR_1	e 28 52	− 4	60·0	—
Baku	128·2	305	e 22 22	?PR_1	e 32 42	?	72·6	82·2
Kucino	132·3	326	—	—	—	—	86·0	—
Pulkovo	133·7	335	—	—	e 65 48	?L	87·0	—
Edinburgh	145·9	355	—	—	—	—	e 90·0	—
Vienna z.	147·4	330	e 19 50	[− 2]	—	—	—	—
De Bilt	148·3	345	e 19 45	[− 8]	—	—	e 83·0	100·5
Bidston	148·4	354	—	—	—	—	—	94·9
Uccle	149·6	345	—	—	—	—	e 81·0	92·0
Oxford	149·8	354	—	—	—	—	—	92·5
Strasbourg	150·7	339	—	—	—	—	86·0	—
Paris	151·9	345	—	—	—	—	e 84·0	—
Granada	164·4	347	e 20 4	[− 7]	—	—	79·0	90·8
San Fernando	165·5	354	—	—	e 37 36	?	86·5	93*5

Additional readings and notes: Riverview MN = +17·0m. Adelaide e = +18m.12s., +21m.24s., and +23m.12s. Hong Kong MN = +53·0m. Irkutsk eS = +33m.16s. Ekaterinburg e = +25m.17s., +26m.10s. (=[S]+25s.), +27m.50s., +30m.58s., and +38m.2s., MN = +72·2m., MZ = +73·5m. Ottawa e = +27m.2s., eL? = +34·8m. Baku eL = +52·1m., MN = +82·7m. De Bilt eE = +42m.24s. (=SR_1 − 7), MN = +88·1m., MZ = +92·1m. Granada i = +23m.17s. and +24m.23s. = PR_1 − 39s. San Fernando MN = +97·0m.

April 1d. Readings also at 0h. (near Belgrade), 5h. (Tacubaya), 8h. (Ekaterinburg), 9h. (Baku and Ekaterinburg), 13h. (Apia), 18h. (La Paz (2)), 20h. (near Irkutsk), 21h. (near Manila and near Taihoku).

April 2d. 1h. 29m. 30s. Epicentre 34°·0N. 133°·0E. (as on 1923 Dec. 12d.).

$A = -\cdot 565$, $B = +\cdot 606$, $C = +\cdot 559$.

	Δ	P.	O−C.	L.	ME	MN
	°	m. s.	s.	m.	m.	m.
Sumoto	1·6	0 25	+1	0·5	0·6	0·6
Kobe	1·9	0 34	+5	0·7	0·8	0·8
Osaka	2·1	0 29	−4	0·7	0·8	1·2

April 2d. 22h. 45m. 36s. Epicentre 21°·0N. 125°·5E.

A = −·542, B = +·760, C = +·358 ; D = +·814, E = +·581 ;
G = −·208, H = +·292, K = −·934.

		△	Az.	P.	O−C.	S.	O−C.	L.	M.
		°	°	m. s.	s.	m. s.	s.	m.	m.
Taihoku	E.	5·4	319	1 16	− 7	—	—	1·5	1·5
Manila		7·7	215	—	—	e 3 31	+ 2	5·5	—
Hong Kong		10·6	280	2 34	− 4	—	—	—	5·7
Zi-ka-wei		10·8	341	e 2 40	− 1	e 4 47	− 3	—	—
Phu-Lien		17·6	273	e 4 15	+ 3	e 8 16	+45	e 9·9	—
Ekaterinburg		58·9	325	e 8 38	−86	—	—	20·4	—
De Bilt		90·4	328	—	—	—	—	e 47·4	—
Eskdalemuir		92·1	334	—	—	—	—	47·4	—

Hong Kong gives also MN = +5·1m.

April 2d. Readings also at 0h. (Granada), 1h. (La Paz and La Plata), 12h. (Batavia and near Taihoku), 13h. (Taihoku and Manila), 14h. (Algiers, La Paz, and Capetown), 15h. (Ekaterinburg), 18h. (Wellington), 19h. (Riverview and Wellington), 21h. (Taihoku and Nagasaki), 22h. (Oaxaca).

April 3d. 10h. 52m. 36s. Epicentre 44°·5N. 16°·5E.

A = +·684, B = +·203, C = +·701.

	△	P.	O−C.	S.	O−C.	L.	M.
	°	m. s.	s.	m. s.	s.	m.	m.
Zagreb	1·4	e 0 22	+ 1	i 0 37	− 2	—	1·1
Mostar	1·5	e 0 22	− 1	i 0 38	− 5	—	0·6
Belgrade	2·8	e 0 46	+ 2	i 1 21	?L	(i 1·4)	1·4
Rocca di Papa	3·9	e 1 26	+25	—	—	—	2·6

Additional readings: Zagreb i = +23s. and +25s., iPR_2 = +32s., i = +45s., iSR_1 = +52s. Mostar i = +26s. Belgrade eP = +53s. Rocca di Papa ePE = +1m.30s., E = +2m.49s.

April 3d. Readings also at 2h. (Tacubaya, Merida, and Oaxaca), 6h. (Tacubaya, Merida, Oaxaca, Ekaterinburg, and Stonyhurst), 10h. (Hong Kong and near Piatigorsk), 11h. (near Sumoto), 14h. (Ekaterinburg, Tacubaya, and Mazatlan), 17h. (La Paz and La Plata), 19h. (Nagasaki), 21h. (Ottawa, Tacubaya, and Oaxaca), 22h. (Victoria, Toronto, and Tacubaya), 23h. (Ekaterinburg).

April 4d. 23h. 34m. 36s. Epicentre 35°·5N. 29°·0E. (see April 5d.).

A = +·712, B = +·395, C = +·581 ; D = +·485, E = −·875 ;
G = +·508, H = +·282, K = −·814.

	△	Az.	P.	O−C.	S.	O−C.	L.	M.
	°	°	m. s.	s.	m. s.	s.	m.	m.
Athens	4·9	302	e 1 11	− 5	e 2 4	−10	2·3	2·8
Belgrade	11·4	328	—	—	e 5 36	+32	6·8	—
Piatigorsk	13·7	48	e 4 25	+63	e 6 39	+38	—	9·6
Kucino	21·1	14	—	—	—	—	e 11·2	—
Uccle	23·4	319	—	—	—	—	e 12·8	—
De Bilt	23·7	322	—	—	—	—	e 12·9	—

Athens gives also MN = +2·6m.

April 4d. Readings also at 0h. (near Berkeley (2)), 2h. (Marseilles), 6h. (near Port au Prince), 8h. (Apia), 12h. (near Berkeley), 13h. (Irkutsk and near (Taihoku), 14h. (La Paz and Taihoku), 16h. (La Paz and La Plata), 18h. (Athens), 22h. (Mizusawa, Zi-ka-wei and near Sumoto), 23h. (Hong Kong and near Belgrade).

April 5d. 3h. 4m. 25s. (I) } Epicentre 35°·5N. 29°·0E. (as on 4d.).
3h. 53m. 40s. (II) }

A = +·712, B = +·395, C = +·581 ; D = +·485, E = −·875 ;
G = +·508, H = +·282, K = −·814.

		Δ	Az.	P.	O−C.	S.	O−C.	L.	M.
		°	°	m. s.	s.	m. s.	s.	m.	m.
I	Athens	4·9	302	1 8	− 8	i 2 1	−13	i 2·2	2·9
II		4·9	302	1 8	− 8	i 2 1	−13	2·2	2·8
I	Helwan	5·9	160	e 2 10	+39	e 3 23	+42	—	3·6
I	Belgrade	11·4	328	e 3 29	+39	e 6 12	+68	i 6·9	7·5
II		11·4	328	e 4 25	?	e 6 43	?L	(e 6·7)	7·2
I	Pompeii	12·5	299	e 3 35	+29	e 6 35	?L	(e 6·6)	—
II		12·5	299	e 6 20	?L	—	—	(e 6·3)	—
I	Piatigorsk	13·7	48	i 3 30	+ 8	i 6 7	+ 6	7·6	10·1
II		13·7	48	e 3 17	− 5	—	—	e 8·3	10·0
I	Budapest	14·1	332	e 2 35?	−52	—	—	—	—
II		14·1	332	—	—	e 6 20?	+10	—	—
I	Zagreb	14·2	320	3 40	+11	e 6 31	+18	e 7·6	8·5
II		14·2	320	—	—	—	—	—	8·9
I	Rocca di Papa	14·2	301	3 38	+ 9	—	—	e 8·1	10·7
II		14·2	301	3 38	+ 9	(e 6 14)	+ 1	e 8·0	9·6
I	Vienna	15·8	328	3 47	− 2	6 34	−16	i 8·8	9·4
II		15·8	328	e 3 43	− 6	—	—	—	8·8
I	Florence	15·9	307	4 5	+14	6 55	+ 2	—	10·6
I	Venice	16·0	313	e 4 22	+30	e 8 50	?L	(e 8·8)	11·2
II		16·0	313	4 52	+60	—	—	—	10·8
I	Innsbruck N.W.	17·6	318	i 4 16	+ 4	—	—	—	—
I	Moncalieri	18·7	307	e 4 27	+ 2	8 25	+30	11·8	14·0
II		18·7	307	e 4 33	+ 8	7 58	+ 3	11·4	—
I	Zurich	19·3	314	e 4 35	+ 2	e 12 8	?	—	—
I	Konigsberg	20·2	346	e 4 41	− 2	i 8 21	− 6	e 10·6	11·6
I	Strasbourg	20·4	316	e 4 49	+ 3	—	—	—	10·6
II		20·4	316	e 4 50	+ 4	—	—	—	10·3
I	Besançon	20·8	312	e 4 54	+ 3	—	—	—	12·6
I	Algiers	20·9	281	4 54	+ 2	—	—	—	10·6
II		20·9	281	4 56	+ 4	—	—	—	—
I	Kucino	21·1	14	4 37	−17	8 17	−29	10·4	—
II		21·1	14	8 15	?S	(8 15)	−31	e 11·2	—
I	Hamburg	22·5	330	i 5 8	− 3	—	—	e 13·6	—
I	Uccle	23·4	319	e 5 17	− 4	9 29	− 4	e 11·6	13·4
II		23·4	319	—	—	—	—	e 12·8	—
I	Paris	23·5	313	e 5 23	0	—	—	14·6	15·6
I	De Bilt	23·7	322	—	—	—	—	e 12·1	14·8
II		23·7	322	—	—	—	—	e 12·8	—
I	Pulkovo	24·3	2	i 5 23	− 8	9 34	−16	11·1	14·2
II		24·3	2	5 19	−12	9 35	−15	12·8	15·5
I	Upsala E.	25·4	347	—	—	—	—	e 12·4	—
II		25·4	347	—	—	—	—	e 16·3	—
I	Granada	26·2	284	e 6 22	+32	—	—	e 16·2	—
I	Kew	26·3	316	—	—	—	—	—	19·6
I	Toledo	26·4	290	e 5 47	− 5	e 10 33	+ 3	e 12·2	19·3
I	Malaga	26·9	283	e 6 39	+42	—	—	—	—
I	Stonyhurst	28·5	320	e 4 2	−131	e 6 48	?PR_1	—	—
I	Bergen	29·2	336	4 35?	?	—	—	—	—
I	Eskdalemuir	29·6	322	—	—	—	—	e 15·6	—
I	Ekaterinburg	30·1	35	i 6 20	− 9	—	—	18·6	—
I	Ottawa	74·5	315	—	—	e 26 5	?SR_1	e 36·0	—
I	Toronto N.	77·6	315	—	—	—	—	34·4	—

Additional readings: Athens II MN = +2·9m. Zagreb I i = +3m.51s. and +4m.13s., e = +5m.7s. and +5m.56s., +6m.28s., and +7m.23s. Rocca di Papa I PN = +3m.46s., eE = +7m.53s., eN = +7m.59s., S for II is given as eLE. Vienna I iE = +4m.12s., iN = +7m.47s., eN = +8m.12s., i = +8m.33s. Moncalieri I MN = +15·3m. Konigsberg I i = +3m.56s., iZ = +5m.4s., i = +6m.6s., and 7m.14s. Kucino II i = +8m.25s. De Bilt I MN = +14 0m., MZ = +15·8m. Pulkovo I MNZ = +15·6m. Granada I i = +7m.2s. Toledo I MNW = +17·5m.

April 5d. 21h. 1m. 35s. Epicentre 16°·0S. 171°·0W. (as on 1919 July 16d.).

A = −·949, B = −·150, C = −·276 ; D = −·156, E = +·988 ;
G = +·272, H = +·043, K = −·961.

Are the Riverview observations PR_1 and SR_1? and Honolulu SR_1 ?

		Δ	Az.	P.	O−C.	S.	O−C.	L.	M.
		°	°	m. s.	s.	m. s.	s.	m.	m.
Apia		2·3	340	0 36	+ 0	1 7	+ 4	1·8	—
Wellington		28·1	203	—	—	—	—	e 12·4	15·5
Riverview		38·3	235	e 8 38	+58	15 25	+103	e 17·0	18·4
Honolulu		39·5	19	—	—	16 31	?	e 18·0	19·0
Melbourne		44·4	232	—	—	—	—	—	33·1
Adelaide		48·6	238	—	—	e 18 25?	?	25·7	30·0
Perth		67·5	241	—	—	—	—	26·4	—
Victoria	E.	77·1	30	21 47	?S	(21 47)	− 3	35·1	43·0
Toronto	E.	102·1	48	—	—	—	—	50·9	—
Georgetown		103·0	53	—	—	—	—	57·9	—
Ottawa		105·0	46	—	—	e 24 50	[+ 3]	e 50·4	—
Eskdalemuir		139·6	11	—	—	—	—	69·4	76·4
Stonyhurst		141·1	11	—	—	—	—	e 75·2	78·9
De Bilt		143·8	4	—	—	—	—	e 75·4	88·0
Kew		143·9	10	—	—	—	—	—	91·4
Uccle		145·0	5	—	—	—	—	e 74·4	78·4
Paris		146·8	8	—	—	e 60 14	?	79·4	—
Strasbourg		147·4	2	19 44	[− 8]	—	—	—	—
Tortosa	N.	154·1	15	—	—	—	—	75·4	80·5
San Fernando		155·5	30	—	—	e 45 37	?SR_1	—	114·9

Additional readings : Riverview MN = +20·7m., S is given as a time without definite phase. Honolulu MN = +19·2m. Adelaide SR_2 = +23m.37s. Victoria MN = +40·6m. Toronto eN = +51m.48s., LN = +56·9m. Ottawa eN = +25m.25s., eE = +27m.46s., eS? = +33m.56s. =SR_1, e = +42m.36s. =SR_3?.

April 5d. Readings also at 3h. (Athens), 5h. (near Manila), 8h. (Ekaterinburg), 11h. (near Sumoto), 22h. (near Nagasaki), 23h. (Ekaterinburg).

April 6d. Readings at 0h. (Mizusawa and Nagasaki), 2h. (Oaxaca), 7h. (Apia), 8h. (near Athens), 11h. (Tacubaya and Zante), 22h. (Apia).

April 7d. 18h. 5m. 36s. Epicentre 7°·0N. 126°·0E.

(as on 1924 Dec. 1d.).

A = −·583, B = +·803, C = +·122 ; D = +·809, E = +·588 ;
G = −·072, H = +·099, K = −·993.

	Δ	Az.	P.	O−C.	S.	O−C.	L.	M.
	°	°	m. s.	s.	m. s.	s.	m.	m.
Manila	9·0	327	i 2 17	+ 1	(i 4 1)	− 2	i 4·0	6·9
Amboina	10·9	169	i 2 24	−19	i 4 24	−28	i 5·6	—
Hokoto	17·6	340	3 43	−29	—	—	e 6·7	—
Taihoku	18·5	347	e 4 15	− 8	(7 43)	− 8	7·7	—
Hong Kong	19·1	325	4 23	− 7	7 54	−10	9·3	13·1
Phu-Lien	23·2	308	5 24	+ 5	i 9 39	+10	11·4	16·9
Malabar	23·2	232	5 21	+ 2	—	—	—	—
Batavia	23·2	236	i 5 22	+ 3	9 29	0	—	—
Zi-ka-wei	24·6	350	i 5 19	−15	9 17	−38	—	17·6
Nagasaki	26·0	8	e 5 36	−12	—	—	e 14·4	—
Hukuoka	26·9	8	e 5 36	−21	—	—	12·3	—
Kobe	28·9	16	5 58	−19	—	—	7·6	8·2
Osaka	29·0	16	5 58	−20	(11 43)	+26	11·7	22·0
Mizusawa	34·9	21	6 43	−29	11 53	−61	17·0	—
Perth	40·1	194	i 7 44	−12	i 13 50	−18	—	—
Ootomari	42·2	17	7 54	−18	—	—	—	—

Continued on next page.

		Δ	Az.	P.	O−C.	S.	O−C.	L.	M.
		°	°	m. s.	s.	m. s.	s.	m.	m.
Adelaide		43·6	166	—	—	e 13 36	−80	e 23·4	27·9
Colombo		45·8	273	8 44	+ 5	—	—	30·1	35·6
Riverview		47·3	152	i 8 31	−18	i 15 5	−40	e 22·1	25·4
Sydney		47·3	152	15 0	?S	(15 0)	−45	25·2	33·9
Hyderabad		47·5	288	i 8 14	−37	15 24	−24	21·1	25·0
Kodaikanal		48·1	278	3 24	?	—	—	29·4	34·5
Melbourne		48·2	160	9 0	+ 5	i 16 42	+46	20·6	42·1
Irkutsk		48·6	343	i 8 43	−15	i 15 41	−20	24·4	27·4
Simla		51·5	306	e 16 30	?S	(e 16 30)	− 8	e 26·9	33·4
Bombay		52·9	289	9 39	+14	17 4	+ 9	27·9	28·8
Apia		65·2	109	—	—	—	—	—	43·4
Ekaterinburg		70·8	329	i 11 16	− 6	i 20 28	− 8	32·4	51·0
Honolulu	E.	74·4	70	—	—	e 21 23	+ 4	e 36·5	—
Baku		74·9	311	e 11 46	− 2	i 21 29	+ 4	36·6	48·4
Piatigorsk		79·9	315	i 12 12	− 6	i 22 15	− 7	—	52·8
Kucino		83·1	325	12 42	+ 7	e 23 12	+14	—	—
Pulkovo		86·8	330	12 43	−15	23 18	[+10]	42·4	55·4
Konigsberg		93·0	326	13 15	−17	i 24 18	−27	e 49·4	65·9
Upsala		93·0	332	—	—	e 23 42	[− 4]	e 52·4	62·6
Athens		95·2	310	i 13 46	+ 2	i 23 45	[−13]	e 36·9	—
Belgrade		95·8	317	e 13 33	−15	e 23 10	[−51]	e 39·2	—
Budapest		96·0	320	e 13 24?	−25	24 54	−22	e 49·4	—
Vienna		97·5	322	13 37	−20	24 12	[+ 1]	e 51·4	68·4
Victoria	E.	98·1	40	17 42	?PR_1	26 15	+38	44·8	52·4
Bergen		98·3	335	i 38 54	?SR_3	—	—	55·9	—
Zagreb		98·6	319	e 13 43	−20	e 23 17	[−60]	—	—
Hamburg		99·2	327	e 17 51	?PR_1	—	—	e 52·4	—
Innsbruck	N.W.	101·0	321	e 13 56	−19	—	—	—	—
Venice		101·1	320	e 15 29	+73	e 18 24	?PR_1	—	22·3
Pompeii		101·3	314	e 24 19	?[S]	(e 24 19)	[−11]	—	—
Rocca di Papa		102·2	315	e 17 37	?PR_1	—	—	—	—
De Bilt		102·5	327	e 13 57	−26	e 24 36	[0]	e 50·4	68·0
Strasbourg		102·7	324	—	—	e 25 44	−37	50·4	58·4
Uccle		103·6	325	—	—	e 24 40	[− 1]	e 50·4	69·4
Moncalieri		104·2	320	e 16 50	+139	24 41	[− 3]	40·6	—
Besançon		104·3	322	—	—	—	—	57·4	—
Edinburgh		104·5	333	—	—	e 24 42	[− 3]	55·4	66·4
Stonyhurst		105·4	331	e 13 58	−38	e 25 8	[+19]	46·2	59·9
Paris		105·6	324	e 18 42	?PR_1	—	—	59·4	74·4
Oxford		106·0	330	—	—	i 24 49	[− 3]	51·4	77·0
Bidston		106·0	331	24 54	?[S]	(24 54)	[+ 2]	48·4	68·6
Algiers		111·0	314	—	—	e 28 27	+50	—	79·9
Toledo		114·3	320	—	—	—	—	e 58·2	81·8
Granada		115·5	316	i 20 4	?PR_1	i 29 41	?	68·9	76·9
Malaga		116·3	316	e 19 17	?PR_1	e 28 49	+29	e 47·4	89·8
San Fernando		117·6	317	e 23 37	?PR_2	—	—	64·9	69·9
Ottawa		124·1	17	20 41	?PR_1	30 41	?	71·4	—
Toronto	E.	124·4	21	—	—	31 1	?	48·4	—
	N.	124·4	21	20 32	?PR_1	30 39	?	66·4	74·8
Georgetown		129·4	23	e 21 8	?PR_1	—	—	—	—
La Paz		163·3	126	i 20 11	[+ 1]	34 8	?	79·2	82·6

Additional readings and notes: Amboina L = 18h.48m. Hong Kong PR_1 = +4m.35s., MN = +11·1m. Phu-Lien MN = +14·5m. Batavia i = +5m.37s. = PR_1. Zi-ka-wei SR_1N = +9m.47s., SR_1E = +9m.49s. Kobe MN = +8·0m. Osaka S = +9m.46s., MN = +15·4m. Mizusawa SN = +11m.55s. Perth PR_1 = +9m.29s., PR_2 = +9m.50s., SR_1 = +16m.49s. Adelaide SR_1 = +18m.0s., SR_2 = +20m.18s. Riverview SR_1 = +19m.1s., Riverview SR_1 = +19m.1s., MN = +29·3m. Melbourne P given as ePR_2? Irkutsk SR_1 = +19m.28s. Simla eS = +21m.0s. = SR_1 +26s. Ekaterinburg MN = +40·2m., MZ = +50·9m. Honolulu eE = +34m.0s. Baku i = +11m.48s., MN = +42·8m., MZ = +48·1m. Piatigorsk PR_1 = +15m.25s., PR_2 = +18m.7s., PR_3 = +19m.13s., PS = +23m.6s., SR_1 = +28m.39s. Pulkovo e = +22m.45s., i = +23m.6s., MN = +50·3m., MZ = +55·4m. Konigsberg PR_1 = +16m.54s., iZ = +17m.0s., +21m 24s., and +22m.42s., eE = +23m.34s., iSE = +24m.24s., PS = +25m.12s., SR_1 = +30m.42s., e = +32m.42s. Upsala MN = +65·6m. Belgrade PR_1 = +17m.44s., PR_2 = +21m.53s. (= PR_3). Vienna iE = +27m.18s., iN = +29m.11s., SR_1? = +30m.5s., MN = +60·9m. Victoria LN = +40·4m. Bergen i = +48·9m. Zagreb e = +14m.48s., ePR_1? = +16m.38s., eSR_1? = +26m.25s. = S +43s. Pompeii eS = +28m.14s. Rocca di Papa eZ = +18m.17s. = PR_1 − 11s, eN = +19m.16s. De Bilt MZ = +67·0m., MN = +71·8m. Uccle MN = +57·4m. Toledo MNW = +66·4m. Granada i = +30m.44s. San Fernando MN = +72·4m. Ottawa e = +37m.28s. = SR_1, SR_2E? = +40m.2s. La Paz PR_1 = +27m.15s., PR_2 = +30m.14s., SR_1 = +40m.51s.

April 7d. Readings also at 2h. (Tacubaya), 4h. (near Granada and Almeria), 14h. (Nagasaki), 15h. (La Paz, Hyderabad, Irkutsk, Bombay, and Athens), 16h. (Bombay, Ekaterinburg (2), Irkutsk, and Hyderabad), 19h. (La Paz), 20h. (near Zagreb), 21h. (Tacubaya), 23h. (Tacubaya).

April 8d. Readings also at 6h. (Amboina), 7h. (Riverview), 13h. (Batavia, Malabar, and Taihoku), 16h. (La Paz), 20h. (Ekaterinburg and Irkutsk), 21h. (Baku and Pulkovo), 23h. (Azores).

April 9d. Readings at 4h. (near Batavia and Malabar), 6h. (Kobe and near Sumoto), 7h. (Bombay, Ekaterinburg, and Simla), 8h. (Ekaterinburg), 10h. (Balboa Heights), 13h. (Barcelona, Baku, and Pulkovo), 14h. (Uccle and Ekaterinburg), 17h. (Ekaterinburg), 21h. (Taihoku), 23h. (La Paz).

April 10d. Readings at 1h. (Amboina) 6h. (Ekaterinburg), 11h. (Rio Tinto), 16h. (Apia and near Sumoto), 23h. (Balboa Heights).

April 11d. 10h. 41m. 54s. Epicentre 34°·0S. 57°·0E.

A = +·452, B = +·695, C = −·559; D = +·839, E = −·545; G = −·305, H = −·469, K = −·829.

		Δ	Az.	P.	O−C.	S.	O−C.	L.	M.
		°	°	m. s.	s.	m. s.	s.	m.	m.
Johannesburg		26·1	280	3 6	−163	7 42	−162	9·1	—
Cape Town		31·7	262	6 48	+4	11 58	− 5	15·8	18·8
Colombo		46·3	32	8 41	− 1	(15 16)	−16	15·3	16·4
Kodaikanal		48·3	26	8 24	−32	(15 36)	−22	15·6	43·2
Perth		48·8	105	i 8 45	−14	16 13	+ 9	23·4	—
Batavia		53·7	70	9 30	− 1	16 57	− 8	—	—
Malabar		53·7	72	9 28	− 3	17 5	0	—	—
Bombay		55·0	19	9 42	+ 3	17 20	− 1	29·1	—
Hyderabad		55·4	25	i 9 29	−13	(17 23)	− 3	19·3	26·7
Calcutta	E.	63·9	33	10 40	+ 3	19 23	+11	—	—
	N.	63·9	33	10 39	+ 2	19 17	+ 5	—	—
Adelaide		65·2	116	i 11 0	+14	e 19 18	− 9	e 30·1	35·6
Accra		66·8	294	10 6	−51	—	—	—	42·1
Simla		67·9	19	e 11 24	+21	e 20 6	+ 5	—	30·0
Helwan		68·3	337	11 15	+ 9	20 36	+30	—	44·8
Melbourne		68·6	122	i 11 48	+40	20 6	− 3	32·9	35·2
Phu-Lien		72·3	49	e 11 35	+ 3	i 21 3	+ 9	37·1	40·6
Amboina		72·4	82	11 30	− 2	—	—	—	—
Riverview		74·9	121	11 48	0	e 21 16	− 9	e 36·3	41·3
Sydney		74·9	121	21 24	?S	(21 24)	− 1	37·1	39·4
Manila		77·8	64	i 12 12	+ 6	—	—	—	24·4
Athens		78·3	335	i 12 6	− 3	22 2	− 2	e 38·1	55·1
Hong Kong		78·3	53	12 6	− 3	21 56	− 8	43·9	49·1
Platigorsk		79·0	351	i 12 8	− 5	i 22 17	+ 5	36·1	48·6
Pompeii		84·4	330	i 12 51	+ 7	i 23 6	− 6	—	—
Naples		84·5	330	e 12 48	+ 3	e 23 23	+ 9	39·1	61·1
Taihoku		85·1	55	12 51	+ 2	(23 21)	+ 1	23·4	—
Mostar		85·1	335	e 12 53	+ 4	e 20 56	?	e 30·4	53·3
Rio de Janeiro	E.	85·2	246	e 12 59	+10	i 23 29	+ 8	35·9	42·6
Wellington		85·5	139	i 12 49	− 2	i 23 30	+ 5	e 40·6	46·6
Belgrade		85·5	336	e 12 51	0	i 23 38	+13	e 30·4	58·7
Rocca di Papa		85·9	329	i 12 55	+ 2	e 23 39	+10	36·5	61·0
Algiers		86·8	320	13 0	+ 2	23 31	− 8	e 41·1	50·4
Zagreb		88·0	334	i 13 3	− 2	i 23 59	+ 7	e 30·5	53·5
La Plata	E.	88·0	229	13 8	+ 3	23 37	−15	41·1	48·5
	N.	88·0	229	e 13 18	+13	23 35	−17	41·6	47·5
Budapest		88·2	337	13 9	+ 3	23 57	+ 3	e 38·1	—
Florence		88·2	330	13 6	0	23 36	−18	36·8	44·1

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		Δ	Az.	P.	O−C.	S.	O−C.	L.	M.
		°	°	m. s.	s.	m. s.	s.	m.	m.
Lemberg		88·7	340	e 12 12	−57	—	—	—	—
Zi-ka-wei		89·0	50	e 13 5	− 5	23 30	[+ 8]	—	51·1
Venice		89·0	331	i 13 15	+ 5	24 10	+ 7	61·6?	—
Vienna		89·8	335	e 13 6?	− 9	—	—	—	—
Alicante	E.	89·8	320	13 18	+ 3	—	—	47·4	51·7
	N.	89·8	320	i 13 24	+ 9	i 24 24	+12	45·6	57·4
Almeria		89·8	318	i 13 18	+ 3	24 20	+ 8	e 46·0	58·2
Marseilles		90·5	325	13 26	+ 7	24 34	+15	39·1	49·7
Barcelona		90·7	324	e 13 24	+ 4	24 30	+ 9	e 46·2	58·2
Moncalieri		90·7	328	13 16	− 4	24 24	+ 3	39·5	61·4
Granada		90·8	317	i 13 20	0	24 30	+ 8	e 36·7	49·3
Ekaterinburg		90·9	3	i 13 12	− 9	24 15	− 8	38·1	59·7
Malaga		90·9	317	13 16	− 5	e 24 30	+ 7	39·1	54·9
Innsbruck		91·0	331	i 13 16	− 5	—	—	e 34·1	—
Tortosa	E.	91·1	321	13 26	+ 4	24 5	−20	—	56·0
	N.	91·1	321	13 25	+ 3	i 24 1	−24	39·6	52·9
San Fernando		91·8	315	13 34	+ 8	24 39	+ 6	44·1	58·6
Zurich		92·2	330	e 13 23	− 5	e 24 6	−31	e 31·1	—
Toledo		92·8	319	13 25	− 6	24 6?	−37	e 38·6	53·5
Besançon		93·2	329	e 13 32	− 1	e 24 55	+ 8	40·1	59·1
Strasbourg		93·5	330	i 13 28	− 7	24 50	− 1	42·1	62·7
Konigsberg		94·2	341	13 30	− 9	24 54	− 4	e 40·6	49·4
Irkutsk		95·6	27	—	—	—	—	e 84·1	—
Paris		95·9	329	e 13 42	− 6	e 25 11	− 4	41·1	65·1
Pulkovo		96·3	348	13 38	−13	—	—	—	59·5
Hamburg		96·5	335	e 13 42	−10	i 24 28	[+23]	e 49·1	67·9
Uccle		96·6	330	e 13 43	− 9	—	—	41·1	61·8
De Bilt		97·3	332	13 46	−10	—	—	e 41·1	61·4
Kew		99·1	328	—	—	—	—	—	64·1
Upsala		99·3	343	e 17 6?	?PR_1	24 39	[+18]	e 42·1	66·4
Oxford		99·7	328	e 14 7	− 2	i 18 18	?PR_1	—	64·9
Osaka		100·5	56	13 39	−34	22 9	?PR_3	53·8	78·8
Bidston		101·6	329	14 24	+ 6	25 4	[+32]	39·6	70·9
Stonyhurst		101·7	329	e 13 54	−25	24 33	[0]	45·4	—
Eskdalemuir		103·0	330	e 14 24	− 1	e 24 39	[+ 1]	43·1	—
Edinburgh		103·4	330	e 14 30	+ 3	25 9	[+29]	41·1	58·7
Bergen		103·4	338	16 6?	?	—	—	28·1	33·1
Dyce		103·9	331	18 5	[+ 4]	25 2	[+19]	46·4	64·2
La Paz		107·4	235	15 24	+38	i 25 31	[+32]	46·0	65·8
Harvard		139·0	298	—	—	35 8	?	e 64·8	79·8
Fordham		140·9	294	19 3	[−38]	—	—	65·6	80·5
Ottawa		142·5	302	e 19 42	[− 2]	e 29 58	?PR_4	e 47·2	82·5
Ithaca		143·0	298	19 48	[+ 3]	—	—	e 40·1	—
Georgetown	E.	143·1	291	i 19 43	[− 2]	—	—	72·7	82·6
	N.	143·1	291	e 19 48	[+ 3]	—	—	78·1	83·4
Toronto	E.	145·1	299	i 19 51	[+ 3]	e 29 54	?PR_3	47·8	89·7
Honolulu	E.	146·7	102	19 56	[+ 5]	e 32 6	?	53·4	77·8
	N.	146·7	102	20 3	[+12]	—	—	e 76·4	77·1
Ann Arbor		148·3	296	i 20 24	[+31]	i 34 0	?	e 60·7	79·7
Chicago	E.	151·2	296	20 0	[+ 3]	35 41	?	e 73·9	88·9
	N.	151·2	296	20 0	[+ 3]	—	—	e 75·6	87·6
Tacubaya		154·3	241	20 15	[+14]	—	—	—	—
Sitka	E.	155·4	16	—	—	e 92 25	?	97·6	99·0
	N.	155·4	16	—	—	e 92 19	?	97·0	112·4
Victoria	E.	165·6	1	20 30	[+18]	29 5	?PR_2	46·2	105·2
Tucson	N.	169·7	264	e 28 11	?	—	—	88·9	101·1
Berkeley		176·1	352	i 20 22	[+ 5]	—	—	88·1	101·4
Lick		176·4	342	i 20 19	[+ 2]	—	—	92·2	102·1

Additional readings and notes: Perth PR_1 = +11m.15s., PS = +15m.32s., SR_1 = +18m.35s. Batavia i = +10m.16s. and +11m.0s. Hyderabad S? = +14m.27s., true S is given as SR_1. Adelaide SR_1 = +24m.12s., SR_2 = +26m.48s., SR_3 = +28m.6s. Melbourne SR_1 = +27m.42s., readings being given for 10d. Phu-Lien SR_1 = +25m.48s., MN = +42·0m. Riverview eP = +12m.3s., ePR_1 = +14m.56s., eS = +21m.39s., MN = +41·0m, MZ = +41·7m. Sydney S = +28m.36s. Manila MN = +22·2m. Athens PR_1N = +15m.13s., eSR_1E = +27m.44s., eSR_2E = +31m.12s., MN = +45·6m; T_e = 10h.42m.2s. Hong Kong ? = +27m.14s. = SR_1. Piatigorsk PR_1 = +15m.23s., PR_2 = +17m.35s., SR_1 = +28m.3s., SR_2 = +32m.35s., SR_3 = +34m.37s. Taihoku S = +18m.6s. (?PR_2). Rio de Janeiro iSN = +23m.32s. Wellington [S] = +23m.15s., SR_1 = +28m.43s., SR_2 = +35m.39s. (= SR_2?): T_e = 10h.41m.45s. Belgrade iP = +12m.55s., PR = +13m.28s. +14m.18s. +15m.32s. +16m.1s. and +16m.58s. (= PR_1?),

Continued on next page.

iS = 20m.53s., SR = +21m.35s., MN = +62·5m. Rocca di Papa iE = +13m.2s., iN = +13m.5s., eSN = +23m.38s. Zagreb i = +14m.23s., +21m.43s., and +23m.59s., iPR_1 = +15m.31s., iPR_2 = +17m.2s., iS = +21m.3s., iSR_1 = +25m.20s., e = +26m.4s., eSR_2? = +27m.43s. (Should PR_2 be PR_1? and iS = PR_2?). Florence P = +13m.9s., S = +23m.41s. Almeria MZ = +58·7m., MN = +59·2m. Barcelona PR_1 = +17m.3s., ? = +28m.42s., MN = +57·9m. Moncalieri MN = +54·8m. Granada iP = +14m.4s., PR_2 = +17m.4s. (= PR_1?), +20m.16s. (= PR_2?) +21m.44s. (= PR_2?), PS = +26m.24s., MN = +49·0m., MZ = +55·2m. Ekaterinburg i = +16m.14s., +17m.34s., +18m.16s., and +23m.31s., = [S] iPR_1 = +16m.51s., iPR_2 = +19m.12s., iPS = +25m.24s., iSR_1 = +29m.53s., MZ = +54·8m., MN = +60·4m. Malaga MZ = +55·9m., MN = +56·8m. Innsbruck eNE = +13m.26s. San Fernando MN = +57·1m. Toledo SR_1NW = +31m.12s., SR_1NE = +31m.17s., MZ = +53·7m., MNW = +61·8m., and several i's. Strasbourg MN = +61·5m. Konigsberg PN = +13m.43s., P? = +16m.23s., eZ = +16m.48s., PR_1N = +16m.58s., PR_1Z = +17m.5s., e = +18m.23s., +20m.5s. = PR_2?, and +24m.12s. = [S] +19s., PR_2? = +19m.46s., PS = +26m.12s., SR_1 = +31m.23s., SR_2 = +34m.42s. Paris PR_1 = +17m.42s., SR_1 = +31m.58s., MN = +41·1m. Pulkovo e = +16m.25s. and +23m.56s. = [S] −8s., PR_1 = +17m.49s., i = +19m.43s., +24m.27s., and +27m.33s., PR_2 = +22m.21s., PS = +26m.30s., SR_1 = +31m.21s., SR_2 = +35m.35s., MZ = +58·1m., MN = +73·1m. Hamburg i = +32m.6s. = SR_1 +12s., MN = +64·5m., MZ = +65·7m. Uccle PR_1 = +17m.18s., i = +32m.7s. = SR_1 +11s., MN = +64·9m. De Bilt eN = +32m.17s. = SR_1 +14s., MZ = +68·3m., MN = +70·5m. Upsala i = +32m.44s. = SR_1 +15s., MN = +71·3m. Osaka MN = +58·8m. Stonyhurst SR_1 = +30m.31s., SR_2 = +36m.49s. Eskdalemuir PR_1 = +18m.6s., SR? = +33m.36s. Edinburgh i = +18m.58s. = PR_1 +22s., +29m.6s., and +33m.56s. = SR_1 +36s. Dyce PR_1 = +18m.52s., SR_1 = +33m.34s. La Paz PR = +19m.45s. and +21m.36s. = PR_2?, iS = +28m.40s., SR_1 = 30m.46s. and +34m.24s. = SR_1 +14s., L = +53·9m. ; T_o? = 10h.41m.21s. Harvard PR_1E = +22m.39s., PSE? = +33m.28s., PR_1N? = +23m.0s., SR_1 = +41m.14s., eE = +51m.28s. = SR_2 +2s., eLN = +65·2m., MN = +85·0m. : T_o = 10h.41m.56s. Ottawa iPR_1E = 22m.51s., ePR_2E = +25m.16s., eSR_1 = +35m.46s. Ithaca PR_1 = +23m.6s., PR_2 = +24m.38s. Georgetown PR_1 = +23m.28s. Toronto PR_1E = +23m.36s. LN = +50·4m., MN = +81·4m. Honolulu PR_1N = +23m.24s., PR_2?E = +25m.52s., PR_2?N = +25m.58s., iPSN = +35m.18s., eN = +37m.36s., SR_1N = +43m.1s., eE = +44m.4s. and +46m.16s., eSR_2E? = +48m.36s. ; T_o = 10h.41m.37s. Ann Arbor iPR_1? = +21m.30s., MN = +86·0m. Chicago ePR_1E? = +23m.16s., PR_1N = +24m.17s., eE = +33m.46s. 39m.13s. and +48m.1s., PSE? = +37m.18s., SR_1N = +43m.21s., SR_2E = +48m.56s., SR_2N = +57m.4s. Victoria PN = +20m.15s. (o − c = [+3s.]). Tucson eN = +32m.12s. = PR_2?, and +38m.40s. Berkeley iPE = +20m.23s., iPR_1Z = +25m.54s., iPR_1N = +25m.55s., iPR_1E = +26m.11s., iPR_2E = +30m.22s., MN = +104·3m., and many other readings. Lick iPZ = +20m.26s., iPN = +20m.32s., iPR_1E = +25m.48s., iPR_1N = +25m.56s., iPR_1Z = +25m.59s., MN = +105·0m., and many other readings.

April 11d. 22h. 27m. 10s. Epicentre 35°·5N. 143°·5E. (as on 1925 Feb. 13d.).

A = −·654, B = +·484, C = +·581.

		Δ	P.	O − C.	S.	O − C.	L.	M.
		°	m. s.	s.	m. s.	s.	m.	m.
Mizusawa	E.	4·1	1 2	− 2	1 53	0	—	—
Osaka		6·6	1 50	+ 9	(2 57)	− 3	3·0	4·5
Kobe		6·8	—	—	—	—	—	4·8
Ekaterinburg		57·2	—	—	—	—	26·8	—
Pulkovo		70·1	—	—	e 20 8	−19	—	—
De Bilt		85·1	—	—	—	—	e 53·8	—
Uccle		86·4	—	—	—	—	47·8	—

Additional readings: Mizusawa SN = +1m.52s. Osaka MN = +7·9m.

April 11d. Readings also at 6h. (Apia), 9h. (Adelaide), 17h. (Taihoku)

April 12d. 19h. 27m. 0s. Epicentre 39°·0N. 23°·0E. (as on 1922 June 16d.).

$A = +·715$, $B = +·304$, $C = +·629$; $D = +·391$, $E = -·920$; $G = +·579$, $H = +·246$, $K = -·777$.

It seems possible that this is a repetition from 35°·5N. 29°·0E. as on April 5d. See alternative solution below.

		Δ	Az.	P.	O−C.	S.	O−C.	L.	M.
		°	°	m. s.	s.	m. s.	s.	m.	m.
Athens	N.	1·2	151	0 15	− 3	(0 31)	− 2	0·5	1·0
Mostar		5·8	320	e 0 57	−33	e 2 7	−32	—	2·8
Belgrade		6·1	342	e 1 49	+16	i 2 58	+12	i 3·2	3·4
Pompeii		6·8	288	e 3 20	?L	—	—	(e 3·3)	—
Naples		7·0	288	e 1 45	− 1	e 4 35	?L	(e 4·6)	—
Rocca di Papa		8·4	294	e 2 10	+ 3	e 4 47	+60	—	8·2
Zagreb		8·5	325	e 2 4	− 5	—	—	—	6·0
Florence		10·0	302	3 30	+60	6 10	?L	(6·2)	7·2
Venice.		10·2	312	i 6 16	?L	i 7 22	?	—	—
Vienna		10·4	335	e 2 37	+ 1	5 45	?L	(5·8)	7·6
Innsbruck		11·8	318	e 2 48	− 8	—	—	—	—
Moncalieri		12·8	303	e 2 37	−33	6 19	+40	9·0	11·3
Strasbourg		14·6	316	—	—	—	—	e 7·0	9·0
Besançon		14·8	309	—	—	—	—	—	9·0
Algiers		15·9	268	e 3 47	− 4	—	—	—	—
Konigsberg		15·9	355	—	—	—	—	e 8·3	—
Hamburg		17·1	333	e 5 0?	+54	—	—	—	13·0
Uccle		17·6	318	—	—	e 7 24	− 7	e 9·0	—
Paris		17·7	310	—	—	—	—	e 10·0	11·0
De Bilt		18·0	322	—	—	—	—	10·0	13·2
Baku		20·6	78	—	—	e 8 16	−20	12·0	—
Granada		21·0	273	—	—	—	—	13·4	14·9
Upsala		21·1	352	—	—	—	—	e 12·2	14·4
Pulkovo		21·3	10	4 40	−17	8 22	−28	10·5	12·2
Bergen		24·1	338	—	—	—	—	e 14·0	—
Edinburgh		24·2	323	—	—	—	—	—	15·0
Ekaterinburg		30·3	42	—	—	e 11 35	− 4	15·5	18·5
Irkutsk		55·2	47	—	—	—	—	30·0	—

Additional readings: Athens ME = +0·8m. Belgrade iP = +2m.1s. Rocca di Papa eN = +2m.28s. Vienna SR_1 = +6m.25s. Konigsberg iZ = +8m.57s., iE = +9m.18s., also other e and i readings. Hamburg MN = +14·0m. De Bilt MN = +12·3m., MZ = +13·3m. Granada e = +11m.4s. Pulkovo MN = +13·2m.

Alternative solution to above (which does not suit several stations) as repetition from April 5d.

April 12d. 19h. 25m. 35s. Epicentre 35°·5N. 29°·0E. (as on April 5d. 3h.).

$A = +·712$, $B = +·395$, $C = +·581$; $D = +·485$, $E = -·875$; $G = +·508$, $H = +·282$, $K = -·814$.

It seems unnecessary to repeat stations which do not record P or S.

	Δ	Az.	P.	O−C.	S.	O−C.	L.	M.
	°	°	m. s.	s.	m. s.	s.	m.	m.
Athens	4·9	302	1 40	+24	(1 56)	−18	1·9	2·4
Belgrade	11·4	328	e 3 14	+24	i 4 23	−41	i 4·6	4·8
Mostar	11·6	316	e 2 22	−31	e 3 32	−97	—	4·2
Pompeii	12·5	299	e 4 45	?S	(e 4 45)	−47	—	—
Naples	12·8	299	e 3 10	0	e 6 0	+21	—	—
Rocca di Papa	14·2	301	e 3 35	+ 6	e 6 12	− 1	—	9·6
Zagreb	14·2	320	e 3 29	0	—	—	—	7·4
Vienna	15·8	328	e 4 2	+13	7 10	+20	—	9·0
Florence	15·9	307	4 55	+64	7 35	+42	—	8·7
Venice	16·0	313	i 7 41	?S	(i 7 41)	+46	—	—
Baku	17·1	67	—	—	—	—	e 9·7	—
Innsbruck	17·6	318	e 4 13	+ 1	—	—	—	—
Moncalieri	18·7	307	e 4 2	−23	7 44	−11	10·4	12·7
Algiers	20·9	281	e 5 12	+20	—	—	—	—
Hamburg	22·5	330	e 6 25	+74	—	—	—	14·4
Uccle	23·4	319	—	—	e 8 49	−44	e 10·4	—
Pulkovo	24·3	2	6 5	+34	9 47	− 3	11·9	13·6
Ekaterinburg	30·1	35	—	—	e 13 0	?SR_1	16·9	19·9

April 12d. Readings also at 7h. (Ekaterinburg and near Mizusawa), 18h. (near Wellington), 19h. (near Athens), 21h. (Nagasaki (2)).

April 13d. Readings at 14h. and 15h. (Apia), 16h. (Ekaterinburg), 19h. (Taihoku, near Mizusawa, and Nagoya), 22h. (Lick (4) and La Plata), 23h. (near Amboina).

April 14d. 1h. 34m. 10s. Epicentre 12°·0N. 95°·0E. (as on 1922 Oct. 17d.).

A = −·085, B = +·974, C = +·208 ; D = +·996, E = +·087 ;
G = −·018, H = +·207, K = −·978.

		Δ	Az.	P.	O−C.	S.	O−C.	L.	M.
		°	°	m. s.	s.	m. s.	s.	m.	m.
Calcutta	E.	12·3	330	4 31	+88	—	—	6·6	—
	N.	12·3	330	4 41	+98	—	—	6·4	—
Phu-Lien		14·2	50	e 3 17	−12	e 5 0	−73	5·4	—
Hyderabad		16·9	291	e 4 57	+53	12 47	?L	(12·8)	—
Hong Kong		21·0	58	7 49	?	8 41	− 3	—	9·6
Bombay		22·4	291	9 28	?S	(9 28)	+15	15·2	—
Taihoku		28·2	62	—	—	e 11 45	+42	—	—
Zi-ka-wei		31·0	48	e 6 40	+ 2	e 11 48	− 3	—	—
Baku		48·6	315	e 18 28	?SR$_1$	—	—	25·3	—
Ekaterinburg		51·9	336	—	—	—	—	23·3	—
Pulkovo		67·0	330	—	—	—	—	31·8	—
De Bilt		80·5	320	—	—	—	—	40·8	41·8
Uccle		81·1	320	—	—	—	—	—	40·8

Bombay gives also S = +11m.58s.

April 14d. 15h. 16m. 51s. Epicentre 44°·0N. 20°·0W. (as on 1919 Sept. 13d.).

A = +·676, B = −·246, C = +·695 ; D = −·342, E = −·940 ;
G = +·653, H = −·238, K = −·719.

	Δ	Az.	P.	O−C.	S.	O−C.	L.	M.
	°	°	m. s.	s.	m. s.	s.	m.	m.
Malaga	13·9	116	3 26	+ 1	6 6	0	—	—
Granada	14·2	113	i 3 29	0	—	—	8·2	10·0
Almeria	15·1	112	3 40	0	6 55	+21	e 8·4	—
Stonyhurst	15·1	43	—	—	—	—	e 8·3	—
Uccle	17·7	59	—	—	—	—	e 9·7	—
De Bilt	18·5	55	—	—	—	—	e 11·2	—
Strasbourg	19·6	67	—	—	—	—	12·2	—

April 14d. Readings also at 0h. (Lick (2)), 3h. (near Mizusawa), 5h. (Baku), 6h. (Apia), 20h. (Moncalieri), 22h. (Tacubaya).

April 15d. 4h. 58m. 48s. (I)
6h. 1m. 45s. (II)
6h. 14m. 30s. (III)
} Epicentre 35°·5N. 29°·0E. (as on April 12d. alternative solution).

A = +·712, B = +·395, C = +·581 ; D = +·485, E = −·875 ;
G = +·508, H = +·282, K = −·814.

	Δ	Az.	P.	O−C.	S.	O−C.	L.	M.
	°	°	m. s.	s.	m. s.	s.	m.	m.
I Athens	4·9	302	e 1 16	0	2 18	+ 4	2·5	3·3
II	4·9	302	e 1 16	0	e 2 18	+ 4	i 2·5	3·3
III	4·9	302	e 1 16	0	e 2 18	+ 4	i 2·5	3·0
III Pompeii	12·5	299	e 6 0	?L	—	—	(e 6·0)	—
III Naples	12·8	299	e 4 36	?S	(e 4 36)	−63	—	—
I Piatigorsk	13·7	48	—	—	—	—	7·2	10·2
II	13·7	48	—	—	—	—	9·2	—
III	13·7	48	—	—	—	—	—	10·0

Continued on next page.

		Δ	Az.	P.	O−C.	S.	O−C.	L.	M.
		°	°	m. s.	s.	m. s.	s.	m.	m.
I	Budapest	14·1	332	—	—	—	—	e 7·2	—
III		14·1	332	—	—	—	—	e 7·5	—
I	Rocca di Papa	14·2	301	—	—	—	—	e 7·8	9·3
II		14·2	301	—	—	—	—	e 7·4	—
III		14·2	301	—	—	—	—	e 7·8	10·6
III	Vienna	15·8	328	—	—	—	—	i 8·8	9·0
I	Venice	16·0	313	7 12?	?S	(7 12?)	+17	—	—
III		16·0	313	5 30?	?	—	—	—	—
I	Baku	17·1	67	e 4 5	− 1	e 7 37	+17	10·4	12·6
II		17·1	67	—	—	e 8 2	+42	10·8	—
III		17·1	67	e 4 11	+ 5	e 8 8	+48	10·2	10·7
I	Moncalleri	18·7	307	—	—	—	—	e 11·4	—
III		18·7	307	—	—	e 8 9	+14	11·8	—
I	Konigsberg	20·2	346	—	—	—	—	e 10·7	—
III		20·2	346	—	—	—	—	e 10·5	12·5
I	Strasbourg	20·4	316	—	—	—	—	12·2	—
III		20·4	316	—	—	—	—	e 11·5	12·5
III	Uccle	23·4	319	—	—	—	—	12·5	—
I	De Bilt	23·7	322	—	—	—	—	13·2	—
II		23·7	322	—	—	—	—	13·2	—
III		23·7	322	—	—	e 10 0	+22	12·5	13·4
I	Pulkovo	24·3	2	5 24	− 7	9 34	−16	12·7	—
II		24·3	2	5 16	−15	9 33	−17	12·2	—
III		24·3	2	5 17	−14	9 29	−21	11·5	14·2
III	Upsala	25·4	347	—	—	—	—	e 13·8	—
I	Granada	26·2	284	—	—	e 10 42	+16	—	20·7
III		26·2	284	—	—	e 10 30	+ 4	—	20·0
I	Ekaterinburg	30·1	35	—	—	e 10 12	?	16·2	—
III		30·1	35	5 45	−44	—	—	9·5	—

Additional readings: Athens I MN = +3·0m., II MN = +2·8m., III MN = +2·8m. Rocca di Papa I e = +7m.2s., iL = +8·8m., III iL = +8·6m. Vienna III e = +7m.30s.? Baku I e = +4m.51s. and +8m.15s., II e = +5m.26s. and +9m.4s., III e = +4m.19s. De Bilt III MZ = +15·8m. Pulkovo III MZ = +15·5m., MN = +15·6m.

April 15d. 9h. 32m. 45s. Epicentre 45°·0N. 73°·0E.

A = +·207, B = +·676, C = +·707; D = +·956, E = −·292; G = +·207, H = +·676, K = −·707.

	Δ	Az.	P.	O−C.	S.	O−C.	L.	M.
	°	°	m. s.	s.	m. s.	s.	m.	m.
Ekaterinburg	14·1	331	i 3 18	− 9	e 6 43	+33	8·6	10·1
Baku	17·5	263	e 4 12	+ 1	e 7 31	+ 2	10·0	—
Bombay	26·1	180	9 0	?	11 53	+89	13·3	13·5
Hyderabad	27·9	169	9 27	?	12 45	?L	(12·8)	—
Pulkovo	29·2	315	e 6 33	+13	—	—	17·2	20·1

Additional readings: Ekaterinburg MZ = +10·2m. Pulkovo e = +13m.25s., MZ = +20·2m.

April 15d. Readings also at 2h. (Port au Prince, Baku, Hyderabad, Ekaterinburg, and near Amboina), 3h. (Baku and Ekaterinburg), 6h. (Amboina), 10h. (Batavia), 11h. (Florence, near Oaxaca, Tacubaya, Vera Cruz, and near Athens), 12h. (Bombay and Hyderabad), 13h. (Baku, Manila, Colombo and near Athens), 14h. (Taihoku and Baku), 15h. (Baku), 16h. (Irkutsk and near Taihoku), 18h. (Irkutsk and Phu-Lien), 19h. (near Athens), 21h. (Baku, Ekaterinburg, and near Athens), 23h. (Lick (2) and near Phu-Lien).

April 16d. 5h. 32m. 15s. Epicentre 27°·0N. 103°·5E.

A = −·208, B = +·866, C = +·454 ; D = +·972, E = +·233 ;
G = −·106, H = +·441, K = −·891.

Uncertain.

	Δ	Az.	P.	O−C.	S.	O−C.	L.	M.
	°	°	m. s.	s.	m. s.	s.	m.	m.
Phu-Lien	6·8	154	e 1 45	+ 1	e 3 7	+ 2	e 3·3	3·8
Hong Kong	10·8	113	5 6	?S	(5 6)	+16	6·4	7·4
Calcutta N.	14·5	255	4 8	+35	6 10	−10	8·4	—
Zi-ka-wei	16·2	71	3 50	− 5	e 9 48	?L	(e 9·8)	—
Taihoku	16·3	93	—	—	—	—	e 9·1	—
Manila	20·5	124	e 9 34	?S	(e 9 34)	+60	e 12·1	—
Bombay	29·3	261	9 45?	?S	(9 45?)	−97	—	—
Batavia	33·4	176	e 18 1	?L	—	—	(e 18·0)	—
Ekaterinburg	42·5	327	i 6 26	−109	—	—	19·2	25·4
Baku	45·8	301	—	—	e 14 27	−58	22·8	25·4
De Bilt	73·8	321	—	—	—	—	e 38·8	—

Additional readings: Phu-Lien MN = +3·6m. Hong Kong MN = +6·6m.
Taihoku e = +15m.47s. Ekaterinburg e = +12m.55s. and +16m.0s.,
MN = +22·1m., MZ = +25·5m. Baku e = +17m.45s., MN = +25·8m.

April 16d. 19h. 52m. 30s. Epicentre 22°·0N. 120°·5E.

(as on 1925 Mar. 1d.).

A = −·471, B = +·799, C = +·375 ; D = +·862, E = +·508 ;
G = −·190, H = +·323, K = −·927.

There are a number of records about 29 min. (later than T_o) which seem to require explanation.

	Δ	Az.	P.	O−C.	S.	O−C.	L.	M.
	°	°	m. s.	s.	m. s.	s.	m.	m.
Hokoto	1·7	330	i 0 35	+ 9	—	—	i 1·1	1·7
Taihoku	3·2	18	1 4	+14	—	—	2·1	—
Hong Kong	5·9	274	1 40	+ 9	3 56	+75	4·5	6·3
Manila	7·4	176	i 1 54	+ 2	—	—	i 3·9	—
Zi-ka-wei	9·2	5	2 23	+ 4	4 12	+ 4	—	6·4
Phu-Lien	13·0	267	i 3 23	+10	i 6 9	+25	6·5	10·2
Nagasaki	13·5	36	3 17	− 3	—	—	6·3	7·5
Hukuoka	14·5	35	i 3 29	− 4	—	—	7·3	10·9
Sumoto	17·6	43	4 5	− 7	(7 32)	+ 1	12·7	13·3
Kobe	18·0	42	4 21	+ 4	7 48	− 8	12·1	14·8
Osaka	18·2	43	4 23	+ 4	(7 52)	+ 8	7·9	14·1
Nagoya	19·5	44	4 14	−21	7 34	−39	13·1	15·6
Mizusawa N.	24·5	41	5 26	− 7	9 42	−12	13·7	—
Amboina	26·8	163	i 4 18	−98	9 54	−43	—	—
Calcutta E.	29·8	277	6 11	−15	11 25	− 6	16·6	20·8
N.	29·8	277	6 12	−14	11 24	− 7	16·4	20·6
	30·5	30	6 25	− 8	(11 36)	− 7	11·6	20·4
Ootomari	31·2	209	6 30	−10	e 11 41	−13	16·5	—
Batavia	31·9	207	6 37	− 9	e 11 36	−31	—	—
Malabar	32·7	342	i 6 43	−11	12 2	−17	17·5	21·2
Irkutsk	39·6	293	7 54	+ 3	13 54	− 6	22·8	25·9
Simla E.	39·6	293	8 0	+ 9	14 0	0	21·8	23·0
N.	39·8	273	i 7 46	− 7	14 4	+ 1	19·7	26·1
Hyderabad	42·0	256	6 50	−81	15 55	+80	26·0	28·7
Colombo	42·9	262	8 18	+ 1	—	—	25·7	30·8
Kodaikanal	44·6	274	8 29	− 1	15 7	− 3	23·4	28·4
Bombay	54·1	185	9 30	− 4	17 5	− 5	26·4	—
Perth	55·4	325	i 8 48	−54	i 16 34	−52	25·5	38·8
Ekaterinburg	59·5	163	e 18 12	?S	(e 18 12)	− 5	i 29·4	35·0
Adelaide	61·5	307	i 10 34	+12	i 19 3	+21	31·7	34·6
Baku	63·0	151	e 10 43	+11	e 18 50	−11	e 27·6	33·8
Riverview	63·0	151	19 6	?S	(19 6)	+ 5	30·3	32·7
Sydney	66·1	310	i 10 54	+ 2	i 19 47	+ 9	—	42·3
Piatigorsk	67·9	323	i 14 11	+188	i 23 38	+217	41·0	47·2
Kucino	71·2	329	i 11 30	+ 6	20 45	+ 5	33·5	40·5
Pulkovo	74·6	73	11 50	+ 4	21 23	+ 2	e 34·8	40·0
Honolulu								

Continued on next page.

		Δ	Az.	P.	O−C.	S.	O−C.	L.	M.
		°	°	m. s.	s.	m. s.	s.	m.	m.
Upsala	E.	77·3	330	e 12 6	+ 3	i 21 57	+ 5	e 35·5	43·0
	N.	77·3	330	e 12 6	+ 3	i 21 54	+ 2	e 35·5	44·4
Lemberg		77·4	319	e 12 0	− 3	e 21 54	+ 1	e 41·1	45·0
Konigsberg		77·6	325	12 11	+ 6	i 22 2	+ 6	e 39·0	42·9
Helwan		78·6	298	12 15	+ 4	22 11	+ 4	—	49·4
Budapest		81·3	318	12 36	+ 9	22 36	− 2	e 38·5	52·6
Belgrade		81·5	315	e 12 33	+ 5	i 22 39	− 2	e 44·4	51·6
Bergen		82·5	335	12 30	− 3	22 55	+ 3	37·5	45·5
Vienna		82·6	320	e 12 37	+ 3	22 58	+ 5	e 40·5	45·5
Hamburg		83·8	326	i 12 44	+ 3	e 23 3	− 4	e 42·5	46·7
Zagreb		83·9	318	i 12 33	− 8	i 23 13	+ 5	e 43·4	55·7
Cheb		84·1	322	—	—	e 23 3	− 6	e 42·5	47·5
Innsbruck		86·1	320	e 12 56	+ 2	e 23 24	− 7	e 41·5	49·9
Venice		86·4	319	12 30?	−25.	—	—	—	—
De Bilt		87·0	326	13 3	+ 4	e 23 26	−15	40·5	49·3
Pompeii		87·1	314	e 12 0	−60	e 24 0	+18	35·5	49·5
Naples		87·2	314	e 11 52	−68	e 23 37	− 6	45·5	50·5
Strasbourg		87·6	322	i 13 2	− 1	i 23 45	− 3	40·5	50·9
Zurich		87·7	320	e 13 2	− 1	e 23 42	− 7	—	—
Florence		87·8	317	13 3	− 1	23 49	− 1	—	46·5
Rocca di Papa		87·9	315	e 13 2	− 2	e 24 11	+20	e 47·4	57·5
Uccle		88·2	325	e 13 4	− 2	e 23 30	[+14]	40·5	49·8
Edinburgh		88·8	331	—	—	i 23 53	− 8	40·5	49·5
Eskdalemuir		89·1	331	—	—	23 56	− 8	39·5	47·5
Besançon		89·3	321	e 13 2	−10	24 7	+ 1	44·5	48·5
Moncalieri		89·3	319	12 51	−21	23 36	[+12]	43·8	53·0
Victoria	E.	89·5	36	13 16	+ 3	23 32	[+ 7]	43·6	54·4
Stonyhurst		89·7	330	e 13 6	− 8	i 23 56	−15	41·7	51·1
Kew		90·2	327	—	—	—	—	—	53·5
Paris		90·3	324	e 14 44	+86	e 23 45	[+15]	45·5	49·5
Bidston		90·3	330	13 26	+ 8	24 1	−16	36·4	50·6
West Bromwich		90·4	329	—	—	—	—	—	50·5
Oxford		90·5	329	e 16 46	?PR_1	23 50	[+19]	39·1	50·4
Grenoble		90·5	320	e 12 26	−53	23 14	[−17]	42·5	52·0
Marseilles		91·7	319	e 12 54	−33	e 23 54	[+16]	43·5	50·5
Puy de Dôme		91·8	322	e 13 24	− 2	—	—	45·5	52·0
Barcelona		94·7	319	e 17 3	?PR_1	—	—	e 47·7	52·6
Bagnères		94·8	321	19 48	?PR_1	—	—	47·5	57·3
Berkeley		95·9	45	16 0	?PR_1	e 24 0	[− 1]	i 45·1	—
Tortosa	N.	96·0	320	e 17 30?	?PR_1	e 23 30?	[−32]	e 43·5	53·6
Algiers		96·7	315	e 13 41	−12	24 20	[+14]	43·5	63·5
Alicante	E.	98·2	318	17 46	[+ 6]	27 54	+136	53·1	60·8
	N.	98·2	318	e 17 16	[−30]	e 24 26	[+12]	50·1	—
Toledo		99·4	320	—	—	24 32	[+11]	—	57·7
Almeria		100·2	318	18 15	?PR_1	i 24 34	[+ 9]	—	67·1
Granada		100·8	318	e 14 1	−13	i 24 49	[+21]	50·0	56·5
Malaga		101·6	318	18 2	?PR_1	29 14	?	46·5	56·9
Rio Tinto		102·3	320	21 30	?PR_1	—	—	—	68·5
San Fernando		102·9	319	17 55	[− 2]	28 51	+148	51·0	60·0
Lisbon		103·2	321	—	—	—	—	—	53·2
Ottawa		111·0	12	e 19 34	?PR_1	e 29 50	?	e 45·8	62·2
Chicago		111·1	21	—	—	e 29 49	?	50·1	57·0
Cape Town		111·7	240	—	—	—	—	—	64·2
Toronto	E.	111·8	15	e 19 40	?PR_1	e 29 12	?	36·1	58·6
	N.	111·8	15	—	—	e 29 56	?	53·5	66·0
Ann Arbor		111·9	18	e 20 12	?PR_1	i 29 24	?	e 50·9	62·4
Ithaca		113·6	12	—	—	—	—	57·5	—
Harvard	E.	114·7	9	—	—	—	—	e 65·4	67·2
	N.	114·7	9	—	—	e 30 44	?SR_1	e 62·4	67·3
Fordham		115·7	12	e 18 55	[+15]	—	—	51·1	69·6
Georgetown		116·9	14	e 20 3	?PR_1	e 29 47	?	58·9	68·7
Cheltenham		117·1	14	—	—	—	—	e 64·2	68·3
Loyola		120·3	30	—	—	—	—	65·5	—
Rio de Janeiro		164·9	263	e 25 33	?PR_1	—	—	57·0	—
La Plata		167·1	185	21 40	[+87]	—	—	80·0	107·0
La Paz		170·1	58	i 20 51	[+36]	34 44	?	79·8	98·0

Additional readings and notes: Hong Kong MN = +6·0m. Zi-ka-wei MN = +7·2m., MZ = +8·0m. Hukuoka MN = +12·3m. Sumoto S = +4m.41s., SR_1E = +7m.40s., MN = +13·4m.; true S is given as SR_1N. Mizusawa PE = +5m.27s., LE = +13·8m. Ootomari MN = +16·0m. Batavia i = +7m.51s. = PR_1 +17s. Irkutsk PR_2 = +8m.3s., SR_2 = +14m.49s. Perth PR_1 = +11m.53s., PR_2 = +12m.20s., SR_1 = +22m.0s. Ekaterinburg MN = +41·1m. Adelaide S = +24m.30s. = SR_2 − 29s.

Continued on next page.

Baku MN = +34·8m., MZ = +40·4m. Riverview PS = +19m.29s., MN = +47·1m. Piatigorsk PR_1 = +13m.45s., PR_2 = +15m.15s., SR_1 = +24m.55s., SR_2 = +27m.57s., SR_3 = +29m.33s., MN = +38·0m. Kucino i = +14m.25s. = PR_1 +16s. Pulkovo PR_1 = +14m.21s., PR_2 = +15m.58s., PS = +21m.35s. = [S] +15s., SR_1 = +26m.24s., SR_2 = +29m.12s., MN = +40·2m., MZ = +43·6m. Honolulu SN = +21m.19s., eN = +21m.32s. and +30m.59s. = SR_2 −37s., iSR_1E = +25m.52s., SR_1N = +25m.53s., SR_2N = +29m.27s. ; T_o = 19h.52m.50s. Lemberg MN = +43·9m. Konigsberg iZ = +12m.13s., ePR_1 = +15m.18s., i = +22m.4s., PS = +22m.24s., e = +27m.33s. = SR_1 −5s., SR_2 = +31m.24s., eZ = +33m.54s., eN = +35m.24s. Belgrade iP = +12m.34s., PR_1 = +14m.44s., PR_2 = 15m.14s. Bergen PR_1 = +16m.0s., PR_2 = +18m.42s., PR_3 = +20m.30s., SR_1 = +28m.30s. Vienna iPZ = +12m.40s., PR_1 = +15m.59s., PR_2 = +17m.59s., PS = +24m.1s. and +24m.16s., SR_1 = +29m.6s., SR_2 = +33m.34s., MZ = +48·0m. Hamburg MN = +46·3m., MZ = +47·5m. Zagreb PR_1 = +16m.20s., PR_3 = +18m.23s., e = +32m.40s. = SR_2 −13s. Innsbruck SR_1NW = +29m.6s. De Bilt ePR_2 = +16m.30s. = PR_1 −14s., MN = +48·9m., MZ = +56·2m. Strasbourg MN = +53·4m., MZ = +59·0m. Rocca di Papa eLE = +47·4m., eLN = +49·0m. Uccle PR_1 = +16m.33s., iS = +23m.48s., MN = +49·4m. Eskdalemuir iPR_1 = +17m.44s. Moncalieri L = +42·0m., MN = +55·1m. Victoria LN = +45·8m., MN = +63·6m. Stonyhurst SR_1 = +30m.4s. Paris e = +17m.1s. (?PR_1), MN = +48·5m. Bidston PR_1 = +17m.1s. Grenoble e = +25m.17s., MN = +56·2m. Puy de Dôme MN = +54·7m. Barcelona ? = +31m.15s. = SR_1 −16s., MN = +52·4m. Berkeley eN = +62m.38s., iE = +63m.38s. Tortosa eLE = +46·5m. Algiers PR_1? = +17m.43s. Toledo PR_1? = +18m.0s., MNW = +57·4m., MZ = +57·7m. Almeria MN = +64·6m. Granada i = +15m.4s., +18m.14s. = PR_1 −4s., and many other values, LZ = +53·5m., MN = +55·7m., MZ = +63·4m. Malaga MN = +56·5m. San Fernando MN = +59·5m. Ottawa eSR_1E = +35m.46s., iE = +39m.38s., MN = +64·8m. Chicago PR_1 = +19m.30s., ePSN = +28m.28s., PSE = +28m.43s., and eE = +44m.30s., eN = +29m.53s., eSR_1E = +33m.40s., eSR_4E = +39m.30s., eLN = +48·5m., MN = +75·7m. Some of these would fit different phases if the time zero is in error by 1 min. Toronto iE = +31m.9s. Ann Arbor iSR? = +36m.6s., MN = +64·4m. Harvard eE = +56m.38s., eN = +56m.47s. Fordham SR_1 = +29m.39s. Georgetown LN = +62·0m., MN = +72·0m. Cheltenham eE = +50m.46s., and several other eE and eN readings, eLN = +65·3m., MN = +72·3m. Loyola LZ = +70·5m. La Plata PE = +21m.51s., PR_1N = +25m.42s., PR_1E = +25m.53s., S_cP_cSP = +36m.20s. La Paz PR_1 = +26m.33s., PR_2 = +29m.18s., SR_1 = +41m.53s., SR_2 = +49m.8s. ; T_o = 19h.52m.56s.

April 16d. Readings also at 0h. (Ekaterinburg), 2h. (Zurich), 5h. (La Paz), 8h. (Balboa Heights), 9h. (Apia and La Paz), 14h. (Rocca di Papa), 15h. (Batavia and Malabar), 16h. (Pulkovo), 19h. (near La Paz), 21h. (near Mizusawa), 22h. (Amboina and near Osaka), 23h. (La Plata, La Paz, Batavia, Malabar, and Amboina).

April 17d. 5h. 41m. 57s. Epicentre 37°·0N. 6°·5W.

A = +·793, B = −·090, C = +·602.

	Δ	P.	O−C.	S.	O−C.	L.	M.
	°	m. s.	s.	m. s.	s.	m.	m.
San Fernando	0·6	0 10	+ 1	(0 15)	− 2	0·3	2·0
Malaga	1·7	0 27	+ 1	0 51	+ 3	—	1·2
Granada	2·3	−0 27	−63	0 1	−62	0·1	0·6
Lisbon	2·7	0 51	+ 9	1 30	+16	—	—
Almeria	3·3	i 0 50	− 2	i 1 24	− 7	e 1·7	2·8
Toledo	3·4	i 0 52	− 1	e 1 37	+ 3	e 1·9	2·4

Additional readings: San Fernando MN = +0·6m. Granada i = −14s. and −7s., MZ = +0·2m., MN = +1·3m. ; all readings are assumed in error 1m. Almeria MN = +2·2m., MZ = +2·4m. Toledo MNWZ = +2·3m.

April 17d. 11h. 4m. 55s. Epicentre 7°·0N. 126°·0E. (as on 1925 April 7d.).

$A = -\cdot583$, $B = +\cdot803$, $C = +\cdot122$; $D = +\cdot809$, $E = +\cdot588$; $G = -\cdot072$, $H = +\cdot099$, $K = -\cdot993$.

Ekaterinburg times seem erroneous about this date. See April 19d. 15h. and 20h., and 20d. 2h.

	Δ	Az.	P.	O−C.	S.	O−C.	L.
	°	°	m. s.	s.	m. s.	s.	m.
Manila	9·0	327	e 2 26	+10	(i 4 14)	+11	i 4·2
Amboina	10·9	169	2 47	+ 4	—	—	—
Batavia	23·2	236	e 5 3	−16	—	—	—
Malabar	23·2	232	e 5 4	−15	—	—	—
Ekaterinburg	70·8	329	10 42	−40	19 13	−83	30·1
Baku	74·9	311	—	—	e 21 14	−11	40·1

No additional readings.

April 17d. Readings also at 5h. (Ekaterinburg), 14h. (Taihoku), 17h. (Tacubaya), 18h. (Nagasaki, Taihoku, Manila, Irkutsk, Ekaterinburg, and Baku), 19h. (La Paz), 20h. (Ekaterinburg).

April 18d. 10h. 52m. 44s. Epicentre 34°·0N. 133°·0E. (as on 1925 April 2d.).

$A = -\cdot565$, $B = +\cdot606$, $C = +\cdot559$.

	Δ	P.	O−C.	L.	ME.	MN.
	°	m. s.	s.	m.	m.	m.
Sumoto	1·6	0 24	0	0·5	0·5	0·5
Kobe	1·9	0 30	+1	0·7	0·7	—
Osaka	2·1	0 30	−3	0·8	1·4	1·0
Nagoya	3·4	0 54	+1	1·4	—	—

No additional readings.

April 18d. Readings also at 0h. (near Kobe and Sumoto), 3h. (Apia (2)), 5h. (Nagoya), 6h. (Ekaterinburg, Baku, and near Sumoto), 8h. (Nagoya (2), Osaka, and Kobe), 11h. (Nagasaki and near Sumoto), 13h. (Rocca di Papa), 14h. (Tacubaya), 18h. (Taihoku), 19h. (Irkutsk (2), Baku, and Ekaterinburg), 20h. (Pulkovo and De Bilt), 22h. (Batavia).

April 19d. 15h. 46m. 36s. Epicentre 33°·0N. 137°·5E.

$A = -\cdot618$, $B = +\cdot567$, $C = +\cdot545$; $D = +\cdot676$, $E = +\cdot737$; $G = -\cdot402$, $H = +\cdot368$, $K = -\cdot839$.

A focal depth of 0·045 has been assumed.

		Corr. for Focus	Δ	Az.	P.	O−C.	S.	O−C.	L.	M.
		°	°	°	m. s.	s.	m. s.	s.	m.	m.
Nagoya		+0·9	2·2	347	0 12	−37	—	—	0·9	1·0
Osaka		+0·8	2·4	314	0 59	+ 9	(1 46)	+18	1·8	1·8
Sumoto		+0·8	2·5	302	0 58	+ 6	(1 42)	+11	1·7	1·7
Kobe		+0·8	2·5	311	1 2	+10	(1 46)	+15	1·8	1·8
Hukuoka		+0·1	5·9	277	1 42	+10	2 43	− 1	3·0	3·0
Nagasaki		−0·1	6·4	271	1 32	− 4	(2 56)	+ 4	2·9	—
Mizusawa	E.	−0·1	6·8	25	1 40	− 2	2 53	− 9	—	—
Zi-ka-wei		−1·2	13·7	267	e 3 7	+ 1	e 8 22	? L	(e 8·4)	—
Ootomari		−1·2	14·2	15	e 3 0	−13	—	—	4·8	—
Taihoku		−1·4	16·0	244	3 12	−22	—	—	—	—

Continued on next page.

	Corr. for Focus	Δ	Az.	P.	O−C.	S.	O−C.	L.	M.
	°	°	°	m. s.	s.	m. s.	s.	m.	m.
Hong Kong	−2·0	23·1	249	4 39	−15	8 31	−15	10·6	16·1
Manila	−2·2	23·8	223	e 4 53	− 7	—	—	11·5	—
Phu-Lien	−2·9	30·0	252	i 5 48	−11	i 7 9	?PR$_1$	7·4	—
Irkutsk	−2·9	30·6	319	i 5 49	−16	i 10 30	−24	14·4	—
Batavia	−4·3	48·8	223	8 17	−13	i 14 52	−17	—	—
Malabar	−4·3	49·3	221	8 29	− 4	e 15 4	−11	—	—
Ekaterinburg	−4·8	55·9	320	i 8 12	−62	15 33	−59	24·4	37·2
Bombay	−5·0	58·9	274	9 37	+ 5	—	—	—	—
Baku	−5·3	67·7	305	i 10 32	+ 4	i 19 4	+11	33·4	45·2
Kucino	−5·4	68·2	324	10 36	+ 5	e 19 6	+ 8	e 41·4	—
Pulkovo	−5·4	69·8	330	i 10 40	− 1	i 19 20	+ 2	35·4	41·7
Upsala	−5·5	74·8	334	e 12 26	+73	i 20 15	− 3	—	—
Konigsberg	−5·5	76·9	329	12 40	+74	20 41	− 2	—	—
Hamburg	−5·8	82·2	332	e 13 10	+73	i 21 37	− 5	e 34·4	—
Vienna	−5·8	83·2	325	e 12 0	− 3	—	—	—	21·9
Edinburgh	−5·8	85·0	340	—	—	i 22 4	−10	—	—
De Bilt	−5·9	85·3	333	e 13 24	+69	e 22 6	−10	e 27·8	55·6
Eskdalemuir	−5·9	85·5	340	—	—	i 22 10	− 9	48·4	—
Innsbruck	−5·9	86·2	327	e 13 28	+67	—	—	—	—
Uccle	−5·9	86·6	333	e 13 31	+68	e 22 3	−28	e 44·4	—
Strasbourg	−5·9	87·0	330	i 12 44	+18	i 21 43	−53	46·4	—
Bidston	−5·9	87·1	337	—	—	22 4	−33	—	58·4
Venice	−5·9	87·1	325	14 37	+131	—	—	—	—
Oxford	−5·9	87·9	336	—	—	i 22 30	−16	—	—
Paris	−5·9	88·9	333	—	—	i 22 41	−16	53·4	—
Pompeii	−5·9	89·4	321	e 14 54	+75	—	—	—	—
Rocca di Papa	−6·0	90·4	323	e 13 38	+54	e 22 40	−32	e 49·9	57·1
Ottawa N.	−6·1	96·0	23	—	—	e 22 54	−79	—	—
Toronto N.	−6·1	96·3	26	—	—	e 22 56	−80	36·2	—
San Fernando	−6·3	102·7	331	—	—	e 23 38	−102	—	60·9
La Paz	—	151·6	61	19 18	[−40]	21 28	?PR$_1$	22·0	22·2

Additional readings and notes: Osaka MN = +2·0m. Kobe MZ = +2·0m. Mizusawa PN = +1m.39s. Zi-ka-wei readings are given as for 16h. Irkutsk i = +13m.0s. Ekaterinburg iP = +9m.23s., PS = +15m.51s., and +17m.42s., S = +17m.21s. Baku iP = +11m.47s., PS = +19m.59s., MNZ = +43·5m. The times seem generally affected by some error; see note on April 17d. 11h. Kucino i = +11m.48s.; all readings having been increased by 20m. Pulkovo P = +11m.56s., PS = +20m.2s., S = +21m.37s., SR$_1$ = +23m.54s., SR$_2$ = +26m.6s. Konigsberg SE = +20m.45s. Vienna i = +13m.14s., iZ = +14m.3s., +14m.24s., +16m.13s., +16m.26s., MN = +22·5m. De Bilt e = +24m.27s., MZ = +57·2m. Eskdalemuir e = +24m.27s. and +27m.52s. = SR$_1$ Rocca di Papa eE = +20m.24s. Ottawa iE = +23m.32s. = [S], eE = +25m.54s. San Fernando MN = +66·4m. La Paz records [P] followed by S, L and M as for a local shock.

April 19d. 20h. 41m. 55s. Epicentre 40°·0N. 141°·5E. (as on 1920 Jan. 6d.).

A = −·600, B = +·477, C = +·643; D = +·623, E = +·783: G = −·503, H = +·400, K = −·766.

		Δ	Az.	P.	O−C.	S.	O−C.	L.	M.
		°	°	m. s.	s.	m. s.	s.	m.	m.
Mizusawa	E.	0·9	199	0 18	+ 4	0 31	+ 6	—	—
	N.	0·9	199	0 21	+ 7	0 37	+12	—	—
Nagoya		6·0	218	1 32	0	(2 46)	+ 2	2·8	3·1
Osaka		7·2	224	1 51	+ 2	(3 25)	+10	3·4	4·6
Kobe		7·3	225	1 42	− 9	(3 6)	−12	3·1	5·1
Sumoto		7·7	225	1 51	− 6	(3 35)	+ 6	3·6	4·1
Hukuoka		10·9	237	—	—	(4 53)	+ 1	4·9	—
Zi-ka-wei		18·5	248	e 4 6	−17	e 7 53	+ 2	—	—
Irkutsk		28·2	308	6 5	− 5	10 48	−15	15·1	18·3
Phu-Lien		35·4	246	—	—	—	—	18·1	—
Ekaterinburg		52·8	317	i 8 24	−61	16 9	−45	27·1	33·9
Pulkovo		65·4	330	10 48	+ 1	19 37	+ 7	33·1	42·0
Baku		66·4	304	i 10 56	+ 2	e 20 38	+56	34·1	42·8
Upsala		70·1	334	—	—	—	—	e 42·1	—
Konigsberg		72·7	329	—	—	—	—	e 42·3	45·1

Continued on next page.

	Δ	Az.	P.	O−C.	S.	O−C.	L.	M.
	°	°	m. s.	s.	m. s.	s.	m.	m.
Edinburgh	79·6	341	—	—	—	—	45·1	—
Eskdalemuir	80·1	341	—	—	e 32 35	?	38·1	—
De Bilt	80·4	335	12 17	− 4	e 22 49	+21	e 40·1	52·4
Stonyhurst	81·2	339	—	—	—	—	e 42·1	—
Bidston	81·5	339	—	—	—	—	40·7	53·7
Uccle	81·8	335	—	—	—	—	e 44·1	—
Strasbourg	82·5	331	—	—	—	—	44·1	—
Oxford	82·7	339	—	—	—	—	43·8	53·3
Paris	84·2	335	e 12 38	− 5	—	—	50·1	53·1
Rocca di Papa	86·1	325	—	—	—	—	e 52·6	56·6
Ottawa E.	88·4	25	—	—	—	—	e 55·1	—
Granada	96·4	333	—	—	—	—	e 53·5	62·8
La Paz	145·2	57	20 0	[+12]	—	—	(87·5)	—

Additional readings: Osaka MN = +4·1m. Kobe S = +2m.33s., MN = +3·2m., MZ = +3·6m. Sumoto MN = +3·7m. Zi-ka-wei readings are given as for 21h. Irkutsk MN = +18·4m. Ekaterinburg e = +10m.27s. See note in heading of April 17d. 11h. Pulkovo SR_1 = +22m.59s., MN = +41·2m., MZ = +41·9m. Baku MN = +43·0m. De Bilt MN = +52·1m. Rocca di Papa e = +55m.59s. Ottawa eLN = +52·1m. Granada L = +60·9m. La Paz readings are given as two independent P's.

April 19d. Readings also at 0h. (Baku, Ekaterinburg, Amboina, and La Paz), 12h. (La Paz), 13h. (Nagasaki), 17h. (La Paz), 18h. (Ekaterinburg and Irkutsk), 20h. (Nagasaki and near Osaka).

April 20d. 2h. 0m. 36s. Epicentre 40°·0N. 141°·5E. (as on 19d.).

	Δ	Az.	P.	O−C.	S.	O−C.	L.	M.
	°	°	m. s.	s.	m. s.	s.	m.	m.
Mizusawa E.	0·9	199	0 13	− 1	0 27	+ 2	—	—
Nagoya	6·0	218	1 27	− 5	(2 33)	−11	2·6	3·0
Osaka	7·2	224	1 48	− 1	(3 10)	− 5	3·2	3·5
Kobe	7·3	225	—	—	—	—	—	3·8
Ekaterinburg	52·8	317	8 18	−67	—	—	30·9	33·8
Baku	66·4	304	—	—	—	—	34·9	42·8

Additional readings and notes: Mizusawa SN = +0m.26s. Osaka MN = +4·3m. Kobe MN = +3·6m. Ekaterinburg see note in heading of April 17d. 11h. Baku MZ = +42·9m., MN = +43·1m.

April 20d. 10h. 20m. 40s. Epicentre 2°·1N. 127°·8E. (as on 1922 Oct. 5d.).

A = −·612, B = +·790, C = +·037; D = +·790, E = +·613; G = −·022, H = +·029, K = −·999.

	Δ	Az.	P.	O−C.	S.	O−C.	L.
	°	°	m. s.	s.	m. s.	s.	m.
Amboina	5·8	177	1 50	+20	—	—	—
Manila	14·2	332	e 3 39	+10	(5 35)	−38	5·6
Malabar	22·2	245	4 52	−15	—	—	i 14·7
Batavia	22·5	248	5 24	+13	—	—	—

No additional readings.

April 20d. 10h. 28m. 10s. Epicentre 37°·2N. 101°·4E. (as on 1921 April 12d.).

A = −·157, B = +·781, C = +·605; D = +·980, E = +·198; G = −·120, H = +·593, K = −·797.

	Δ	Az.	P.	O−C.	S.	O−C.	L.
	°	°	m. s.	s.	m. s.	s.	m.
Ekaterinburg	33·2	321	i 2 14	?	i 12 32	+ 5	13·8
Baku	39·7	292	e 7 51	− 1	e 14 2	0	21·8
Pulkovo	49·3	321	i 8 56	− 6	16 12	+ 2	21·8
De Bilt	64·9	318	—	—	e 27 38	?SR_3	e 53·8

Ekaterinburg gives also iPS = +13m.3s.

April 20d. Readings also at 4h. (Stonyhurst), 6h. (Nagasaki and near Hukuoka), 10h. (Riverview), 12h. (Florence), 15h. (Taihoku), 17h. (Nagoya), 21h. (Hamburg), 23h. (Eskdalemuir and Granada).

April 21d. Readings also at 0h. (Apia and Taihoku), 1h. (Apia and Granada), 3h. (Taihoku), 7h. (Manila and Riverview), 11h. (Batavia), 16h. (Manila and Nagasaki), 19h. (Baku), 20h. and 23h. (Apia).

April 22d. 23h. 10m. 30s. Epicentre 1°·0S. 129°·0E. (as on 1924 May 15d.).

$A = -\cdot629$, $B = +\cdot777$, $C = -\cdot017$; $D = +\cdot777$, $E = +\cdot629$; $G = +\cdot011$, $H = -\cdot014$, $K = -1\cdot000$.

		△	Az.	P.	O−C.	S.	O−C.	L.	M.
		°	°	m. s.	s.	m. s.	s.	m.	m.
Amboina		2·8	198	1 0	+16	1 30	+13	—	—
Manila		17·5	333	i 4 11	0	i 7 30	+ 1	i 8·9	10·1
Malabar		22·2	253	5 21	+14	9 21	+12	—	—
Batavia		22·7	256	5 11	− 2	9 19	0	—	—
Taihoku		27·0	345	e 6 10	+12	(10 28)	−13	10·5	—
Hong Kong		27·4	329	5 51	−11	10 36	−12	—	11·2
Phu-Lien		30·9	316	e 6 27	−10	11 30	−20	14·5	16·4
Zi-ka-wei		33·0	350	6 45	−11	e 14 47	?SR_1	31·3	37·8
Adelaide		35·1	167	—	—	e 14 18	+81	e 17·8?	20·9
Osaka		36·2	9	7 5	−19	—	—	10·7	16·8
Riverview		38·9	150	—	—	e 13 36	−15	e 19·4	25·6
Sydney		38·9	150	18 18	?L	—	—	24·2	26·3
Kodaikanal		52·5	283	30 42	?L	—	—	36·3	38·8
Hyderabad		53·1	293	9 17	−10	16 44	−13	27·5	33·7
Bombay		58·6	293	10 9	+ 6	18 9	+ 3	31·5	—
Simla	E.	58·6	310	—	—	e 18 6	0	—	—
Honolulu	E.	74·5	68	—	—	e 22 52	+92	e 34·7	38·8
Ekaterinburg		79·2	330	e 12 18	+ 4	i 22 12	− 2	37·5	—
Baku		82·4	313	e 12 34	+ 2	i 22 51	+ 1	42·5	46·7
Piatigorsk		87·7	314	e 12 34	−29	e 23 18	−31	47·5	54·5
Pulkovo		95·2	331	—	—	e 24 8	[+10]	45·5	55·8
Upsala	N.	101·4	332	—	—	—	—	e 51·5	—
Victoria	E.	102·4	40	24 48	?S	(24 48)	[+12]	47·7	55·2
	N.	102·4	40	—	—	—	—	42·8	52·3
Hamburg		107·5	327	—	—	—	—	e 49·5	—
De Bilt		110·8	327	—	—	e 30 30	?SR_1	e 54·5	71·5
Strasbourg		110·9	322	19 30	?PR_1	—	—	59·5	—
Uccle		111·9	325	—	—	e 25 30?	[+12]	e 53·5	—
Eskdalemuir		113·4	333	—	—	—	—	56·5	—
Paris		113·8	325	—	—	—	—	e 57·5	72·5
Stonyhurst		113·8	330	—	—	—	—	e 60·5	—
Kew		114·1	329	—	—	—	—	—	67·5
Bidston		114·4	330	—	—	59 25	?L	(59·4)	68·8
Tortosa	N.	118·8	317	—	—	—	—	e 62·5	—
San Fernando		125·5	315	—	—	—	—	71·5	86·5
Toronto	E.	130·4	26	e 22 47	?PR_1	—	—	68·8	—
Ottawa		130·5	21	e 21 30	?PR_1	e 29 6	?	71·5	—

Additional readings and notes: Manila MN = +9·4m. Hong Kong ? = +8m.51s., S is given as simply ? too. Riverview MZ = +27·8m., MN = +29·7m. Simla eN = +18m.18s. Honolulu eN = +35m.9s. Baku MN = +47·0m., MZ = +56·9m. Piatigorsk e = +12m.46s. Pulkovo i = +26m.1s., MN = +53·8m., MZ = +58·4m. De Bilt MN = +57·8m. Bidston S = +60m.23s. San Fernando MN = +85·5m.

April 22d. Readings also at 2h. (near Wellington), 13h. (Nagasaki), 15h. (Granada), 16h. (near Nagasaki), 17h. (near Manila), 19h. (Balboa Heights), 21h. (Manila), 22h. (near Mizusawa).

April 23d. 19h. 32m. 12s. Epicentre 7°·0N. 126°·0E. (as on April 17d.).

A = −·583, B = +·803, C = +·122 ; D = +·809, E = +·588 ;
G = −·072, H = +·099, K = −·993.

	Δ	Az.	P.	O−C.	S.	O−C.	L.	M.
	°	°	m. s.	s.	m. s.	s.	m.	m.
Manila	9·0	327	i 2 46	+30	—	—	i 4·8	5·1
Amboina	10·9	169	i 1 24	?	i 2 54	?P	—	—
Hong Kong	19·1	325	4 59	+29	—	—	—	9·3
Malabar	23·2	232	5 16	− 3	9 16	−13	—	—
Batavia	23·2	236	i 5 18	− 1	9 13	−16	—	—
Phu-Lien	23·2	308	e 5 28	+ 9	e 9 29	0	10·8	—
Osaka	29·0	16	6 23	+ 5	(10 52)	−25	10·9	13·7
Perth	40·1	194	7 48?	− 8	—	—	—	—
Irkutsk	48·6	343	9 3	+ 5	15 55	− 6	25·8	—
Bombay	52·9	289	9 52	+27	16 52	− 3	—	—
Ekaterinburg	70·8	329	i 11 33	+11	20 37	+ 1	32·8	—
Baku	74·9	311	i 12 18	+30	i 21 27	+ 2	e 40·8	—
De Bilt	102·5	327	—	—	—	—	e 52·8	—
Uccle	103·6	325	—	—	—	—	e 53·8	—

Additional readings: Manila MN = +5·3m. Batavia i = +6m.6s. Irkutsk P = +9m.33s., PR_1 = +11m.26s., SR_1 = +19m.37s. Ekaterinburg iP = +12m.8s., iS = +21m.18s. =[S]. Baku PR_2 = +17m.1s.

April 23d. Readings also at 0h. (Ekaterinburg and near Mostar), 5h. (Amboina), 11h. (near Sumoto), 12h. (near Irkutsk), 16h. (near Sumoto and Hukuoka).

April 24d. Readings at 1h. (near Taihoku), 10h. (near Manila), 12h. (Irkutsk and near Manila), 14h. (near Sumoto and near La Paz), 22h. (Nagasaki), 23h. (Apia, Batavia, and Malabar).

April 25d. 9h. 18m. 18s. Epicentre 20°·0N. 128°·0E.

A = −·579, B = +·740, C = +·342 ; D = +·788, E = +·616 ;
G = −·211, H = +·270, K = −·940.

	Δ	Az.	P.	O−C.	S.	O−C.	L.	M.
	°	°	m. s.	s.	m. s.	s.	m.	m.
Taihoku	7·8	311	e 2 6	+ 8	—	—	—	4·0
Manila	8·7	232	—	—	e 3 54	− 2	—	—
Zi-ka-wei	12·7	333	e 3 6	− 3	5 31	− 6	—	9·0
Hong Kong	13·1	283	2 51	−23	—	—	—	6·3
Phu-Lien	20·1	276	—	—	8 42?	+17	—	—
Bombay	51·8	280	e 24 42?	?L	—	—	(e 24·7?)	—
Ekaterinburg	61·1	325	e 12 0	+100	e 19 34	+57	30·2	33·3
Baku	68·4	308	—	—	—	—	34·2	—
Kucino	73·6	324	e 10 42?	−58	e 15 42?	?PR_1	—	—
Pulkovo	76·6	330	—	—	—	—	e 39·7	47·8
De Bilt	92·5	329	—	—	—	—	e 49·7	58·9
Strasbourg	93·3	325	—	—	—	—	51·7	
Uccle	93·7	328	—	—	—	—	e 48·7	—
Edinburgh	93·7	335	—	—	—	—	—	52·7
Eskdalemuir	94·1	335	—	—	—	—	48·7	—

Additional readings: Taihoku MN = +4·8m. Ekaterinburg e = +14m.6s. = PR_1?; P is given as e. Pulkovo MN = +43·5m. De Bilt eLN = +48·7m., MN = +51·2m. Strasbourg ? = +42m.42s. Eskdalemuir e = +46m.42s.

April 25d. 13h. 17m. 50s. Epicentre 19°·0S. 166°·0E.

$A = -\cdot 917$, $B = +\cdot 229$, $C = -\cdot 326$; $D = +\cdot 242$, $E = +\cdot 970$; $G = +\cdot 316$, $H = -\cdot 079$, $K = -\cdot 946$.

A preliminary shock about a minute earlier is indicated at Suva, Melbourne, Perth, and Irkutsk. See the notes to these observations and also to De Bilt, Uccle, and Strasbourg.

	Δ	Az.	P.	O−C.	S.	O−C.	L.	M.
	°	°	m. s.	s.	m. s.	s.	m.	m.
Suva	11·8	88	(2 58)	+ 2	2 58	?P	3·4	3·6
Riverview	19·8	219	i 4 41	+ 2	i 8 31	+12	e 8·8	13·7
Sydney	19·8	219	(4 34)	− 5	4 34	?P	7·5	9·6
Apia	21·9	80	e 5 10	+ 6	—	—	—	10·2
Wellington	23·5	163	e 4 46	−37	i 8 42	−53	10·0	—
Melbourne	26·2	220	e 4 22	−88	—	—	—	16·1
Adelaide	29·0	231	(e 6 40)	+22	11 4	−13	—	18·1
Perth	46·6	244	e 14 35	?	(e 15 36)	0	22·8	—
Honolulu	53·6	42	—	—	e 17 9	+ 5	e 22·8	—
Manila	55·6	305	e 9 44	+ 1	(17 25)	− 4	17·4	—
Malabar	57·8	274	10 1	+ 3	—	—	—	—
Batavia	58·8	275	10 8	+ 4	14 3	?PR_3	—	—
Zi-ka-wei	66·0	320	e 10 44	− 7	—	—	—	—
Irkutsk	89·0	327	e 13 32	+22	e 23 6	[−16]	36·2	—
Kodaikanal	92·0	280	23 34	?[S]	(23 34)	[− 6]	—	—
Victoria	92·1	39	23 30	?[S]	(23 30)	[−11]	24·3	25·8
Hyderabad	93·4	287	13 53	+19	23 39	[− 9]	—	—
Ekaterinburg	114·2	325	e 20 35	?PR_1	e 28 10	+ 6	46·2	50·7
Toronto	120·7	49	—	—	e 25 18	[−30]	72·6	—
Baku	121·9	307	e 19 29	[+31]	—	—	—	—
Ottawa	123·1	46	—	—	e 25 14	[−41]	66·2	—
Pulkovo	128·5	334	21 58	?PR_1	e 31 0	?	36·7	—
Vienna Z.	141·8	328	e 19 19	[−24]	—	—	—	—
De Bilt	143·7	340	19 22	[−24]	—	—	e 41·5	—
Innsbruck	145·0	330	e 19 31	[−17]	—	—	—	—
Uccle	145·0	340	e 19 25	[−23]	—	—	e 41·2	—
Strasbourg	145·6	335	e 19 19	[−30]	—	—	—	—
Zurich	146·2	331	e 19 30	[−20]	—	—	—	—

Additional readings and notes: Suva P = +1m.34s.; is this a preliminary shock? Riverview iP = +4m.49s., S = +8m.41s., MN = +9·1m. Wellington iP = +4m.50s. Adelaide P entered as ePR_1, SR_1 = +13m.4s., $=SR_2$ +4s. Perth eP = +14m.35s.; perhaps the S of the preliminary shock S is entered as PR_1; also S = +19m.20s. $=SR_1$ probably; SR_1 = +20m.15s. $=SR_2$, SR_2 = +20m.35s. $=SR_3$. Honolulu eN = +19m.48s. Zi-ka-wei iP = +11m.20s. Irkutsk P =12m.10s.? =preliminary shock; e = +16m.46s. Victoria MN = +25·0m. Readings given as for a local shock at 13h. 40m. 21s. Ekaterinburg PS = +29m.18s., i = +36m.22s. Toronto eE = +30m.32s. Baku e = +20m.38s. $=PR_1$, e = +21m.14s. and +32m.10s. Ottawa eN = +29m.10s.? =S, eE = +30m.55s. Pulkovo i = +22m.14s. and +22m.58s. Vienna iZ = +20m.4s. De Bilt eZ = +20m.4s. Uccle i = +20m.7s. Strasbourg e = +20m.10s.

It seems possible that these observations at Vienna, De Bilt, Uccle, and Strasbourg are [P] for the main shock, and those given in the text apply to the preliminary shock.

April 25d. Readings also at 5h. (Ekaterinburg and near Amboina), 6h. (near Kobe and Sumoto), 7h. (near Kobe and Sumoto), 9h. (Taihoku), 12h. (near Kobe and Sumoto), 15h. and 18h. (Taihoku), 19h. (Tacubaya and Oaxaca), 21h. (Fordham), 22h. (Apia).

April 26d. 8h. 24m. 10s. Epicentre 58°·5S. 145°·5E. (as on 1924 April 29d.).

$A = -\cdot 431$, $B = +\cdot 296$, $C = -\cdot 853$; $D = +\cdot 566$, $E = +\cdot 824$; $G = +\cdot 703$, $H = -\cdot 483$, $K = -\cdot 522$.

For alternative solution with *high* focus, see below.

	Δ	Az.	P.	O−C.	S.	O−C.	L.	M.
	°	°	m. s.	s.	m. s.	s.	m.	m.
Melbourne	20·7	359	(e 4 20)	−29	e 4 20	?P	i 7·6	9·8
Adelaide	24·0	346	e 6 8	+40	i 9 26	−18	i 10·3	11·2
Riverview	25·0	11	e 5 32	− 6	e 9 42	−21	e 10·9	12·7
Sydney	25·0	11	3 50	?	(9 38)	−25	9·6	12·6
Wellington	25·2	60	i 5 43	+ 3	i 10 2	− 5	i 12·0	13·5
Perth	33·3	310	12 22	?S	(12 22)	− 7	16·2	—
Suva	47·0	45	e 8 38	− 9	15 20	−21	21·1	—
Malabar	58·9	315	10 30	+26	—	—	—	—
Batavia	60·1	315	e 10 58	+45	18 48	+24	28·8	—
Manila	75·8	336	e 12 32	+38	—	—	—	—
Cape Town	77·6	224	—	—	—	—	—	48·8
La Plata N.	84·6	162	13 48	+62	24 0	+45	45·8	50·4
Phu-Lien	85·6	324	—	—	—	—	42·8	—
Kodaikanal	87·7	294	46 50	?L	—	—	(46·8)	—
Zi-ka-wei	91·9	340	13 31	+ 5	25 20	+46	48·0	52·8
Honolulu E.	92·4	51	—	—	—	—	e 42·8	47·3
Hyderabad	93·5	299	24 28	?S	(24 28)	−23	—	52·9
Rio de Janeiro	98·2	173	—	—	e 25 13	−25	49·6	—
La Paz	100·0	147	18 50	?PR_1	30 50	?	48·8	58·4
Baku	126·2	290	e 22 5	?PR_1	e 34 11	?	55·8	69·2
Victoria E.	130·1	60	26 7	?S	39 7	?SR_1	60·8	72·2
Rocca di Papa	146·4	261	e 20 20	[+30]	e 24 22	?PR_1	—	—
Algiers	147·4	245	—	—	—	—	77·8	87·8
Pulkovo	148·1	300	i 20 20	[+27]	e 21 58	?PR_1	70·8	81·3
Vienna Z.	148·8	274	e 20 28	[+34]	—	—	—	—
Toronto	148·9	98	—	—	(43 5)	?SR_1	73·2	—
Fordham	149·7	108	—	—	e 43 30	?SR_1	72·0	84·2
Alicante	150·3	242	—	—	—	—	e 83·8	—
Malaga	150·7	235	e 21 26	[+89]	e 39 38	?	e 67·8	91·0
Innsbruck	150·8	268	e 20 32	[+35]	—	—	—	—
Moncalieri	151·2	261	—	—	—	—	85·4	
San Fernando	151·2	232	—	—	—	—	71·8	90·3
Ottawa	152·0	100	—	—	e 25 15	?PR_1	73·8	—
Toledo	153·1	239	—	—	—	—	e 73·1	86·8
Strasbourg	153·5	267	22 50?	?PR_1	—	—	76·8	—
Upsala N.	154·0	295	—	—	—	—	—	e 102·8
Hamburg	155·1	279	e 20 38	[+36]	—	—	e 83·8	—
Paris	156·4	262	—	—	—	—	82·8	89·8
Uccle	156·6	268	—	—	e 25 50	?PR_1	e 75·8	99·8
De Bilt	156·9	271	20 50	[+45]	—	—	e 75·8	96·6
Oxford	160·1	265	—	—	—	—	74·8	105·6
Bidston	161·9	267	39 59?	?	45 39	?SR_1	64·9	94·6
Edinburgh	163·0	275	—	—	—	—	83·8	106·8

Additional readings: Riverview eS = +10m.12s., MN = +11·5m., MZ = +11·8m. Wellington i = +7m.37s., SR_1 = +10m.43s., SR_2 = +11m.3s.; $T_0 \simeq$ 8h.24m.22s. La Plata SE = +23m.55s., SR_1N = +30m.34s., LE = +39·5m., ME = +50·5m. Zi-ka-wei PR_1 = +17m.3s., PR_2 = +19m.6s., all readings are given for 1h. Honolulu eLN = +42·3m., MN = +47·8m. La Paz P? = +6m.50s. Baku MN = +68·0m., MZ = +71·7m. Victoria MN = +70·1m. Algiers MN = +85·8m. Pulkovo MZ = +81·1m. Alicante eLN = +88·8m. Innsbruck iPNW = +20m.38s. Moncalieri e = +72m.35s. San Fernando MN = +88·8m. Ottawa eN = +30m.50s., =PR_3?. Toledo MNW = +87·7m. Paris MN = +86·8m. Uccle MN = +84·8m. De Bilt MN = +99·5m., MZ = +100·4m.

ALTERNATIVE SOLUTION WITH HIGH FOCUS.

April 26d. 8h. 24m. 22s. Epicentre 55°·0S. 145°·0E.

$A = -\cdot470$, $B = +\cdot329$, $C = -\cdot819$; $D = +\cdot574$, $E = +\cdot819$; $G = +\cdot671$, $H = -\cdot470$, $K = -\cdot574$.

A height of focus 0·030 has been assumed. Stations which contribute no information of importance (*i.e.* bearing on the choice of alternatives) have been omitted.

		Corr. for Focus	Δ	Az.	P.	O−C.	S.	O−C.	L.	M.
		°	°	°	m. s.	s.	m. s.	s.	m.	m.
Melbourne		+1·0	17·2	0	(e 4 8)	−11	e 4 8	? P	7·4	9·6
Adelaide		+1·2	20·5	345	e 5 56	+55	i 9 14	+15	i 10·1	11·0
Riverview		+1·3	21·6	14	e 5 20	+ 4	e 9 30	+ 7	e 10·7	12·5
Sydney		+1·3	21·6	14	3 38	?	(9 26)	+ 3	9·4	12·4
Wellington		+1·5	23·8	67	i 5 31	−10	i 9 50	−19	i 11·8	13·3
Perth		+2·0	30·9	306	12 10	?S	(12 10)	−12	16·0	—
Suva		+2·8	44·8	48	e 8 26	+25	15 8	+41	20·9	—
Malabar		+3·4	56·3	315	10 18	+ 8	—	—	—	—
Batavia		+3·5	57·5	315	e 10 46	+27	18 36	0	28·6	—
Manila		+3·8	72·5	336	e 12 20	+23	—	—	—	—
La Plata	E.	+4·2	88·0	163	—	—	23 43	[+28]	39·2	50·0
	N.	+4·2	88·0	163	13 36	+ 8	23 48	[+32]	45·6	50·2
Zi-ka-wei		+4·2	88·6	340	13 19	−12	25 8	+25	47·8	52·6
Hyderabad		+4·2	91·6	300	24 16	?[S]	24 16	+38	—	52·7
Pulkovo		—	145·9	306	i 20 8	[+18]	e 21 46	?	70·6	81·1
Rocca di Papa		—	146·5	268	e 20 8	[+18]	e 24 10	? PR_1	—	—
Vienna		—	148·1	281	e 20 16	[+23]	—	—	—	—
Innsbruck	N.E.	—	150·5	275	e 20 20	[+23]	—	—	—	—
Malaga		—	152·4	119	e 21 14	[+75]	e 39 26	?	e 67·6	90·8
Ottawa		—	152·7	93	e 25 3	? PR_1	—	—	73·6	—
Strasbourg		—	153·2	264	22 38?	?	—	—	76·6	—
Hamburg		—	154·2	286	e 20 26	[+25]	—	—	e 83·6	—
Uccle		—	156·2	276	e 25 38	? PR_1	—	—	e 75·6	99·6
De Bilt		—	156·3	280	e 20 38?	[+34]	—	—	e 75·6	96·4

April 26d. Readings also at 2h. (Balboa Heights), 7h. (Manila), 10h. (La Paz and Rio de Janeiro), 11h. (La Paz and Tacubaya), 13h. (near Apia), 17h. (Tacubaya and Vera Cruz), 19h. (Taihoku), 22h. (Ottawa).

April 27d. Readings at 2h. (near Manila), 3h. (near Batavia and Malabar), 4h. (St. Louis, Ottawa, Toronto, and Ann Arbor), 5h. (near La Paz), 6h. (Riverview, Sydney, Adelaide, Amboina, Manila, and near Sumoto), 7h. (Pulkovo, Amboina, Honolulu, Melbourne, Victoria, De Bilt, Uccle, and Baku), 8h. (Stonyhurst, near Granada, and Almeria), 11h. (Riverview, Adelaide, Melbourne, Perth, Wellington, Baku, Ekaterinburg, and La Paz), 12h. (Ekaterinburg and San Fernando), 14h. (near Athens), 15h. (Tacubaya), 16h. (Taihoku), 19h. (Ottawa and Toronto), 20h. (near Athens), 23h. (Amboina).

April 28d. Readings at 0h. (near Mizusawa and Ootomari), 2h. (Toronto and Ottawa), 4h. (Taihoku and Zi-ka-wei), 9h. (Ekaterinburg), 12h. (Mizusawa and Paris), 15h. (Apia and Perth), 16h. (near Sumoto (2)), 20h. (near Nagasáki and near Irkutsk), 22h. (Apia), 23h. (Ekaterinburg).

April 29d. 20h. 3m. 40s. Epicentre 39°·6N. 27°·7E. (as on 1924 Dec. 22d.).

A = +·682, B = +·358, C = +·637 ; D = +·465, E = −·885 ;
G = +·564, H = +·296, K = −·770.

	Δ	Az.	P.	O−C.	S.	O−C.	L.	M.
	°	°	m. s.	s.	m. s.	s.	m.	m.
Athens	3·5	242	e 0 56	+ 1	e 1 37	0	e 1·7	1·9
Belgrade	7·4	316	—	—	—	—	e 4·4	4·7
Strasbourg	16·8	309	—	—	—	—	9·3	—
Baku	17·0	80	—	—	e 7 6	−12	10·3	—
Uccle	19·8	312	—	—	—	—	e 11·3	—
De Bilt	19·9	316	—	—	—	—	e 11·3	12·1
Pulkovo	20·2	4	e 4 56	+13	e 8 7	−20	11·3	13·2
Ekaterinburg	27·5	40	—	—	e 11 20	+30	16·8	—

Additional readings : De Bilt MZ = +14·1m. Pulkovo MZ = +13·4m.

April 29d. 22h. 26m. 25s. Epicentre 59°·0N. 135°·5W. (as on 1923 April 25d.).

A = −·367, B = −·361, C = +·857.

		Δ	Az.	P.	O−C.	L.	M.
		°	°	m. s.	s.	m.	m.
Sitka	E.	2·0	177	e 0 34	+ 3	e 1·4	1·6
	N.	2·0	177	e 0 31	0	e 1·8	1·9
Victoria	E.	12·8	141	3 54	+44	4·3	4·9
Toronto		36·9	90	—	—	i 18·8	—
Ottawa		37·6	85	—	—	i 19·3	—
Georgetown		41·5	93	—	—	e 20·6	—
Ekaterinburg		63·4	352	—	—	37·1	—
Baku		80·5	357	—	—	55·6	—

Additional readings : Victoria MN = +5·2m. Toronto iE = +18m.57s.

April 29d. Readings also at 1h. (Ekaterinburg (2)), 11h. (Baku).

April 30d. 10h. 58m. 10s. Epicentre 34°·0S. 175°·0W. (as on 1924 May 6d.).

A = −·826, B = −·072, C = −·559 ; D = −·087, E = +·996 ;
G = +·557, H = +·049, K = −·829.

		Δ	Az.	P.	O−C.	S.	O−C.	L.	M.
		°	°	m. s.	s.	m. s.	s.	m.	m.
Wellington		10·9	225	i 2 46	+ 3	—	—	—	3·8
Christchurch		13·5	222	3 8	−12	—	—	—	5·5
Riverview		28·0	261	e 6 55	+47	e 10 47	−12	e 11·2	12·9
Sydney		28·0	261	6 14	+ 6	10 50	− 9	12·8	13·3
Adelaide		37·9	257	—	—	e 11 44?	−113	15·8?	20·6
Perth		56·9	251	—	—	—	—	21·8	—
Zi-ka-wei		88·5	311	—	—	—	—	e 34·7	53·4
Toronto	N.	116·4	53	—	—	—	—	55·0	—
Bombay		118·5	274	e 62 50	?L	—	—	(e 62·8)	—
Ottawa		119·4	52	—	—	e 41 46	?SR_2	61·8	—
Ekaterinburg		136·4	320	—	—	e 25 22	?PR_2	59·8	—
Baku		144·0	294	e 21 54	?PR_1	e 36 37	?	68·8	—
Pulkovo		149·4	335	e 22 10	?PR_1	—	—	84·8	—
Edinburgh		157·4	12	—	—	—	—	e 95·8	—
Eskdalemuir		157·9	12	—	—	—	—	82·8	—
De Bilt		161·8	0	—	—	e 31 50	?PR_3	e 98·8	113·8
Uccle		163·2	1	—	—	—	—	—	98·8
Strasbourg		165·3	353	—	—	—	—	—	105·8
San Fernando	E.	170·5	72	—	—	—	—	—	97·8
Tortosa	N.	172·3	26	—	—	—	—	e 96·8	—
Granada		172·3	63	e 27 58	?PR_1	—	—	92·2	99·2

Additional readings : Riverview eS = +10m.54s., MN = +12·6m. Toronto LE = +72·3m. Baku e = +24m.24s. and +25m.32s. De Bilt MZ = +115·1m. San Fernando MN = +103·3m. Granada i = +34m.49s. and +40m.56s.

April 30d. Readings also at 3h. (Baku), 9h. (Algiers), 10h. (Apia, Christchurch, and Wellington), 12h. (Tacubaya and Oaxaca), 18h. (Taihoku), 20h. (Ekaterinburg), 21h. (Baku, Naples, and Pompeii).

May 1d. 2h. 24m. 40s. Epicentre 44°·8N. 14°·7E. (as on 1923 Oct. 18d.).

$A = +\cdot686$, $B = +\cdot180$, $C = +\cdot705$.

	Δ °	P. m. s.	O−C. s.	S. m. s.	O−C. s.	M. m.
Zagreb	1·3	e 0 23	+ 3	i 0 42	+ 6	—
Mostar	2·7	i 0 21	−21	i 0 31	−43	0·9
Sarajevo	2·9	i 0 45	0	i 0 56	−24	1·0
Belgrade	4·1	e 1 19	+15	i 1 42	−11	1·9

Zagreb gives also iPR$_1$ = +30s., i = +38s., iSR$_1$ = +48s., iPS = +53s., SR$_1$ = +1m.3s.

May 1d. 3h. 48m. 50s. Epicentre 3°·0S. 143°·5E. (as on 1923 Sept. 22d.).

$A = -\cdot803$, $B = +\cdot594$, $C = -\cdot052$; $D = +\cdot595$, $E = +\cdot804$; $G = +\cdot042$, $H = -\cdot031$, $K = -\cdot999$.

	Δ °	Az. °	P. m. s.	O−C. s.	S. m. s.	O−C. s.	L. m.	M. m.
Amboina	15·3	267	i 4 34	+51	i 7 10	+31	—	—
Manila	28·4	309	e 6 10?	− 2	—	—	—	—
Riverview	31·7	168	—	—	e 15 10	?L	e 17·1	20·2
Melbourne	34·8	178	—	—	e 11 28	−84	—	19·3
Malabar	36·0	262	e 7 16	− 6	—	—	—	—
Batavia	36·7	264	i 8 52	?PR$_1$	—	—	—	—
Osaka	38·4	350	9 38	?PR$_1$	(13 46)	+ 2	13·8	15·4
Perth	38·9	219	i 13 4	?S	(i 13 4)	−47	22·6	—
Zi-ka-wei	40·1	330	i 7 59	+ 3	14 9	+ 1	—	—
Ekaterinburg	88·6	328	i 13 10	+ 2	i 23 54	− 5	38·7	45·4
Baku	94·7	311	e 17 38	?PR$_1$	e 26 22	+79	47·2	—
Pulkovo	104·1	331	e 18 46	?PR$_1$	e 24 47	[+ 4]	53·2	65·3
Strasbourg	120·8	330	20 10?	?PR$_1$	31 10?	?	72·2	—
Ottawa	125·5	33	—	—	e 27 35	−115	67·2	—
Granada	134·4	323	i 22 0	?PR$_1$	i 32 12	?	e 74·5	87·9
La Paz	143·1	123	19 44	[− 1]	—	—	—	—

Additional readings: Riverview e? = +9m.52s., MN = +19·8m. Osaka MN = +17·8m. Perth PR$_1$ = +13m.56s., PR$_2$ = +14m.50s., PR$_3$ = +15m.23s., S = +17m.33s. An error of about 5min. throughout would remove most of the discrepancies. Zi-ka-wei PR$_1$ = +8m.34s. Granada i = +22m.12s., +25m.59s., = PR$_2$?, and +31m.14s.

May 1d. 6h. 6m. 55s. (I)
8h. 17m. 36s. (II) } **Epicentre 34°·0N. 133°·0E. (as on 1925 April 18d.)**

$A = -\cdot565$, $B = +\cdot606$, $C = +\cdot559$.

		Δ °	P. m. s.	O−C. s.	L. m.	ME. m.	MN. m.
I	Sumoto	1·6	0 29	+ 5	0·8	0·8	0·8
II		1·6	0 14	−10	0·6	1·0	1·0
I	Kobe	1·9	0 15	−14	0·9	1·0	1·0
II		1·9	0 33	+ 4	1·0	1·1	1·1
I	Osaka	2·1	0 34	+ 1	1·2	1·8	1·4
II		2·1	0 33	0	1·2	2·6	2·6
I	Hukuoka N.	2·2	0 1	−33	0·3	—	—
II	N.	2·2	0 8	−26	0·4	—	0·5
II	Nagasaki	2·9	0 15	−30	0·9	—	—

No additional readings.

May 1d. Readings also at 0h. (Paris and near Nagasaki), 10h. (Manila), 11h. (Lick (2)), 13h. (Platigorsk and Baku), 14h. (Ekaterinburg), 15h. (near Irkutsk).

May 2d. 2h. 57m. 0s. Epicentre 34°·0N. 61°·5E.

A = +·396, B = +·729, C = +·559 ; D = +·879, E = −·477 ;
G = +·267, H = +·491, K = −·829.

	Δ	Az.	P.	O−C.	S.	O−C.	L.	M.
	°	°	m. s.	s.	m. s.	s.	m.	m.
Baku	11·2	308	2 47	0	i 5 9	+10	7·5	—
Piatigorsk	17·4	311	—	—	e 7 5	−22	14·5	18·4
Ekaterinburg	22·9	359	i 5 20	+ 4	i 9 25	+ 2	i 12·2	14·2
Kucino	27·2	330	6 4	+ 4	10 30	−15	13·7	—
Pulkovo	32·9	331	6 52	− 4	12 23	+ 1	16·5	23·2

Additional readings: Baku i = +4m.36s. Piatigorsk e = +6m.42s. Pulkovo MZ = +21·1m.

May 2d. Readings also at 3h., 7h., and 8h. (near Batavia and Malabar), 11h. (near Sumoto), 15h. (Perth and Riverview), 16h. (Tacubaya), 18h. (Apia and Tacubaya).

May 3d. 0h. 23m. 42s. Epicentre 14°·0S. 174°·0W. (as on 1924 July 7d.).

A = −·965, B = −·101, C = −·242 ; D = −·105, E = +·995 ;
G = +·241, H = +·025, K = −·970.

Very doubtful.

		Δ	Az.	P.	O−C.	L.	M.
		°	°	m. s.	s.	m.	m.
Apia		2·2	86	e 0 32	− 2	—	1·6
Ekaterinburg		120·6	329	e 20 13	?PR_1	—	—
Pulkovo		130·9	344	i 22 23	?PR_1	—	—
Baku		133·6	313	e 22 42	?PR_1	62·3	—
Uccle		143·2	3	e 19 18	[−27]	—	—
Vienna	z.	144·7	350	19 24	[−24]	—	—
Strasbourg		145·4	358	e 20 27	[+38]	—	—
Granada		155·3	19	i 20 3	[+ 1]	—	—

Additional readings: Baku e = +35m.9s. Granada iS = +30m.1s., i = +32m.38s.

May 3d. 17h. 21m. 42s. Epicentre 2°·5N. 126°·7E.

(given by De Bilt).

A = −·597, B = +·801, C = +·044 ; D = +·802, E = +·598 ;
G = −·026, H = +·035, K = −·999.

Was there another shock which affected the Australian stations ?

		Δ	Az.	P.	O−C.	S.	O−C.	L.	M.
		°	°	m. s.	s.	m. s.	s.	m.	m.
Amboina		6·4	166	1 18	−20	2 18	−37	—	—
Manila		13·3	335	i 3 28	+11	(i 6 9)	+18	i 6·2	7·0
Malabar		21·4	243	e 4 53	− 5	8 42	−11	10·3	—
Batavia		21·7	246	e 4 5	−10	8 52	− 7	12·3	—
Hokoto		22·1	342	6 12	+66	—	—	e 10·3	—
Taihoku	N.	23·0	348	5 18	+ 1	9 33	+ 8	12·7	15·1
Hong Kong		23·2	329	5 16	− 3	9 18	−11	11·3	15·0
Phu-Lien		26·8	315	i 5 51	− 5	i 10 27	−10	11·7	14·4
Zi-ka-wei		29·1	351	i 6 15	− 4	i 11 7	−12	—	15·6
Nagasaki		30·4	5	6 29	− 3	11 34	− 7	15·2	17·2
Hukuoka		31·2	6	6 30	−10	11 44	−10	15·0	18·1
Sumoto		32·7	12	6 44	−10	(12 58)	+39	13·0	—
Kobe		33·1	12	6 48	− 9	12 12	−14	16·8	18·2
Osaka		33·2	13	6 54	− 4	(12 25)	− 2	12·4	18·2
Perth		36·5	196	i 6 50	−36	10 20	−177	15·6	16·9

Continued on next page.

		Δ	Az.	P.	O−C.	S.	O−C.	L.	M.
		°	°	m. s.	s.	m. s.	s.	m.	m.
Mizusawa	N.	38·9	19	7 41	− 4	13 39	−12	19·2	—
Adelaide		39·1	165	e 7 6?	−41	e 13 12	−41	i 19·0	26·7
Calcutta	E.	42·2	301	7 59	−13	14 6	−32	21·1	23·6
	N.	42·2	301	7 56	−16	13 44	−54	20·1	—
Riverview		43·0	150	e 8 13	− 5	e 14 42	− 6	e 17·4	26·6
Sydney		43·0	150	7 18	−60	14 12	−36	23·3	27·8
Melbourne		43·7	159	7 12	−72	16 48	+110	28·5	30·1
Ootomari		46·3	15	8 43	+ 1	(14 16)	−76	14·3	24·8
Colombo		46·9	276	8 18?	−28	15 21	−19	31·3	33·8
Kodaikanal		49·5	281	7 30	−94	—	—	15·4	—
Hyderabad		49·6	290	i 9 32	+28	(16 37)	+23	19·9	29·6
Irkutsk		53·1	344	i 9 28	+ 1	i 16 59	+ 2	24·3	29·3
Simla	E.	54·7	308	9 42	+ 5	17 6	−11	28·1	34·3
	N.	54·7	308	9 42	+ 5	17 24	+ 7	27·2	34·2
Bombay		55·1	291	9 37	− 3	17 7	−15	28·5	33·4
Ekaterinburg		75·0	330	i 11 51	+ 2	i 21 23	− 3	30·3	45·7
Honolulu	E.	75·4	68	12 1	+10	21 39	+ 9	34·6	38·3
	N.	75·4	68	12 15	+24	21 34	+ 4	31·7	32·6
Baku		78·4	311	i 12 10	+ 1	i 22 5	0	34·3	48·9
Piatigorsk		83·7	315	i 12 34	− 6	i 22 54	−12	38·3	53·6
Kucino		87·3	325	i 12 49	−12	i 23 21	[+11]	42·4	50·3
Pulkovo		91·0	330	i 13 10	−11	i 24 7	−17	36·3	55·5
Helwan		93·4	300	13 21	−13	23 51	[+ 3]	—	58·2
Lemberg		96·2	320	e 13 36	−14	e 24 12	[+ 9]	e 53·3	58·9
Upsala		97·2	331	e 13 38	−17	e 24 58	−30	e 45·3	60·8
Konigsberg		97·2	326	e 13 45	−10	e 25 13	−15	e 45·3	50·3
Athens	E.	98·6	310	12 52	−71	i 24 15	[− 2]	e 37·8	53·8
Belgrade		99·6	316	e 13 57	−12	i 26 25	+33	e 53·1	61·6
Victoria	E.	101·2	40	14 3	−13	24 35	[+ 5]	40·7	49·6
Vienna		101·4	321	e 13 58	−19	24 34	[+ 3]	e 47·3	—
Zagreb		102·4	318	e 14 5	−17	i 25 47	−32	e 44·7	55·9
Bergen		102·6	335	13 18?	−65	e 24 18?	[−18]	—	58·3
Cheb		103·3	323	e 20 18?	+139	e 28 48	+141	—	74·3
Hamburg		103·4	327	e 14 5	−22	i 24 47	[+ 7]	e 38·3	64·3
Berkeley	Z.	104·8	50	e 17 44	?	—	—	e 47·4	—
Pompeii		104·9	314	e 14 18?	−16	e 25 18?	[+31]	38·3	60·3
Venice		105·0	319	e 13 21	−73	24 48	[+ 1]	—	—
Naples		105·1	314	e 17 8	?	e 24 58	[+10]	54·3	65·3
Rocca di Papa		105·9	315	e 13 42	−57	e 24 56	[+ 4]	e 56·9	64·5
Florence		106·2	316	14 30	−10	25 44	[+51]	34·3	56·3
Cape Town		106·5	235	18 41	?PR$_1$	25 1	[+ 6]	—	55·3
Zurich		106·6	320	—	—	i 25 5	[+10]	—	—
De Bilt		106·7	327	14 23	−20	e 25 3	[+ 8]	e 48·3	66·4
Strabourg		106·7	323	14 23	−20	26 56	− 2	43·3	67·9
Uccle		107·7	326	e 14 23	−24	i 26 32	−35	44·3	65·0
Moncalieri		108·1	320	e 14 35	−14	i 28 5	+54	38·5	68·3
Besançon		108·3	321	19 9	?PR$_1$	e 24 48	[−14]	34·3	63·3
Edinburgh		108·8	333	19 8	?PR$_1$	28 26	+69	45·3	67·3
Eskdalemuir		109·2	333	e 14 37	−17	e 26 2	−79	46·3	67·3
Grenoble		109·3	320	14 45	− 9	e 19 18	?PR$_1$	40·3	—
Paris		109·6	324	e 14 37	−18	26 51	−33	45·3	64·3
Kew		109·9	330	—	—	—	—	—	71·3
Oxford		110·2	330	e 19 6	?PR$_1$	i 28 36	+66	e 53·9	65·7
West Bromwich		110·2	330	19 28	?PR$_1$	28 33	+63	—	—
Marseilles		110·4	319	19 18?	?PR$_1$	29 58	?	39·3	69·9
Puy de Dôme		110·8	321	16 29	+88	—	—	54·3	—
Barcelona		113·3	318	e 19 35	?PR$_1$	28 53	+57	e 35·2	68·4
Bagneres		113·8	320	e 19 25	?PR$_1$	e 30 1	?	40·3	—
Stonyhurst		114·0	331	e 14 45	−31	—	—	50·8	61·0
Tortosa	E.	114·6	318	e 19 23	?PR$_1$	i 29 20	+73	e 49·3	—
	N.	114·6	318	e 19 24	?PR$_1$	29 19	+72	e 50·3	72·4
Algiers		114·6	313	e 18 29	[− 7]	e 29 24	+77	e 36·3	68·3
Alicante	E.	116·5	316	e 20 27	?PR$_1$	30 37	+135	38·0	67·8
	N.	116·5	316	20 5	?PR$_1$	e 29 59	+97	43·4	79·8
Toledo		118·2	319	—	—	i 29 49	+73	e 45·4	71·1
Almeria		118·5	315	19 1	[+12]	29 47	+69	e 54·5	64·1
Granada		119·1	315	15 16	−22	29 15	+32	42·8	51·3
Malaga		120·0	315	19 25	[+33]	e 29 37	+48	44·3	69·9
San Fernando		121·4	316	19 31	[+35]	37 0	?SR$_1$	61·8	74·3
Chicago	N.	125·9	31	—	—	—	—	e 63·3	67·3
Ann Arbor		127·4	28	20 42	[+90]	30 48	+65	e 47·7	67·3
Ottawa		128·1	18	e 19 25	[+11]	—	—	e 38·3	73·0
Toronto		128·2	23	e 19 51	[+37]	e 21 33	?PR$_1$	66·2	66·7
Tacubaya	E.	129·9	62	19 18	[0]	22 48	?PR$_1$	23·5	—

Continued on next page.

		Δ	Az.	P.	O−C.	S.	O−C.	L.	M.
		°	°	m. s.	s.	m. s.	s.	m.	m.
Ithaca		130·4	21	e 21 41	?PR$_1$	—	—	67·3	—
Loyola		132·1	44	22 18	?PR$_1$	—	—	61·3	—
Harvard	E.	132·3	17	—	—	—	—	e 61·3	75·1
Fordham		132·7	20	—	—	—	—	65·8	74·4
Georgetown		133·1	26	19 29	[+ 4]	—	—	60·8	78·9
Cheltenham	N.	133·4	26	e 22 56	?PR$_1$	—	—	e 74·1	76·2
La Plata	E.	147·4	173	i 19 53	[+ 1]	—	—	65·4	79·8
	N.	147·4	173	i 19 53	[+ 1]	—	—	70·2	73·9
Balboa Heights		151·4	66	20 18?	[+20]	—	—	—	—
Port au Prince		151·8	41	e 20 18?	[+19]	—	—	—	—
Rio de Janeiro		157·4	205	e 20 48	[+43]	—	—	73·7	—
La Paz		159·8	135	20 13	[+ 5]	34 21	?	77·3	98·6

Additional readings and notes: Amboina readings have been increased by 2m. Manila MN = +6·9m. Batavia iP = +4m.55s., i = +6m.1s., and +8m.27s. Taihoku SE = +9m.21s., ME = +15·4m. Hong Kong MN = +15·5m. Phu-Lien MN = +20·2m. Zi-ka-wei MZ = +16·8m., MN = +23·4m. Kobe PR$_1$ = +8m.35s., MN = +17·8m. Osaka MN = +15·0m. Perth PR$_1$ = +8m.22s., PR$_2$ = +8m.50s., PR$_3$ = +10m.11s. Adelaide SR$_1$ = +15m.54s. Riverview eP = +7m.53s., eS = +14m.12s., and +14m.42s., MN = +24·8m., MZ = +26·7m. Sydney SR$_1$ = +17m.30s. Melbourne SR$_3$? = +23m.48s. Ootomari S = +10m.43s. = PR$_1$ +6s. Hyderabad S = +15m.17s., true S is given as SR$_1$. Irkutsk SR$_1$ = +20m.29s., MN = +29·6m., MZ = +29·7m. Ekaterinburg iPR$_1$ = +14m.57s., MN = +39·1m., MZ = +44·9m. Honolulu eE = +16m.15s. Baku MZ = +50·4m. Piatigorsk PR$_1$ = +16m.30s., PR$_2$ = +19m.27s., SR$_1$ = +29m.26s., SR$_2$ = +32m.25s., iSR = +35m.33s., MN = +47·4m. Kucino iPR$_1$ = +15m.49s., MN = +50·8m. Pulkovo PR$_1$ = +16m.57s., i = +23m.40s. (?[S]), PS = +24m.36s. = S +12s., SR$_1$ = +30m.18s., MN = +50·7m., MZ = +54·4m. Upsala eLN = +43·3m., MN = +54·5m. Konigsberg eP? = +17m.0s., iPR$_1$ = 17m.49s., e = +24m.18s., eS = +24m.54s. PS? = +25m.41s., PPS = +26m.48s., e = +27m.48s. and +28m.18s., SR$_1$ = +31m.45s., e = +34m.12s., SR$_2$ = +35m.36s. Athens eLN = +39·9m., MN = +59·5m.; T$_o$ = 17h.21m.5s. Belgrade PR$_1$ = +19m.6s., +26m.17s., and at four intermediate times, i = +27m.48s., SR$_1$ = +31m.22s. Victoria LN = +42·5m., MN = +49·5m. Vienna iPZ = +14m.5s., PR$_1$ = +17m.24s. PR$_2$ = +19m.42s., PS = +25m.27s., SR$_1$ = +32m.22s., and many i readings. Zagreb iPR$_1$ = +18m.7s., iS$_4$P$_4$S = +24m.41s. = [S] +6s., iPS = +26m.33s., iPPS = +28m.11s., MNW = +62·6m., also several e and i readings. Hamburg MN = +62·3m. Berkeley eN = +18m.6s. and +42m.36s., eE = +18m.11s. and +47m.48s. Rocca di Papa eP = +17m.38s., eLZ = +57·1m. Zurich ePR$_1$ = +17m.39s. De Bilt eZ = +17m.55s. = [P] −16s., MN = +62·4m. Strasbourg ePE = +14m.24s., iZ = +17m.56s. = [P] −15s., PR$_1$ = +18m.45s., eZ = +19m.41s., PR$_2$ = +21m.8s., e = +28m.0s., MN = +59·2m., MZ = +65·4m. Uccle ePR$_1$ = +19m.0s., i = +28m.12s., MN = +79·6m. Moncalieri MN = +51·3m. Edinburgh SR$_1$ = +34m.32s. Eskdalemuir PR$_1$ = +19m.20s., SR$_1$ = +34m.18s.?, MN = +62·3m. Paris PR$_1$ = +19m.18s., MN = +66·3m. Barcelona MN = +70·0m. Stonyhurst ePR$_1$ = +19m.16s., ePR$_2$ = +22m.1s., iPS = +28m.28s. Toledo PR$_1$ = +20m.15s., MNW = +61·9m. Almeria MN = +72·9m. Granada P? = +18m.49s. = [P] −1s., PR$_1$ = +20m.17s., i = +27m.1s., PS = +30m.3s., i = +33m.25s., SR$_2$ = +40m.29s., MZ = +64·8m. Malaga MN = +75·7m. San Fernando MN = +79·3m., Chicago ePR$_1$N = +21m.3s., ePSN = +31m.7s., eSR$_1$N = +38m.15s., eSR$_2$N = +43m.40s. Ann Arbor PR$_1$ = +24m.0s.; SR$_1$ = +36m.36s., MN = +69·3m. Ottawa i = +21m.22s. and +22m.34s., eN = +32m.36s., eE = +34m.3s. Toronto LE = +39m.3s. = SR$_1$ +35s. Ithaca i = +22m.50s. Harvard ePR$_1$N = +21m.55s., ePR$_1$E = +22m.5s., eN = +22m.57s., eE = +22m.58s. Fordham ePR$_1$? = +21m.59s., i = +22m.54s., SR$_1$? = +40m.19s. Georgetown iE = +21m.29s. and +22m.55s., lN = +21m.59s. and +22m.57s., LN = +53·7m., MN = +74·7m. La Plata PRN = +23m.34s., +30m.16s., +34m.18s., and +35m.46s., iS$_6$P$_6$SP?E = 35m.55s., SR$_2$N = +50m.39s. La Paz iP = +20m.15s., i = +20m.33s., and +21m.6s., PR = +24m.23s., +28m.13s., and +30m.53s., SN = +34m.31s., SR = +43m.18s., +48m.18s., and +51m.42s., LN = +74·8m.; T$_o$ = 17h.21m.56s.

May 3d. 22h. 58m. 54s. Epicentre 34°·0S. 57°·0E.

(as on 1925 April 11d.).

$A = +\cdot452$, $B = +\cdot695$, $C = -\cdot559$; $D = +\cdot839$, $E = -\cdot545$; $G = -\cdot305$, $H = -\cdot469$, $K = -\cdot829$.

		Δ	Az.	P.	O−C.	S.	O−C.	L.	M.
		°	°	m. s.	s.	m. s.	s.	m.	m.
Johannesburg		26·1	280	6 30	+41	—	—	11·1	15·1
Cape Town		31·7	262	6 42	− 2	11 56	− 7	15·6	18·7
Colombo		46·3	32	8 56	+14	15 31	− 1	22·9	25·3
Kodaikanal		48·3	26	17 18	?S	(17 18)	+80	25·7	27·6
Perth		48·8	105	8 56	− 3	16 10	+ 6	23·2	—
Batavia		53·7	70	e 9 30	− 1	—	—	—	—
Malabar		53·7	72	9 30	− 1	—	—	—	—
Bombay		55·0	19	10 5	+26	17 9	−12	26·2	29·4
Hyderabad		55·4	25	10 33	+51	16 28	−58	24·0	31·4
Calcutta	E.	63·9	33	10 44	+ 7	19 15	+ 3	—	33·5
	N.	63·9	33	10 22	−15	18 58	−14	—	33·6
Adelaide		65·2	116	(i 10 54)	+ 8	i 19 30	+ 3	e 29·9?	38·1
Simla	E.	67·9	19	—	—	20 0	− 1	32·5	34·5
	N.	67·9	19	11 18	+15	20 0	− 1	33·6	35·2
Helwan		68·3	337	e 11 15	+ 9	20 16	+10	—	44·0
Melbourne		68·6	122	—	—	—	—	—	4·5
Phu-Lien		72·3	49	e 11 31	− 1	e 21 0	+ 6	36·1	42·1
Amboina		72·4	82	18 6	?	—	—	—	—
Baku		74·7	355	11 56	+ 9	21 34	+12	36·1	41·4
Riverview		74·9	121	e 11 48	0	e 21 25	0	e 35·3	37·6
Sydney		74·9	121	10 20	−88	21 24	− 1	37·4	39·4
Manila		77·8	64	e 12 6	0	—	—	—	—
Athens		78·3	335	e 12 8	− 1	i 22 6	+ 2	e 38·1	55·3
Hong Kong		78·3	53	12 8	− 1	22 2	− 2	43·8	52·8
Platigorsk		79·0	351	e 12 21	+ 8	i 22 27	+15	—	45·2
Pompeii		84·4	330	e 13 6	+22	e 23 6	− 6	—	55·1
Naples		84·5	330	e 13 36	+51	e 23 26	+12	47·1	55·1
Rio de Janeiro	E.	85·2	246	i 13 5	+16	23 21	0	35·9	44·1
Wellington		85·5	139	e 12 48	− 3	i 23 20	− 5	39·7	46·1
Belgrade		85·5	336	e 14 17	+86	e 24 28	+63	e 47·4	59·6
Rocca di Papa		85·9	329	12 53	0	i 23 32	+ 3	e 43·6	60·7
Algiers		86·8	320	13 0	+ 2	23 26	−13	42·1	53·1
La Plata	E.	88·0	229	13 15	+10	23 41	−11	41·9	48·1
	N.	88·0	229	13 14	+ 9	e 23 48	− 4	—	44·0
Zagreb		88·0	334	e 13 1	− 4	i 23 52	0	—	—
Florence		88·2	330	13 6	0	23 34	−20	37·1	52·1
Zi-ka-wei		89·0	50	e 13 1	− 9	e 23 38	−25	—	49·1
Venice		89·0	331	13 12	+ 2	23 54	− 9	—	—
Vienna		89·8	335	13 8	− 7	24 3	− 9	e 35·1	57·1
Alicante	E.	89·8	320	i 13 17	+ 2	24 15	+ 3	47·2	59·7
	N.	89·8	320	i 13 19	+ 4	24 17	+ 5	47·2	57·4
Almeria		89·8	318	i 13 20	+ 5	i 24 12	0	e 45·6	58·0
Marseilles		90·5	325	i 13 28	+ 9	24 30	+11	44·1	57·8
Barcelona		90·7	324	e 13 19	− 1	24 21	0	e 47·1	52·4
Moncalieri		90·7	328	13 16	− 4	23 54	−27	38·2	62·8
Granada		90·8	317	i 13 15	− 5	i 24 22	0	e 47·7	56·1
Ekaterinburg		90·9	3	i 13 13	− 8	23 44	[+11]	37·1	54·0
Malaga		90·9	317	13 14	− 7	23 50	[+17]	40·1	55·9
Tortosa	E.	91·1	321	13 20	− 2	e 23 57	[+22]	—	55·8
	N.	91·1	321	13 17	− 5	23 49	[+14]	39·4	52·9
San Fernando		91·8	315	13 27	+ 1	24 0	[+21]	43·1	58·1
Grenoble		91·8	327	e 13 29	+ 3	24 33	0	44·1	58·4
Zurich		92·2	330	e 13 22	− 6	24 30	− 7	—	—
Bagneres		92·8	324	e 13 21	−10	24 35	− 8	44·1	58·1
Toledo		92·8	319	e 13 26	− 5	i 24 6?	[+21]	e 39·2	54·2
Rio Tinto		92·9	316	17 6	?PR_1	—	—	—	65·1
Besançon		93·2	329	i 13 37	+ 4	i 24 6	[+19]	36·1	56·1
Strasbourg		93·5	330	13 27	− 8	24 42	− 9	41·1	62·6
Puy de Dôme		93·6	326	e 13 45	+ 9	—	—	45·1	58·8
Konigsberg		94·2	341	13 32	− 7	24 6	[+13]	e 40·1	49·1
Lisbon		95·1	315	16 34	?PR_1	—	—	—	46·6
Paris		95·9	329	e 13 40	− 8	i 24 20	[+19]	39·1	64·1
Pulkovo		96·3	348	i 13 39	−12	24 17	[+13]	43·1	58·0
Hamburg		96·5	335	13 39	−13	e 24 17	[+12]	e 45·1	61·1
Uccle		96·6	330	e 13 42	−10	24 22	[+16]	41·1	61·8
De Bilt		97·3	332	13 50	− 6	e 24 26	[+16]	e 41·1	61·3

Continued on next page.

		Δ °	Az. °	P. m. s.	O−C. s.	S. m. s.	O−C. s.	L. m.	M. m.
Kew		99·1	328	—	—	—	—	—	64·1
Upsala		99·3	343	e 17 24	?PR_1	e 24 31	[+10]	—	67·2
Oxford		99·7	328	e 14 2	− 7	i 24 22	[0]	e 52·8	64·5
West Bromwich		100·6	329	14 1	−12	24 46	[+19]	—	—
Stonyhurst		101·7	329	e 14 7	−12	i 24 54	[+22]	44·1	54·8
Eskdalemuir		103·0	330	14 19	− 6	e 24 44	[+ 6]	44·1	—
Edinburgh		103·4	330	e 14 21	− 6	24 58	[+18]	45·1	65·6
Bergen		103·4	338	e 10 21	?	i 26 1	−27	—	68·1
La Paz	E.	107·4	235	e 14 52	+ 6	i 28 40	+95	54·1	55·6
	N.	107·4	235	i 18 6	[− 7]	28 38	+93	53·1	—
Apia		113·4	128	—	—	—	—	—	70·1
Harvard	E.	139·0	298	e 19 53	[+15]	—	—	e 73·5	78·7
	N.	139·0	298	19 51	[+13]	—	—	e 70·9	79·6
Fordham		140·9	294	e 19 52	[+11]	—	—	63·3	82·3
Ottawa	E.	142·5	302	e 19 34	[−10]	e 23 6?	?PR_1	71·1	84·1
	N.	142·5	302	e 19 58	[+14]	e 33 27	?	e 47·1	82·6
Ithaca		143·0	298	—	—	—	—	74·1	—
Georgetown	E.	143·1	291	i 19 46	[+ 1]	—	—	70·7	82·8
	N.	143·1	291	i 19 47	[+ 2]	—	—	78·4	83·8
Toronto	E.	145·1	299	i 19 49	[+ 1]	e 31 51	?	71·1	84·3
Honolulu	E.	146·7	102	19 59	[+ 8]	—	—	73·0	78·1
	N.	146·7	102	20 4	[+13]	e 29 11	?PR_2	e 75·0	78·1
Ann Arbor		148·3	296	e 21 6	[+73]	—	—	e 64·2	87·7
Chicago	N.	151·2	296	e 20 18	[+22]	—	—	e 75·6	86·6
Loyola	N.	151·9	271	22 6	[+127]	—	—	80·1	—
Tacubaya	N.	154·3	241	20 15	[+14]	—	—	—	—
Victoria	N.	165·6	1	20 18	[+ 6]	—	—	63·0	98·6
Tucson	E.	169·7	264	—	—	—	—	e 90·6	—
Berkeley	Z.	176·1	352	e 19 27	[−50]	—	—	—	100·6

Additional readings: Perth PR_1 = +10m.58s., PR_2 = +11m.36s., SR_1 = +18m.2s., SR_2 = +19m.52s. Hyderabad SR_1 = +18m.11s. Adelaide P is given as S and S as i, also iSR_2 = +23m.48s., e = +26m.54s. Accra (Δ = 66°·8) gives P = 22h.52·0m., M = 23h.25·0m. Phu-Lien MN = +38·7m. Baku MZ = +43·6m. Riverview MN = +41·1m., MZ = +54·6m. Sydney SR_1 = +29m.42s. = SR_2 − 25s. Athens MN = +50·8m.; T_0 = 22h.59m.2s. Hong Kong ? = +27m.12s. = SR_1 − 35s., MN = +46·4m. Piatigorsk iP = +12m.25s., PR_1 = +15m.27s., PS = +23m.15s., SR_1 = +27m.57s., SR_2 = +32m.39s. Wellington [S] = +23m.9s.; T_0 = 22h.58m.53s. Rocca di Papa PE = +12m.55s., PN = +13m.0s., iE = +13m.4s., iN = +13m.5s., eSN = +22m.50s. Algiers MN = +50·1m. La Plata PN = 17m.8s., eS = +25m.16s., 29m.8s., and 30m.8s., SR_1E = +29m.24s. and +33m.24s., iE = +36m.46s. Zagreb i = +13m.14s. and +36m.39s. = SR_2 + 19s., eS = +23m.22s. = [S] + 7s., iPR_1 = +16m.49s., iSR_2 = +33m.22s. Zi-ka-wei MZ = +49:2m., MN = +52·0m. Vienna iPZ = +13m.17s., PR_1 = +16m.33s.. iZ = +16m.57s., PR_2 = +19m.1s., i = +19m.43s., PS = +23m.47s. = [S] + 20s., +24m.40s., and +25m.20s. Almeria MN = +55·9m. Barcelona PR_1 = +17m.3s., MN = +52·9m. Moncalieri MN = +58·2m. Granada i = +13m.25s., PR_1 = +16m.38s., PR_2 = +18m.27s., and +23m.31s. = [S] − 2s., i = +24m.28s., PS = +25m.46s., +26m.46s., and +35m.22s., MZ = +54·0m. Ekaterinburg iPS = +24m.19s. = S − 4s., MN = +55·7m. Malaga iPZ = +13m.26s., MZ = +55·8m., MN = +56·9m. San Fernando MN = +59·6m. Grenoble L = +49·1m., MN = +61·7m. Bagneres e = +13m.31s. = P ± 0s., MN = +59·1m. Toledo iNW = +13m.31s., iZ = +13m.33s., PR_1NW = +16m.48s., PR_1NE = +17m.27s., MNW = +62·0m. Strasbourg P = +13m.33s., PR_1 = +17m.24s., PR_2 = +19m.32s., MN = +61·4m., MZ = +63·1m. Paris iP = +13m.43s., PR_1 = +17m.31s., SR_1 = +31m.53s. Pulkovo PR_1 = +17m.3s., SR_1 = +30m.18s., MN = +57·4m., MZ = +57·9m. Hamburg ePR_1 = +17m.6s., e = +31m.54s., MN = +64·1m. Uccle PR_1 = +17m.42s., i = +32m.2s., MN = +62·3m. De Bilt ePR_1Z = +17m.51s., MN = +68·2m., MZ = +68·4m. Konigsberg SR_1 = +31m.6s., e = +31m.42s., eLN = +45·1m., MN = +52·1m. Upsala MN = +68·2m. Stonyhurst ePR_1 = +17m.51s., ePR_2 = +19m.52s., iPS = +25m.52s. Eskdalemuir PR_1 = +18m.34s., i = +25m.2s., e = +27m.36s., SR_1 = +33m.6s. Bergen e = +19m.21s., i = +33m.31s. = SR_1 + 11s. La Paz SR = +34m.21s. and +38m.6s. Harvard ePR_1E = +22m.42s., ePR_1N = +22m.53s. Fordham SR_1? = +41m.27s., SR_2 = +46m.32s. Toronto iE = +23m.16s. = PR_1 + 9s., LN = +70·1m. Ann Arbor i = +41m.24s. and +47m.36s., MN = +85·5m. Chicago eSR_1N = +43m.38s. Victoria LE = +64·3m., ME = +103·0m. Berkeley eN = +19m.43s., iPZ = +21m.11s., MN = +103·6m., MZ = +104·5m., also very many i and e readings.

May 3d. Readings also at 7h. (Tacubaya), 10h. (near Algiers), 13h. (Irkutsk and Granada), 14h. (Pulkovo and Ekaterinburg).

May 4d. 4h. 0m. 24s. (I) } Epicentre 4°·0N. 128°·0E.
9h. 42m. 10s. (II) }

A = −·614, B = +·786, C = +·070 ; D = +·788, E = +·616 ;
G = −·043, H = +·055, K = −·998.

Rough

	Δ	Az.	P.	O−C.	S.	O−C.	L.	M.
	°	°	m. s.	s.	m. s.	s.	m.	m.
I Amboina	7·7	179	1 12	−45	5 24	+115	—	—
II	7·7	179	1 50	− 7	—	—	—	—
I Manila	12·6	327	e 3 33	+26	—	—	i 4·8	—
II	12·6	327	e 3 15	+ 8	(e 5 22)	−12	e 5·4	—
I Hong Kong	22·7	325	5 14	+ 1	—	—	—	—
I Malabar	23·3	241	4 46	−34	—	—	—	—
II	23·3	241	5 20	0	—	—	—	—
I Batavia	23·5	244	e 5 21	− 2	9 38	+ 3	12·6	—
II	23·5	244	e 5 14	− 9	—	—	—	—
I Phu-Lien	26·7	311	e 5 48	− 7	—	—	—	12·6
I Zi-ka-wei	27·9	348	e 6 10	+ 3	e 11 21	+24	—	—
I Perth	37·8	197	6 36?	−60	—	—	—	—
I Riverview	43·7	151	e 17 26	?SR_1	—	—	e 27·4	30·8
I Ekaterinburg	74·4	330	i 11 47	+ 2	21 22	+ 3	33·6	—
II	74·4	330	i 11 51	+ 6	e 21 7	−12	e 36·8	—
I Baku	78·4	312	12 7	− 2	22 0	− 5	39·6	—
I Pulkovo	90·4	330	13 7	−11	i 24 2	−16	37·6	66·6
II	90·4	330	13 12	− 6	23 52	[+22]	41·3	—
I De Bilt	106·1	326	e 19 6	?PR_1	e 25 18	[+25]	e 55·6	—
I Uccle	107·2	327	—	—	e 24 36?	[−22]	e 55·6	—
I Edinburgh	108·1	333	—	—	—	—	64·6	—
I Paris	109·2	325	—	—	e 28 28	+67	65·6	—
I Granada	119·0	316	e 20 14	?PR_1	—	—	e 69·6	76·6
I La Paz	159·8	129	20 14	[+ 6]	—	—	—	—

Additional readings and notes to shock I : Riverview MN = +28·7m. Pulkovo MZ = +55·6m. Granada i = +20m.52s., +30m.18s., +32m.44s., and +33m.9s. La Paz reading has been increased by 10m.

May 4d. 11h. 28m. 48s. Epicentre 16°·0S. 140°·0E. (as on 1924 May 7d.).

A = −·736, B = +·618, C = −·276 ; D = +·643, E = +·766 ;
G = +·211, H = −·177, K = −·961.

Do the readings at Manila, Hong Kong, and Zi-ka-wei refer to another shock ?

		Δ	Az.	P.	O−C.	S.	O−C.	L.	M.
		°	°	m. s.	s.	m. s.	s.	m.	m.
Amboina		16·9	315	3 54	−10	—	—	—	—
Adelaide		19·0	183	—	—	e 9 12?	?L	e 12·9	16·6
Riverview		20·5	153	—	—	e 8 22	−12	e 9·5	14·3
Melbourne		22·2	170	—	—	e 7 48	?	—	13·0
Perth		27·1	230	—	—	11 6	+23	23·1	25·6
Malabar		32·9	280	6 56	0	—	—	—	—
Batavia		33·9	281	e 7 3	− 1	—	—	—	—
Manila		35·9	328	e 6 12	−69	—	—	8·4	—
Wellington		39·2	137	—	—	—	—	e 12·2	—
Taihoku	E.	44·8	336	—	—	—	—	24·2	—
Hong Kong		45·9	327	7 27	−72	—	—	—	29·7
Apia		46·6	92	—	—	—	—	—	10·2
Zi-ka-wei		50·5	339	7 19	−111	—	—	—	31·4
Honolulu	E.	71·3	60	—	—	e 21 18	[− 3]	e 24·6	28·2
	N.	71·3	60	17 55	?	—	—	e 25·4	28·2
Irkutsk		75·0	339	—	—	—	—	e 37·2	—
Ekaterinburg		97·7	326	—	—	—	—	e 47·2	62·3
Baku		100·4	309	e 17 12	?PR_1	26 46	+46	52·2	—
Victoria		106·3	42	21 7	?PR_2	—	—	40·6	47·7
Kucino		109·9	323	—	—	e 27 5	−22	e 56·2	62·8
Pulkovo		113·7	329	e 20 11	?PR_1	e 23 10	?PR_2	56·2	68·9

Continued on next page.

		Δ	Az.	P.	O−C.	S.	O−C.	L.	M.
		°	°	m. s.	s.	m. s.	s.	m.	m.
Vienna	Z.	124·1	318	16 47	+45	—	—	—	—
De Bilt		129·4	326	e 19 25	[+ 8]	—	—	e 61·2	—
Strasbourg		129·4	321	e 19 12?	[− 5]	—	—	e 69·2	—
Uccle		130·4	325	—	—	—	—	e 65·2	—
Stonyhurst		132·2	330	—	—	—	—	e 64·2	—
Paris		132·4	323	e 19 48	[+24]	—	—	79·2	—
Toronto		136·7	42	—	—	e 32 37	?	73·8	—
Ottawa		138·1	38	—	—	26 54	?PR_2	65·2	—
Granada		141·6	310	i 17 16	[−146]	28 27	?	e 70·7	80·9

Additional readings: Riverview eS = +7m.42s., MN = +13·2m. Melbourne readings are given for 10h. Apia M = 11h.32m. Ekaterinburg e? = +11m.40s., e = +15m.54s., i = +22m.19s. = PR_2 +10s., and +22m.41s. Victoria LN = +46·4m. Kucino e = +24m.26s. = PR_2 +15s., +34m.12s., = SR_1 − 29s., and +37m.11s., MN = +68·1m. Pulkovo MZ = +68·6m. Ottawa eN = +33m.30s. Granada i = +20m.57s. and +23m.26s.

May 4d. Readings also at 1h. (Denver), 2h. (Vienna), 5h. (near La Paz), 12h. (Apia), 15h. (near Amboina), 18h. (Taihoku), 20h. (La Paz and La Plata).

May 5d. 10h. 6m. 0s. Epicentre 9°·5N. 123°·0E.

(as on 1919 March 23d.).

A = −·537, B = +·827, C = +·165; D = +·839, E = +·545; G = −·090, H = +·138, K = −·986.

		Δ	Az.	P.	O−C.	S.	O−C.	L.	M.
		°	°	m. s.	s.	m. s.	s.	m.	m.
Manila		5·5	339	i 1 24	− 1	(i 2 30)	− 1	i 2·5	3·0
Amboina		14·1	158	2 18	−69	5 36	−34	—	—
Hong Kong		15·4	328	3 42	− 2	6 59	+18	8·0	10·3
Taihoku	E.	15·6	355	3 54	+ 7	6 38	− 8	8·8	10·6
	N.	15·6	355	3 54	+ 7	6 37	− 9	8·6	12·1
Phu-Lien		19·4	307	i 4 41	+ 7	i 8 24	+14	10·0	13·3
Zi-ka-wei		21·7	356	i 4 58	− 3	9 2	+ 3	—	15·7
Batavia		22·5	226	5 13	+ 2	9 21	+ 6	11·2	13·0
Malabar		22·7	223	5 16	+ 3	9 30	+11	13·0	—
Nagasaki		24·1	14	5 24	− 5	(9 44)	− 2	9·7	11·1
Hukuoka		25·0	15	4 30	−68	(10 13)	+10	10·2	16·5
Sumoto		27·1	22	5 48	−11	(e 10 39)	− 4	e 13·7	—
Kobe		27·5	21	5 56	− 7	10 46	− 4	13·7	14·4
Osaka		27·6	23	6 8	+ 4	(11 0)	+ 8	11·0	18·3
Nagoya		28·6	24	6 43	+29	—	—	—	—
Mizusawa	E.	33·8	27	6 53	−10	12 15	−23	17·4	—
	N.	33·8	27	6 54	− 9	12 14	−24	17·4	—
Calcutta	E.	35·6	297	7 12	− 6	13 5	+ 1	18·4	—
	N.	35·6	297	7 19	+ 1	12 55	− 9	18·7	22·6
Ootomari		40·8	20	7 51	−10	—	—	9·8	—
Perth		42·0	190	i 7 58	−13	13 20	−75	18·4	18·6
Colombo		42·7	270	8 0	−16	20 55	?L	27·0	28·8
Hyderabad		43·9	286	i 7 57	−28	14 32	−29	21·9	29·0
Kodaikanal		44·9	277	9 18	+46	—	—	23·0	30·1
Irkutsk		45·4	345	—	—	e 15 1	−19	22·0	—
Adelaide		46·8	164	—	—	e 15 24	−14	i 21·4	27·6
Simla	E.	47·6	305	8 54	+ 3	15 48	− 1	23·7	29·5
	N.	47·6	305	9 12	+21	16 12	+23	21·0	31·5
Bombay		49·4	288	9 5	+ 2	16 9	− 2	25·5	37·3
Riverview		50·9	150	e 9 13	+ 1	i 16 29	− 1	e 24·4	33·8
Sydney		50·9	150	8 48	−24	16 36	+ 6	26·8	30·5
Melbourne		51·6	159	e 9 12	− 5	i 17 6	+27	i 25·5	39·8
Ekaterinburg		67·1	328	i 11 5	+ 6	i 19 58	+ 7	33·0	44·2
Wellington		69·5	141	—	—	i 20 53	+33	30·0	—
Baku		71·0	310	i 11 32	+ 9	i 20 47	+ 9	36·0	45·6
Piatigorsk		76·2	315	e 11 54	− 2	i 21 45	+ 6	—	50·9
Honolulu		76·3	70	e 12 10	+13	21 52	+11	35·7	38·9

Continued on next page.

	Δ	Az.	P,	O−C.	S.	O−C.	L.	M.
	°	°	m. s.	s.	m. s.	s.	m.	m.
Pulkovo	83·2	330	i 12 35	− 2	i 22 52	− 7	41·0	53·7
Helwan	86·7	300	e 12 54	− 3	23 35	− 3	—	64·2
Lemberg	88·4	320	e 9 24	−223	e 23 48	− 8	e 47·0	59·9
Konigsberg	89·3	326	13 9	− 3	23 50	−16	e 44·0	56·0
Upsala	89·4	331	e 13 4	− 8	e 23 40	[+16]	e 44·0	56·0
Belgrade	92·0	317	e 14 21	+54	e 25 26	+51	e 45·9	—
Vienna	93·7	322	i 13 27	− 9	24 0	[+10]	e 48·6	65·0
Bergen	94·7	335	e 18 0?	?PR_1	e 24 0?	[+ 5]	—	54·0
Zagreb	94·8	320	i 15 33	+111	i 26 44	+100	e 55·7	66·4
Hamburg	95·5	327	e 13 36	−10	e 24 15	[+15]	e 50·0	59·0
Venice	97·3	320	14 0?	+ 4	—	—	—	—
Pompeii	97·4	315	e 18 10	?PR_1	—	—	—	—
Naples	97·6	315	e 17 0	?PR_1	e 24 50	−42	54·0	61·0
Victoria E.	98·0	39	17 53	?PR_1	24 26	[+13]	36·8	64·2
Rocca di Papa	98·4	316	e 13 41	−21	e 23 24	[−51]	e 31·5	68·1
Florence	98·6	318	18 5	?PR_1	26 55	+73	50·0	60·0
De Bilt	98·8	326	13 54	−10	—	—	e 48·0	62·4
Strasbourg	98·9	324	e 13 48	−17	e 25 27	−18	44·0	63·6
Zurich N.	98·9	321	e 13 45	−20	e 24 27	[+ 9]	—	—
Uccle	99·9	327	—	—	24 34	[+10]	48·0	64·8
Moncalieri	100·5	320	14 12	− 1	i 28 0	+119	50·7	67·8
Besançon	100·6	323	e 19 11	?PR_1	e 26 43	+42	52·0	59·0
Edinburgh	100·9	333	e 13 12	−63	24 48	[+19]	48·0	60·0
Eskdalemuir	101·3	333	e 14 51	+34	24 45	[+14]	49·0	60·0
Grenoble	101·6	321	18 0?	?PR_1	—	—	52·0	—
Stonyhurst	101·7	331	—	—	24 52	[+19]	50·1	56·9
Paris	101·8	326	e 14 8	−11	e 24 57	[+24]	52·0	59·0
Kew	102·0	330	—	—	—	—	—	68·0
West Bromwich	102·3	330	—	—	25 0	[+25]	—	—
Oxford	102·4	330	—	—	i 24 57	[+21]	e 54·0	61·6
Berkeley Z.	102·9	46	18 28	?PR_1	e 27 38	+75	e 47·8	—
Puy de Dôme	103·0	323	—	—	26 0?	−24	47·0	60·4
Barcelona	105·7	320	e 19 10	?PR_1	—	—	e 55·4	67·2
Tortosa	107·0	320	e 19 0	?PR_1	—	—	e 49·0	68·0
Algiers	107·2	315	e 18 55	?PR_1	e 25 20	[+22]	e 44·0	72·5
Cape Town	107·3	238	18 51	?PR_1	25 24	[+26]	51·4	57·0
Alicante E.	108·9	317	e 19 23	?PR_1	29 11	+113	61·4	69·4
N.	108·9	317	e 19 35	?PR_1	e 31 21	?	59·2	68·8
Toledo	110·5	321	19 23	?PR_1	30 13	?	e 47·5	75·4
Almeria	111·0	315	e 19 9	?PR_1	27 29	− 8	64·5	—
Granada	111·7	317	e 15 54	+48	28 18	+35	e 57·2	75·8
Malaga	112·5	317	e 19 23	?PR_1	e 29 27	+97	e 41·0	66·0
Rio Tinto	113·4	320	23 0	?PR_2	—	—	—	74·0
San Fernando	113·8	317	—	—	29 45	+105	57·0	68·0
Lisbon	114·4	321	—	—	(e 29 27)	+82	e 29·4	—
Chicago	121·6	26	—	—	—	—	e 62·9	66·0
Ottawa	122·6	15	14 32	−83	e 30 37	+88	67·8	—
Ann Arbor	122·7	22	e 27 42	?S	(27 42)	−88	60·8	69·7
Toronto E.	123·1	19	e 20 39	?PR_1	e 30 48	+95	52·5	—
N.	123·1	19	—	—	e 28 53	−20	54·2	67·1
Ithaca	125·1	17	—	—	e 37 36	?SR_1	47·0	—
Fordham	127·3	16	e 20 0?	?PR_1	—	—	—	70·0
Georgetown	128·1	20	e 22 0?	?PR_1	e 31 22	?	62·4	71·2
Loyola	129·3	37	33 0	?	—	—	64·0	—
Rio de Janeiro	161·2	223	e 25 30	?PR_1	(45 52)	?SR_1	79·0	—
La Paz	167·1	124	20 38	[+25]	e 34 32	?	78·0	84·6

Additional readings: Manila MN = +2·9m. Hong Kong MN = +10·7m. Phu-Lien MN = +11·9m. Zi-ka-wei PR_1N = +5m.24s., SR_1N = +9m.54s. MN = +14·7m., MZ = +15·5m. Batavia L and M times are interchanged. Nagasaki MN = +15·9m. Sumoto S = +8m.8s.; true S is given as SR_1. Kobe PR_1 = +6m.33s., PR_2 = +7m.25s., PR_3 = +8m.22s., SR_1 = +12m.26s. Osaka MN = +16·9m. Perth PR_1 = +9m.24s., PR_2 = +9m.41s., SR_1 = +13m.48s. =S −47s. Adelaide iSR_1 = +18m.54s., i? = +23m.24s. Riverview PS = +17m.3s., eSR_1 = +20m.15s. and +21m.6s., $=SR_2$ −44s., MN = +37·1m., MZ = +34·0m. Sydney SR_1 = +20m.30s. Ekaterinburg iPS = +20m.50s., MN = +37·9m., MZ = +43·9m. Wellington iSR_1 = +25m.20s. Baku MZ = +52·0m. Piatigorsk iP = +11m.58s., PS = +22m.36s., SR_1 = +27m.26s., SR_2 = +30m.54s., MN = +50·0m. Honolulu eSR_1N = +26m.49s., eN = +32m.3s. $=SR_2$ −11s.; T_g =10h.6m.26s. Pulkovo PR_2 = +18m.20s., PR_3 = +19m.16s., SR_1 = +29m.0s., SR_2 = +32m.12s., MN = +50·8m., MZ = +53·6m. Lemberg MN = +55·8m.

Continued on next page.

Konigsberg $PR_1 = +17m.0s.$, $e = +23m.31s. = [S] + 7s.$, $+24m.9s.$ and $+24m.30s.$, $PS = +25m.0s.$, $SR_3? = +33m.42s.$, $MN = +52 \cdot 0m.$, $MZ = +54 \cdot 0m.$ Upsala $MN = +50 \cdot 9m.$ Belgrade $PR_1 = +18m.19s.$ and $+19m.6s.$, $SR_1 = +27m.6s.$ Vienna $iZ = +14m.50s.$, $PR_1 = +16m.42s.$, $PR_3 = +19m.3s.$, $PS = +24m.41s. = S - 12s.$, $PPS = +25m.51s.$, $SR_3 = +34m.41s.$, $MNZ = +64 \cdot 0m.$ Zagreb $e = +19m.9s.$ ($?ePR_1$), also several i readings. All readings have been diminished by 48m. Victoria $LN = +38 \cdot 3m.$, $MN = +55 \cdot 8m.$ Rocca di Papa $iE = +18m.12s. = PR_1 + 10s.$, $iN = +18m.15s. = ?PR_1 + 13s.$ De Bilt $ePR_1 = +18m.4s.$, $MN = +57 \cdot 6m.$ Strasbourg $ePEN = +13m.51s.$, $PR_1 = +17m.49s.$, $SR_1 = +31m.43s.$, $SR_3 = +37m.49s.$, $SR_3 = +39m.38s.$, $MN = +63 \cdot 2m.$ Uccle $PR_1 = +18m.5s.$, $MN = +57 \cdot 2m.$ Moncalieri $S? = +22m.6s. = PR_3 - 31s.$ Eskdalemuir $e = +18m.1s.$ ($?PR_1$). Paris $PR_1 = +18m.27s.$, $MN = +57 \cdot 0m.$ Berkeley $eE = +23m.58s.$ and $+47m.15s.$, $eN = +32m.21s.$; are the readings 1min. too large? Barcelona $MN = +67 \cdot 0m.$ Tortosa $eLN = +50 \cdot 0m.$ Toledo $PR_1Z = +19m.23s.$, $PR_1NE = +19m.27s.$, $iNE = +30m.29s.$, $iNW = +30m.31s.$, $MNW = +63 \cdot 8m.$ Granada $P = +19m.24s. = PR_1 - 6s.$, $PR_1 = +20m.54s.$, $i = +22m.28s. = PR_3 - 8s.$, $PR_3 = +23m.11s.$, $i = +30m.17s.$, $PS = +30m.59s.$, $i = +32m.37s.$ and $+35m.56s. = SR_1 + 52s.$, $SR_1 = +36m.49s.$ Malaga $MN = +77 \cdot 5m.$ San Fernando $PR_1 = +19m.35s.$, $MN = +69 \cdot 0m.$ Chicago $ePR_1N = +20m.29s.$, $ePSN = +36m.11s.$, $eLN = +64 \cdot 0m.$, $MN = +65 \cdot 0m.$; $T_0 = 10h.6m.40s.$ Ottawa $PR_3 = +26m.12s. = PR_3 - 6s.$, $eE = +37m.25s. = SR_1 + 5s.$ Ann Arbor $PR_1 = +31m.36s.$, $S = +34m.36s.$ Georgetown $LN = +63 \cdot 7m.$, $MN = +79 \cdot 4m.$ La Paz $PR = +25m.9s.$ and $28m.20s.$, $SR_1? = +40m.0s.$, $SN = +45m.10s.$; $T_0 = 10h.6m.57s.$

May 5d. 10h. 40m. 0s. (I)
11h. 58m. 33s. (II)
12h. 44m. 36s. (III)
16h. 23m. 18s. (IV)
18h. 16m. 0s. (V)
} Epicentre 9°·5N. 123°·0E. (as at 10h.).

		Δ	Az.	P.	O−C.	S.	O−C.	L.	M.
		°	°	m. s.	s.	m. s.	s.	m.	m.
I	Manila	5·5	339	i 2 0	+35	—	—	i 3·1	—
II		5·5	339	i 2 0	+35	—	—	i 3·2	—
III		5·5	339	i 2 2	+37	—	—	i 3·2	—
IV		5·5	339	e 1 40	+15	—	—	—	—
V		5·5	339	e 1 48	+23	—	—	—	—
II	Hong Kong	15·4	328	3 45	+ 1	7 47	+66	9·3	11·3
II	Taihoku	15·6	355	e 3 11	−36	—	—	—	—
I	Phu-Lien	19·4	307	i 4 19	−15	e 8 0	−10	10·0	—
II		19·4	307	e 4 40	+ 6	i 8 22	+12	e 10·2	13·1
V		19·4	307	e 4 36	+ 2	e 8 19	+ 9	11·0	—
II	Zi-ka-wei	21·7	356	5 2	+ 1	e 9 10	+11	—	—
IV		21·7	356	4 57	− 4	e 9 7	+ 8	—	—
V		21·7	356	e 4 54	− 7	8 50	− 9	—	—
I	Batavia	22·5	226	5 2	− 9	9 16	+ 1	—	—
II		22·5	226	5 0	−11	9 25	+10	—	—
III		22·5	226	5 13	+ 2	9 31	+16	—	—
IV		22·5	226	5 12	+ 1	—	—	—	—
V		22·5	226	5 12	+ 1	—	—	—	—
I	Malabar	22·7	223	4 54	−19	—	—	—	—
II		22·7	223	5 6	− 7	9 21	+ 2	—	—
III		22·7	223	5 13	0	—	—	—	—
IV		22·7	223	5 14	+ 1	—	—	—	—
V		22·7	223	5 2	−11	—	—	—	—
II	Osaka	27·6	23	6 40	+36	—	—	11·6	16·2
II	Calcutta N.	35·6	297	12 46	?S	(12 46)	−18	—	—
II	Hyderabad	43·9	286	7 54	−31	14 27	−34	22·2	29·7
II	Irkutsk	45·4	345	—	—	—	—	24·4	27·6
IV		45·4	345	8 21	−15	12 56	−144	22·7	—
V		45·4	345	8 25	−11	14 36	−44	21·0	—
II	Riverview	50·9	150	e 8 28	−44	e 16 28	− 2	e 30·6	31·6
II	Ekaterinburg	67·1	328	i 11 5	+ 6	i 19 58	+ 7	32·4	42·2
IV		67·1	328	i 11 1	+ 2	e 19 54	+ 3	31·7	—
V		67·1	328	e 11 10	+11	e 20 54	+63	e 35·0	—
II	Piatigorsk	76·2	315	—	—	e 20 27	−72	43·0	—
II	Kucino	79·4	325	7 5	−310	i 16 41	−335	—	—
II	Pulkovo	83·2	330	12 32	− 5	22 51	− 8	42·4	51·9
V		83·2	330	—	—	e 23 5	+ 6	47·0	
II	Upsala	89·4	331	—	—	—	—	e 46·4	59·0

Continued on next page.

	Δ	Az.	P.	O−C.	S.	O−C.	L.	M.
	°	°	m. s.	s.	m. s.	s.	m.	m.
II Vienna	93·7	322	—	—	—	—	e 50·4	59·4
II Hamburg	95·5	327	—	—	—	—	e 51·4	59·4
II Rocca di Papa	98·4	316	—	—	—	—	e 49·9	50·9
II De Bilt	98·8	326	—	—	—	—	e 50·4	62·4
V	98·8	326	—	—	—	—	e 54·0	—
II Edinburgh	100·9	333	—	—	—	—	55·4	—
II Eskdalemuir	101·3	333	—	—	—	—	48·4	66·4
V	101·3	333	—	—	—	—	54·0	—
II Granada	111·7	317	i 19 7	?PR_1	—	—	60·6	69·6
II Malaga	112·5	317	—	—	—	—	e 59·3	—

Additional readings to shock II: Hong Kong MN = +9·8m. Phu-Lien MN = +12·0m. Osaka MN = +17·7m. Calcutta PE = +12m.43s. Irkutsk MN = +27·9m., MZ = +28·0m. Riverview eS = +20m.16s. = SR_1 −8s., MN = +35·2m. Ekaterinburg iPS = +21m.0s., MZ = +42·5m., MN = +44·1m. Pulkovo MN = +49·4m., MZ = +53·0m. Upsala MN = +53·7m. Rocca di Papa eL = +74·6m. De Bilt MN = +61·6m., MZ = +64·1m.

May 5d. 23h. 21m. 0s. Epicentre 2°·5N. 126°·7E.

(as on May 3d. 17h.).

A = −·597, B = +·801, C = +·044 ; D = +·802, E = +·598 ;
G = −·026, H = +·035, K = −·999.

		Δ	Az.	P.	O−C.	S.	O−C.	L.	M.
		°	°	m. s.	s.	m. s.	s.	m.	m.
Amboina		6·4	166	1 42	+ 4	i 3 48	?L	(i 3·8)	—
Manila		13·3	335	2 33	−44	—	—	i 3·6	—
Malabar		21·4	243	e 4 47	−11	8 47	− 6	12·0	—
Batavia		21·7	246	4 49	−12	8 34	−25	13·6	—
Taihoku		23·0	348	5 11	− 6	9 53	+28	13·8	16·0
Hong Kong		23·2	329	5 19	0	9 9	−20	10·7	11·5
Phu-Lien		26·8	315	e 5 55	− 1	10 0	−37	12·0	17·5
Zi-ka-wei		29·1	351	i 6 17	− 2	11 16	− 3	—	19·5
Osaka		33·2	13	6 25	−33	(12 28)	+ 1	12·5	17·1
Nagoya		34·0	16	7 4	− 1	(12 34)	− 6	12·6	13·4
Perth		36·5	196	6 59	−27	12 25	−52	16·4	—
Calcutta	E.	42·2	301	7 47	−25	13 54	−44	19·2	24·6
	N.	42·2	301	7 43	−29	—	—	19·4	—
Riverview		43·0	150	8 1	−17	e 14 14	−34	e 21·3	29·2
Sydney		43·0	150	5 18	?	14 18	−30	28·7	29·9
Melbourne		43·7	159	—	—	14 54	− 4	26·7	30·8
Ootomari		46·3	15	8 35	− 7	—	—	10·5	—
Colombo		46·9	276	7 25	−81	13 50	−110	22·3	28·1
Kodaikanal		49·5	281	10 30	+86	—	—	27·6	30·7
Hyderabad		49·6	290	8 50	−14	15 14	−60	22·5	29·8
Irkutsk		53·1	344	—	—	e 22 12	?SR_2	34·0	—
Simla	E.	54·7	308	9 48?	+11	17 30?	+13	24·2?	35·8?
Bombay		55·1	291	9 18	−22	17 48	+26	31·7	33·7
Wellington		61·8	141	—	—	e 18 38	− 8	e 25·2	—
Ekaterinburg		75·0	330	i 11 53	+ 4	21 27	+ 1	32·0	49·4
Honolulu		75·4	68	e 12 3	+12	i 21 43	+13	35·0	38·8
Baku		78·4	311	i 12 12	+ 3	i 22 6	+ 1	40·0	48·4
Piatigorsk		83·7	315	i 12 36	− 4	i 22 58	− 8	43·0	53·5
Pulkovo		91·0	330	13 12	− 9	i 24 10	−14	44·0	52·4
Helwan		93·4	300	13 24	−10	23 55	[+ 7]	—	58·0
Upsala		97·2	331	—	—	e 24 14	[+ 5]	e 46·0	59·5
Konigsberg		97·2	326	—	—	e 23 58	[−11]	e 51·0	59·0
Victoria	E.	101·2	40	14 15	− 1	24 41	[+11]	47·8	49·6
	N.	101·2	40	14 21	+ 5	—	—	42·8	43·5
Vienna		101·4	321	14 1	−16	24 38	[+ 7]	e 43·0	64·0
Bergen		102·6	335	—	—	e 24 0?	[−36]	—	—
Cheb		103·3	323	—	—	—	—	e 49·0	73·0
Hamburg		103·4	327	e 14 12	−15	e 24 0	[−40]	e 41·0	65·0
Pompeii		104·9	314	—	—	e 23 35	[−72]	—	—
Venice		105·0	319	e 14 33	− 1	28 7	+85	—	—
Rocca di Papa		105·9	315	e 14 19	−20	e 25 14	[+22]	e 37·1	66·6

Continued on next page.

	Δ	Az.	P.	O−C.	S.	O−C.	L.	M.
	°	°	m. s.	s.	m. s.	s.	m.	m.
Florence	106·2	316	19 0	?PR_1	28 10	+76	34·0	46·0
Cape Town	106·5	235	25 1	?[S]	(25 1)	[+ 7]	—	57·0
De Bilt	106·7	327	14 28	−15	—	—	e 48·0	69·2
Strasbourg	106·7	323	e 14 28	−15	i 25 25	[+29]	34·0	68·2
Uccle	107·7	326	e 14 26	−21	e 26 18	−49	—	66·7
Moncalieri	108·1	320	e 14 37	−12	25 23	[+21]	39·4	65·7
Besançon	108·3	321	e 18 49	?PR_1	—	—	—	66·0
Edinburgh	108·8	333	e 19 12	?PR_1	28 48	+91	51·0	67·3
Eskdalemuir	109·2	333	14 45	− 9	28 30	+69	49·0	68·0
Grenoble	109·3	320	19 28	?PR_1	—	—	34·0	—
Paris	109·6	324	e 14 42	−13	e 26 55	−29	53·0	66·0
Kew	109·9	330	—	—	—	—	—	71·0
Oxford	110·2	330	e 18 20?	[− 3]	i 28 42	+72	e 52·0	65·5
West Bromwich	110·2	330	e 14 40	−18	e 26 17	−73	—	—
Puy de Dôme	110·8	321	—	—	—	—	39·0	—
Barcelona	113·3	318	—	—	—	—	e 61·7	71·8
Stonyhurst	114·0	331	—	—	e 28 17	+15	52·8	66·6
Algiers	114·6	313	e 19 4	?PR_1	29 21	+74	e 64·0	71·0
Tortosa E.	114·6	318	e 19 0?	?PR_1	—	—	—	70·4
N.	114·6	318	e 19 49	?PR_1	29 18	+71	52·0	72·4
Alicante E.	116·5	316	20 16	?PR_1	30 18	?	64·7	—
N.	116·5	316	20 52	?PR_1	—	—	66·2	—
Toledo	118·2	319	—	—	e 29 50	+74	43·9	71·1
Almeria	118·5	315	e 18 10	[−38]	30 29	?	—	—
Granada	119·1	315	e 15 11	−27	27 37	−66	64·3	79·6
Malaga	120·0	315	19 19	[+27]	e 30 31	?	e 51·0	75·5
San Fernando	121·4	316	19 23	[+27]	33 37	?	—	73·0
Chicago N.	125·9	31	—	—	—	—	e 63·7	67·5
Ann Arbor	127·4	28	e 21 30	?PR_1	i 34 18	?	58·6	72·4
Ottawa	128·1	18	e 21 28	?PR_1	e 32 42	?	e 39·6	73·0
Toronto E.	128·2	23	e 21 36	?PR_1	e 31 38	?	59·5	74·6
N.	128·2	23	i 22 51	?	—	—	39·4	80·6
Ithaca	130·4	21	e 22 47	?	—	—	78·0	—
Fordham	132·7	20	—	—	—	—	58·3	74·7
Georgetown	133·1	26	—	—	—	—	i 78·2	—
La Plata	147·4	173	19 53	[+ 1]	—	—	78·0	—
La Paz	159·8	135	20 10	[+ 2]	i 31 21	?PR_3	77·5	95·5

Additional readings and notes: Amboina readings have been increased by 2m. Manila e = +1m.44s. Hong Kong MN = +13·5m. Phu-Lien MN = +15·2m. Zi-ka-wei PR_1 = +6m.31s., PR_2 = +7m.28s. Osaka readings have been diminished by 1h. Riverview e = +14m.54s. and +15m.5s., eSR_1 = +17m.21s. and 17m.29s., SR_2 = +18m.12s., MZ = +26·2m. Sydney SR_2 = +23m.0s. Melbourne SR_1? = +20m.30s. Hyderabad SR_1 = +35m.50s.; T_0 = 23h.21m.39s. Irkutsk readings have been increased by 1h. Ekaterinburg iPR_1 = +14m.41s., MN = +45·8m., MZ = +46·2m. Honolulu eN = +31m.43s. = SR_2 − 13s., MN = +32·0m.; T_0 = 23h.21m.21s. Baku MN = +54·2m., MZ = +56·7m. Piatigorsk PR_1 = +15m.50s., SR_2 = +35m.20s. Pulkovo PR_1 = +16m.55s., PR_2 = +19m.12s., i = +23m.43s. = [S] + 9s., SR_1 = +29m.18s., MZ = +54·6m., MN = +55·4m. Helwan PR_1 = +17m.26s., PR_2 = +21m.14s. Upsala MN = +68·4m. Konigsberg e = +24m.20s., +27m.8s., +30m.0s., and +32m.0s., eLN = +46·0m. Vienna PR_1? = +18m.13s., PR_2? = +20m.11s., eE = +25m.6s., PS = +25m.37s., iE = +27m.37s. Hamburg SR_1 = +29m.0s., MN = +55·0m., MZ = +63·0m. Rocca di Papa ePE = +14m.55s. and +17m.47s. = [P] − 21s., iPN = +19m.5s. = PR_1 + 14s. De Bilt ePR_1 = +18m.58s., MN = +62·4m. Strasbourg ePR_1? = +18m.55s., PR_2 = +21m.35s., i = +25m.25s., MZ = +65·5m., MN = +66·6m. Uccle PR_1 = +19m.3s., MN = +58·8m. Eskdalemuir e = +19m.15s. = PR_1 + 1s., MN = +69·0m. Paris PR_1 = +19m.17s. Stonyhurst ePR_1? = +19m.18s. Toledo PR_1Z = +19m.54s., MNW = +75·1m. Granada P = +18m.48s. = [P] − 2s., PR_1 = +20m.18s., PR_2 = +22m.52s., PS = +30m.19s., i = +32m.52s. SR_1 = +37m.20s., SR_2 = +40m.26s. Malaga MN = +75·8m. Chicago ePR_1N = +20m.55s., ePR_1E = +21m.9s., ePSN = +31m.2s. or 31m.21s., ME = +71·5m. Ann Arbor iN = +31m.0s., i = +38m.54s. = SR_1 + 36s., iSR_2E? = +46m.24s. Ottawa e = +22m.38s. Fordham ePR_1? = +21m.7s., i = +22m.55s. La Plata S_6P_6SPE = +33m.50s., iPN = +19m.56s., +36m.6s., LN = +87·3m. La Paz iPN = +20m.26s., PR = +24m.9s, and +26m.32s.?, SN = +33m.58s., SR_1 = +38m.37s., SR_2 = +43m.1s.; T_0 = 23h.21m.36s.

May 5d. Readings also at 4h. (Moncalieri), 5h. (Algiers), 11h. (Manila and near Mostar), 13h. (Batavia), 15h. (Irkutsk, Ekaterinburg, and Pulkovo), 16h. (Ottawa), 19h. (Pulkovo), 22h. (Pulkovo and Ekaterinburg), 23h. (Malabar, Ekaterinburg, and Rio de Janeiro).

May 6d. 4h. 58m. 18s. Epicentre 2°·5N. 126°·7E. (as on May 5d. 23h.).

	Δ	Az.	P.	O−C.	S.	O−C.	L.	M.
	°	°	m. s.	s.	m. s.	s.	m.	m.
Amboina	6·4	166	1 24	−14	2 36	−19	—	—
Manila	13·3	335	e 3 37	+20	—	—	—	—
Malabar	21·4	243	4 50	− 8	—	—	—	—
Batavia	21·7	246	5 7	+ 6	—	—	12·7	—
Zi-ka-wei	29·1	351	6 9	−10	12 7	+48	—	20·7
Nagoya	34·0	16	7 4	− 1	—	—	—	—
Riverview	43·0	150	—	—	e 14 24	−24	—	29·9
Sydney	43·0	150	16 30	?	—	—	27·5	31·4
Ekaterinburg	75·0	330	i 11 49	0	21 23	− 3	30·7	—
Baku	78·4	311	e 12 10	+ 1	e 22 2	− 3	39·7	—
Piatigorsk	83·7	315	e 19 11	?PR_3	—	—	25·7	—
Pulkovo	91·0	330	13 9	−12	24 6	−18	51·7	66·6
De Bilt	106·7	327	—	—	—	—	e 56·7	—
Strasbourg	106·7	323	—	—	—	—	e 31·7	—
Uccle	107·7	326	—	—	—	—	e 55·7	—
Stonyhurst	114·0	331	—	—	—	—	e 63·7	—

Additional readings: Riverview MN = +28·8m. Baku iP = +12m.13s. Pulkovo i = +23m.41s. =[S] +7s.

May 6d. 8h. 10m. 48s. Epicentre 33°·0S. 168°·0E.

A = −·820, B = +·174, C = −·545; D = +·208, E = +·978; G = +·533, H = −·113, K = −·839.

Rough.

	Δ	Az.	P.	O−C.	S.	O−C.	L.	M.
	°	°	m. s.	s.	m. s.	s.	m.	m.
Wellington	9·9	149	e 2 33	+ 4	—	—	i 3·1	—
Riverview	14·1	262	e 3 18	− 9	—	—	e 9·9	12·1
Sydney	14·1	262	2 12	−75	—	—	10·7	12·2
Melbourne	19·3	249	—	—	e 8 48	+40	—	15·2
Adelaide	24·4	257	e 5 36?	+ 4	e 10 0	+ 8	e 12·6	18·6
Batavia	62·5	281	41 12?	?L	—	—	(41·2)	—
Manila	65·5	309	e 37 8	?L	—	—	(e 37·1)	—
Ekaterinburg	126·4	320	e 18 19	[−50]	—	—	57·2	77·7
Toronto E.	127·5	57	—	—	e 59 12	?L	61·2	—
Ottawa	130·4	54	—	—	—	—	e 57·2	—
Baku	130·9	298	e 16 13	−18	—	—	69·2	81·7
Pulkovo	141·6	328	i 16 17	−60	e 30 6	?	74·2	82·7
Edinburgh	156·3	348	—	—	—	—	—	94·2
Eskdalemuir	156·5	347	—	—	—	—	74·2	—
De Bilt	157·3	332	—	—	—	—	e 79·2	—
Strasbourg	158·6	322	14 12?	?	—	—	89·2	—
Granada	172·0	304	—	—	—	—	e 84·6	99·5

Additional readings and notes: Riverview MN = +12·3m. Ekaterinburg e = +19m.23s. =[P] +14s. and +28m.41s., i = +19m.37s. Ottawa eN = +49m.48s. =SR_3 +36s., eE = +53m.12s. Baku e = +19m.58s. =[P] +38s. and +42m.12s., MZ = +88·5m. MN = +90·7m. Pulkovo MZ = +85·4m. Granada L = +90·3m.

May 6d. Readings also at 1h. (Batavia and near Amboina), 5h. (Nagoya, near Osaka, Kobe, and Sumoto), 7h. (near Nagoya, Sumoto, and Kobe), 9h. (Batavia, Amboina, and Manila), 10h. (Ekaterinburg), 15h. (Taihoku (2) and Irkutsk), 16h. (Manila (2) and Ekaterinburg (2)), 17h. (Manila, near Kobe, Hukuoka, and Sumoto), 19h. (Manila and Ekaterinburg), 20h. (Wellington), 22h. (near Hong Kong), 23h. (Barcelona and Paris).

May 7d. 0h. 42m. 45s. Epicentre 2°·5N. 126°·7E. (as on May 6d. 4h.).

	Δ	Az.	P.	O−C.	S.	O−C.	L.
	°	°	m. s.	s.	m. s.	s.	m.
Ekaterinburg	75·0	330	i 11 53	+ 4	21 24	− 2	31·2
Baku	78·4	311	e 12 9	0	e 22 2	− 3	40·2
Pulkovo	91·0	330	—	—	—	—	50·2
De Bilt	106·7	327	—	—	—	—	e 57·2
Uccle	107·7	326	—	—	—	—	65·2

No additional readings.

May 7d. 12h. 11m. 22s. (I) } Epicentre 12°·0N. 126°·0E.
14h. 33m. 50s. (II) }

A = −·575, B = +·791, C = +·208 ; D = +·809, E = +·588 ;
G = −·122, H = +·168, K = −·978.

		Δ	Az.	P.	O−C.	S.	O−C.	L.	M.
		°	°	m. s.	s.	m. s.	s.	m.	m.
I	Manila	5·5	298	i 1 28	+ 3	(i 2 33)	+ 2	i 2·6	3·6
II		5·5	298	i 1 27	+ 2	—	—	i 3·0	3·6
I	Taihoku E.	13·7	343	3 17	− 5	(6 12)	+11	6·2	—
II	N.	13·7	343	3 23	+ 1	(5 59)	− 2	6·0	—
I	Hong Kong	15·2	314	3 37	− 5	—	—	—	8·3
II		15·2	314	3 30	−12	—	—	—	8·2
I	Zi-ka-wei	19·6	348	4 36	0	8 7	− 8	—	11·9
II		19·6	348	i 4 32	− 4	8 7	− 8	—	10·9
I	Phu-Lien	20·6	298	e 4 51	+ 3	—	—	—	13·6
II		20·6	298	e 4 47	− 1	e 8 29	− 7	10·2	—
I	Osaka	24·2	19	5 30	0	(9 45)	− 3	9·8	11·8
II		24·2	19	5 34	+ 4	(10 0)	+12	10·0	10·5
I	Batavia	26·4	227	e 5 59	+ 7	—	—	—	—
II		26·4	227	5 59	+ 7	—	—	16·2	—
I	Irkutsk	43·9	341	e 8 14	−11	e 14 40	−21	20·6	—
II		43·9	341	e 7 59	−26	12 36	?	16·2	—
II	Perth	45·0	193	—	—	e 14 10	−65	—	—
II	Adelaide	48·5	167	—	—	e 19 10?	?SR_1	e 21·9	33·9
II	Bombay	51·5	285	e 16 25	?S	(e 16 25)	−13	—	—
II	Riverview	51·7	153	—	—	e 16 58	+18	e 25·7	28·6
II	Sydney	51·7	153	20 28	?SR_1	—	—	28·4	29·9
II	Melbourne	52·9	161	—	—	(e 16 52)	− 3	e 16·9	28·9
I	Ekaterinburg	66·6	328	11 2	+ 7	19 43	− 2	31·6	37·1
II		66·6	328	11 0	+ 5	19 40	− 5	31·2	39·5
I	Baku	71·7	310	e 11 40	+12	e 20 50	+ 4	35·6	39·6
II		71·7	310	e 11 33	+ 5	e 20 54	+ 8	36·2	39·6
I	Pulkovo	82·5	330	e 12 43	+10	e 22 41	−11	34·6	51·6
II		82·5	330	e 12 33	0	e 22 39	−13	37·2	51·5
I	Upsala	88·5	332	—	—	—	—	e 49·6	—
II		88·5	332	—	—	e 24 10?	+12	e 47·2	49·9
I	Konigsberg	88·8	326	—	—	—	—	e 43·6	50·6
II	E.	88·8	326	—	—	—	—	e 48·2	55·2
II	N.	88·8	326	—	—	—	—	e 46·2	49·2
I	Vienna	93·6	322	—	—	—	—	e 48·6	51·6
II		93·6	322	—	—	e 24 10?	[+20]	e 48·2	55·2
II	Victoria E.	94·3	39	e 24 20	?S	(24 20)	−39	—	66·2
II	N.	94·3	39	e 24 50	?S	(24 50)	− 9	—	39·4
I	Hamburg	95·0	328	—	—	—	—	e 53·6	59·6
II		95·0	328	—	—	e 24 10?	[+13]	e 48·2	59·2
I	De Bilt	98·3	328	—	—	—	—	e 52·6	62·5
II		98·3	328	—	—	—	—	e 49·2	59·3
II	Rocca di Papa Z.	98·6	317	e 17 48	?PR_1	—	—	—	—
I	Strasbourg	98·7	325	—	—	—	—	e 56·6	—
II		98·7	325	—	—	—	—	43·2	—
I	Uccle	99·4	327	—	—	—	—	e 50·6	—
II		99·4	327	—	—	—	—	e 49·2	—
I	Edinburgh	100·0	334	—	—	—	—	e 52·6	—
II		100·0	334	—	—	e 24 10?	[−14]	51·2	61·2
II	Besançon	100·3	323	—	—	—	—	54·2	—
I	Eskdalemuir	100·5	334	—	—	—	—	48·6	—
II		100·5	334	—	—	—	—	46·2	—
II	Stonyhurst	101·0	331	—	—	—	—	e 46·2	56·3
II	Paris	101·4	326	—	—	—	—	e 51·2	55·2
II	Kew	101·4	330	—	—	—	—	—	61·2
II	Oxford	101·7	330	—	—	—	—	e 51·2	61·5
II	Toledo	110·5	321	—	—	—	—	e 46·0	61·9
I	Granada	111·8	319	—	—	e 61 50	?	e 63·9	67·0
II		111·8	319	—	—	—	—	e 57·9	66·3
I	San Fernando	113·9	320	—	—	—	—	—	66·6
II		113·9	320	—	—	—	—	61·7	66·2
II	Ottawa	119·4	15	—	—	e 25 55	[+11]	55·2	—
II	Toronto N.	119·8	20	—	—	e 26 20	?	48·5	—
II	La Paz	165·6	110	20 36	[+24]	—	—	—	—

For Notes see next page.

NOTES TO MAY 7d. 12h. 11m. 22s. (I) AND 14h. 33m. 50s. (II).

Additional readings: Manila I MN = +4·1m., II MN = +4·0m. Zi-ka-wei II PR_1 = +5m.3s., MN = +11·7m., MZ = +12·3m. Osaka I MN = +10·6m., II MN = +10·8m. Riverview II e = +20m.40s. = SR_1 +2s., MN = +32·1m. Ekaterinburg I MZ = +38·7m., II MN = +37·2m., MZ = +40·2m. Baku I MN = +40·2m., MZ = +44·6m., II MN = +40·2m., MZ = +44·5m. Pulkovo I MN = +45·4m., MZ = +51·7m., II i = +23m.3s., SR_1 = +28m.16s., MN = +46·6m. Upsala I eL = +48·6m. De Bilt I MN = +54·3m., II ePR_1Z = +18m.21s., MN = +54·3m., MZ = +62·5m. Strasbourg II +35m.10s. ? San Fernando I MN = +65·6m., II MN = +65·2m.

May 7d. Readings also at 1h. (Lick), 3h. (Nagasaki), 6h. (Apia, Baku, and near Batavia and Malabar), 10h. (Kucino, Batavia, near Malabar, and near Tacubaya), 14h. (Amboina), 15h. (Amboina (2), Malabar, and Batavia), 16h. (De Bilt, Edinburgh, Oxford, Strasbourg, Paris, and Stonyhurst), 18h. (De Bilt, Manila, La Paz (2), Paris, Strasbourg, Pulkovo, Ottawa, Toronto, Granada, Ekaterinburg, near Taihoku, near Amboina, near Batavia and Malabar), 19h. (Pulkovo), 20h. (Toronto, Ottawa, Pulkovo, Kucino, Baku, Granada, Irkutsk, and Ekaterinburg), 21h. (Kucino, Ekaterinburg, and Pulkovo), 22h. (De Bilt), 23h. (Pulkovo, Baku, Ekaterinburg, Granada, and Kucino).

May 8d. Readings at 7h. (near Granada), 8h. (Apia), 10h. (Manila), 11h. (Batavia, Oaxaca, and Tacubaya), 12h. (Tacubaya), 13h. (Manila), 18h. (Irkutsk), 22h. (Manila and Ekaterinburg), 23h. (Pulkovo).

May 9d. 3h. 37m. 42s. Epicentre 2°·5N. 126°·7E. (as on May 7d. 0h.).

	Δ	Az.	P.	O−C.	S.	O−C.	L.	M.
	°	°	m. s.	s.	m. s.	s.	m.	m.
Amboina	6·4	166	i 1 12	−26	i 2 30	−25	—	—
Manila	13·3	335	e 3 28	+11	—	—	—	—
Malabar	21·4	243	4 18	−40	—	—	—	—
Batavia	21·7	246	e 4 48	−13	8 36	−23	—	—
Ekaterinburg	75·0	330	i 11 34	−15	—	—	—	—
Baku	78·4	311	—	—	e 21 54	−11	—	—
Pulkovo	91·0	330	—	—	i 23 49	[+15]	52·3	56·4

No additional readings.

May 9d. Readings also at 6h. (near San Fernando), 14h. (Ekaterinburg), 15h. (Manila), 17h. (near Sumoto), 18h. (Zurich), 19h. (near Hukuoka), 20h. (Irkutsk and Baku), 21h. (Batavia).

May 10d. 3h. 0m. 30s. Epicentre 2°·5N. 126°·7E. (as on May 9d. 3h.).

	Δ	Az.	P.	O−C.	S.	O−C.	L.
	°	°	m. s.	s.	m. s.	s.	m.
Amboina	6·4	166	1 36	− 2	2 24	−31	—
Manila	13·3	335	e 4 14	+57	—	—	—
Malabar	21·4	243	4 58	0	—	—	—
Batavia	21·7	246	5 24	+23	—	—	—
Baku	78·4	311	e 12 10	+ 1	e 22 6	+ 1	—
Pulkovo	91·0	330	—	—	—	—	e 52·5

No additional readings.

May 10d. Readings also at 6h. (near Mizusawa), 14h. (Toledo), 20h. (La Paz).

May 11d. Readings at 1h. (La Paz), 3h. (Nagoya), 6h. (Ekaterinburg and Baku), 7h. (Nagasaki (2)), 8h. (near Nagoya and near Mizusawa), 9h. (Ekaterinburg), 11h. (Ottawa), 12h. (Toronto), 15h. (Toledo), 17h. (La Paz, Ekaterinburg, and near La Plata), 18h. (Ekaterinburg and near La Paz), 21h. (Baku, Ekaterinburg, and Pulkovo).

May 12d. Readings at 1h. (near Kobe and Sumoto), 4h. and 5h. (Ekaterinburg), 6h. (Apia), 12h. (near Granada), 15h. (Fordham), 18h. (La Paz and Fordham), 19h. (Toronto, La Paz, Ottawa, Tacubaya, Victoria, and near Almeria), 20h. (De Bilt, Ekaterinburg, and Pulkovo), 22h. (La Paz and near Algiers), 23h. (Ekaterinburg).

May 13d. 8h. 10m. 40s. Epicentre 2°·5N. 126°·7E. (as on May 10d.).

	Δ	Az.	P.	O−C.	S.	O−C.	L.	M.
	°	°	m. s.	s.	m. s.	s.	m.	m.
Manila	13·3	335	e 3 57	+40	(i 5 13)	−38	i 5·2	—
Batavia	21·7	246	e 6 20?	+79	—	—	. —	—
Ekaterinburg	75·0	330	11 47	− 2	e 21 23	− 3	33·3	—
Baku	78·4	311	—	—	e 21 20?	−45	—	—
Pulkovo	91·0	330	e 7 37	?	—	—	63·3	—
Strasbourg	106·7	323	—	—	—	—	61·3	—
Uccle	107·7	326	—	—	—	—	e 55·3	—
Eskdalemuir	109·2	333	—	—	—	—	49·3	—
Paris	109·6	324	—	—	—	—	e 59·3	—
Granada	119·1	315	—	—	—	—	e 54·1	56·6
Ottawa	128·1	18	—	—	e 29 10	−38	e 34·3	—

Ottawa gives also LE = +36·3m., LN = +37·3m.

May 13d. 22h. 51m. 15s. Epicentre 41°·0N. 44°·0E. (as on 1925 Jan. 9d.).

A = +·543, B = +·524, C = +·656 ; D = +·695, E = −·719 ; G = +·472, H = +·456, K = −·755.

	Δ	Az.	P.	O−C.	S.	O−C.	L.	M.
	°	°	m. s.	s.	m. s.	s.	m.	m.
Piatigorsk	3·1	347	i 0 53	+ 4	1 20	− 6	1·6	1·8
Baku	4·5	85	e 1 18	+ 8	2 24	+20	3·0	—
Ekaterinburg	19·1	29	i 4 26	− 4	7 52	−12	9·8	12·5
Pulkovo	20·6	340	i 4 47	− 1	8 30	− 6	9·8	12·0
Konigsberg	20·7	320	—	—	e 8 45?	+ 7	10·8	—
Vienna	20·8	300	e 4 49	− 2	—	—	—	—
Zagreb	20·8	293	e 4 45?	− 6	—	—	—	—
Rocca di Papa	23·4	282	e 4 57	−24	—	—	—	—
Hamburg	25·9	311	e 6 28	+41	—	—	e 13·8	15·8
Strasbourg	26·5	299	—	—	e 8 45?	−107	—	—
De Bilt	28·5	306	—	—	e 10 21	−47	e 13·8	—
Uccle	28·9	303	—	—	—	—	e 13·8	—
Eskdalemuir	33·8	311	—	—	—	—	15·8	—
Edinburgh	33·8	311	—	—	—	—	e 19·8	—
Granada	36·7	280	—	—	e 16 45	?SR,	24·2	25·6

Additional readings: Piatigorsk iP = +59s. Baku iP = +1m.23s. Ekaterinburg i = +8m.1s. and +8m.16s., MN = +12·8m., MZ = +13·7m. Pulkovo MN = +12·6m., MZ = +12·7m. Vienna iPZ = +4m.54s. Rocca di Papa iPE = +5m.31s., iPN = +5m.33s.

May 13d. 23h. 54m. 24s. Epicentre 10°·5N. 92°·5E.

A = −·043, B = +·982, C = +·182 ; D = +·999, E = +·044 ; G = −·008, H = +·182, K = −·983.

		Δ	Az.	P.	O−C.	S.	O−C.	L.	M.
		°	°	m. s.	s.	m. s.	s.	m.	m.
Calcutta	E.	12·7	342	3 13	+ 4	6 25	?L	(6·4)	—
	N.	12·7	342	3 4	− 5	6 28	?L	(6·5)	—
Colombo		13·0	255	3 11	− 2	—	—	7·3	9·4
Kodaikanal		14·8	270	—	—	—	—	8·2	12·3
Phu-Lien		17·0	51	i 4 6	+ 1	e 7 24	+ 6	e 9·1	11·3
Bombay		20·8	296	4 48	− 3	9 11	+31	—	21·7
Batavia		22·0	139	5 24	+19	—	—	—	—
Malabar		23·2	139	5 35	+16	—	—	—	—
Hong Kong		23·9	58	4 54	−33	9 29	−13	—	14·9
Simla	N.	25·0	328	5 54	+16	10 24	+21	15·6	16·2
Manila		28·1	78	e 5 57	−12	—	—	e 15·6	—
Perth		47·9	153	—	—	13 36?	−137	—	—
Baku		48·0	317	e 8 55	+ 1	e 16 8	+14	25·6	32·0
Ekaterinburg		52·4	340	i 9 22	0	i 16 38	−11	23·6	28·1
Pulkovo		67·2	332	11 0	+ 1	19 51	− 1	33·6	46·3

Continued on next page.

	Δ	Az.	P.	O−C.	S.	O−C.	L.	M.
	°	°	m. s.	s.	m. s.	s.	m.	m.
Konigsberg	71·0	325	—	—	e 20 36?	− 2	e 40·6	47·6
Budapest	71·1	317	—	—	e 21 36?	+57	—	—
Vienna	73·0	320	e 11 38	+ 2	21 3	+ 1	—	51·6
Zagreb	73·1	315	e 11 36?	− 1	e 23 46	+163	—	—
Rocca di Papa z.	75·5	311	—	—	e 23 48	+136	—	—
Venice	75·6	315	e 21 32	?S	(e 21 32)	− 1	—	29·4
Hamburg	77·2	324	e 12 4	+ 2	e 21 54	+ 3	—	47·6
Strasbourg	78·7	319	e 12 11	0	e 22 26	+18	35·6	—
De Bilt	80·1	322	e 12 19	− 1	e 22 35	+11	e 43·6	54·8
Uccle	80·7	321	e 12 6	−17	e 22 30	− 1	e 40·6	—
Paris	82·1	320	—	—	e 22 0	−47	53·6	57·6
Algiers	83·3	308	e 12 36	− 2	e 22 52	− 8	—	—
Oxford	84·1	322	—	—	—	—	46·4?	60·4
Edinburgh	84·5	326	—	—	e 23 36?	+22	48·6	58·6
Eskdalemuir	84·7	325	—	—	e 23 7	− 9	41·6	—
Bidston	84·9	323	23 36	?S	(23 36)	+18	43·3	54·5
Almeria	87·5	309	13 1	− 1	e 23 31	−16	—	—
Granada	88·4	309	13 0	− 7	e 23 50	− 6	50·7	59·0
Malaga	89·2	318	e 13 4	− 7	23 55	−10	—	—
San Fernando	90·7	309	—	—	—	—	—	59·6
Ottawa	123·1	350	—	—	e 44 36	?	e 48·6	—
Toronto	125·4	353	—	—	e 42 44	?	54·6	—
Rio de Janeiro E.	136·0	248	—	—	—	—	e 69·6	—
La Paz	160·3	250	20 13	[+ 5]	—	—	—	—

Additional readings: Simla eE = +10m.12s., ME = +14·5?m. Ekaterinburg MN = +30·0m., MZ = +33·3m. Pulkovo MN = +37·5m., MZ = +47·5m. Vienna iPZ = +11m.40s., SR_1? = +26m.41s., SR_2? = +28m.34s. Zagreb i = +24m.36s. Rocca di Papa eN = +24m.20s. Strasbourg ePR_1? = +15m.16s., eSR_1? = +28m.31s. De Bilt ePR_1Z = +15m.23s., MN = +46·1m., MZ = +55·0m. Eskdalemuir e = +28m.52s. = SR_1 +27s. Granada PS = +25m.50s. San Fernando MN = +58·6m.

May 13d. Readings also at 0h. (Ekaterinburg), 3h. (Kucino), 4h. (Pulkovo. Ekaterinburg, and Ottawa), 5h. (Tacubaya (2) and Vera Cruz), 6h, (Oaxaca and near Kobe and Sumoto), 9h. and 10h. (Ekaterinburg), 12h. (Toronto and Ottawa), 17h. (Irkutsk), 19h. (Ekaterinburg and Irkutsk), 23h. (near Taihoku).

May 14d. 7h. 10m. 48s. Epicentre 36°·5N. 70°·5E. (as on 1921 Nov. 15d.).

A = +·268, B = +·758, C = +·595; D = +·943, E = −·334; G = +·199, H = +·561, K = −·804.

A depth of focus 0·020 has been assumed, the ·030 assumed on 1921 Nov. 15d appearing to be too great for this shock.

	Corr. for Focus	Δ	Az.	P.	O−C.	S.	O−C.	L.	M.
	°	°	°	m. s.	s.	m. s.	s.	m.	m.
Simla	−0·1	7·7	132	2 12	+17	—	—	3·2	—
Baku	−0·6	16·6	290	i 4 8	+11	7 15	+20	—	—
Bombay	−0·7	17·7	173	3 55	−10	7 25	+ 7	9·4	—
Hyderabad	−0·8	20·3	157	4 9	−26	7 31	−42	—	10·4
Calcutta N.	−0·8	20·8	127	4 35	− 6	—	—	—	—
Ekaterinburg	−0·9	21·4	345	i 4 52	+ 5	i 8 39	+ 5	10·2	—
Pulkovo	−1·6	34·6	327	i 6 50	− 6	12 12	−12	15·2	—
Konigsberg	−1·7	38·4	316	e 7 31	+ 3	—	—	e 15·6	16·2
Vienna	−1·7	40·8	307	e 6 44	−63	9 47	?PR_2	—	17·2
Zagreb	−1·8	41·3	301	7 12?	−39	—	—	—	—
Innsbruck	−1·9	44·2	305	e 5 18	?	—	—	—	—
Rocca di Papa	−1·9	44·3	296	8 29	+15	—	—	—	—
Hamburg	−1·9	44·5	315	e 8 44	+29	e 18 12?	?SR_2	—	—
Strasbourg	−2·0	46·5	309	9 12?	+42	—	—	—	—
De Bilt z.	−2·0	47·6	312	8 37	0	—	—	—	—
Uccle	−2·0	48·2	310	9 12?	+31	—	—	—	—
Edinburgh	−2·2	51·8	318	—	—	—	—	e 20·2	—
Granada	−2·4	57·6	295	i 9 49	+ 9	—	—	25·4	—

Additional readings: Simla LN = +3·3m. Ekaterinburg PR_1 = +5m.19s., iPS = +8m.45s. Konigsberg e = +8m.12s.? = PR_1 −31s. Vienna SR_1? = +10m.12s., SR_2? = +10m.21s., iE = +11m.10s., iZ = +11m.14s. Rocca di Papa eN = 7h.5m.27s., eE = 7h.5m.43s., N = +7m.21s., eZ = +7m.55s. De Bilt eZ = +9m.26s. Granada i = +10m.45s., +14m.15s., and +19m.0s.

May 14d. 15h. 19m. 18s. Epicentre 6°·0N. 125°·0E. (as on 1923 Mar. 2d.).

A = −·571, B = +·815, C = +·104 ; D = +·819, E = +·574 ; G = −·060, H = +·085, K = −·995.

	Δ	Az.	P.	O−C.	S.	O−C.	L.	M.
	°	°	m. s.	s.	m. s.	s.	m.	m.
Manila	9·5	335	i 2 33	+10	—	—	i 3·8	—
Malabar	21·8	233	e 5 12	+ 9	—	—	—	—
Batavia	22·0	237	5 16	+11	—	—	—	—
Phu-Lien	23·2	312	i 5 22	+ 3	e 10 12	+43	14·7	—
Irkutsk	49·5	344	8 55	− 8	15 57	−14	25·7	—
Ekaterinburg	71·2	330	e 11 35	+11	i 20 40	0	35·7	43·2
Kucino	83·5	326	—	—	e 22 54	− 9	44·8	—
Pulkovo	87·3	330	12 49	−12	23 27	−17	43·7	54·2
De Bilt	102·9	327	—	—	—	—	e 51·7	—
Granada	115·6	315	—	—	e 61 36	?L	e 69·7	74·2

Additional readings: Irkutsk SR_1 = +20m.11s. Kucino e = +36m.0s.
Pulkovo e = +23m.17s. = [S] +7s., MZ = +50·9m.

May 14d. Readings also at 0h. (near Athens), 2h. (Nagoya), 5h. (Nagoya, Taihoku, and near Mizusawa), 7h. (near Mostar), 12h. (La Plata and near La Paz), 16h. (Manila), 22h. (Taihoku, Hong Kong, and Phu-Lien), 23h. (Lick).

May 15d. 11h. 57m. 0s. Epicentre 25°·0S. 71°·0W.

A = +·295, B = −·857, C = −·423 ; D = −·946, E = −·326 ; G = −·138, H = +·400, K = −·906.

		Δ	Az.	P.	O−C.	S.	O−C.	L.	M.
		°	°	m. s.	s.	m. s.	s.	m.	m.
La Paz		8·9	18	i 2 22	+ 7	i 4 26	+25	5·0	5·4
La Plata	E.	15·0	134	i 3 26	−13	i 6 7	−25	7·7	8·9
	N.	15·0	134	3 23	−16	6 7	−25	6·9	8·7
Rio de Janeiro		25·5	91	i 5 23	−20	i 9 45	−28	12·1	15·5
Tacubaya	N.	52·2	326	9 18	− 3	17 12	+26	—	—
Georgetown	E.	64·2	356	e 10 38	− 1	i 19 14	− 1	e 29·1	—
	N.	64·2	356	i 10 40	+ 1	e 19 12	− 3	e 29·7	—
Fordham		65·9	358	i 10 49	− 1	i 19 33	− 3	34·0	40·4
Ann Arbor		68·3	351	i 11 24	+18	i 20 12	+ 6	e 34·1	39·7
Toronto		69·1	355	i 11 8	− 4	i 20 8	− 7	33·4	40·4
Ottawa		70·6	357	i 11 19	− 2	i 20 28	− 5	e 33·2	—
Cape Town		75·9	120	11 59	+ 5	21 22	−14	—	38·0
Berkeley		79·2	322	i 12 4	−10	—	—	e 23·5	24·8
Lisbon		86·0	44	e 11 56	−57	22 20	−70	—	—
San Fernando		86·6	47	12 48	− 9	23 12	−25	45·0	55·5
Victoria	E.	87·1	329	12 49	−11	22 59	+17	40·0	47·8
Malaga		87·9	49	i 12 51	−13	i 23 32	−19	—	—
Granada		88·7	48	i 12 52	−17	i 23 47	−13	e 42·6	46·2
Almeria		89·4	49	12 59	−13	i 23 22	[− 2]	—	53·6
Toledo		90·0	45	12 59	−17	i 23 27	[− 1]	e 38·6	51·3
Wellington		90·0	225	—	—	(i 23 51)	−23	i 23·8	—
Alicante	N.	91·4	48	13 5	−18	23 57	−31	—	—
Algiers		93·1	50	13 15	−18	e 23 44	[− 3]	45·0	56·0
Tortosa		93·4	46	12 19	−75	22 50	[−58]	e 36·0	—
Barcelona		94·8	46	—	—	e 23 50	[− 6]	—	—
Honolulu	E.	96·4	291	—	—	e 24 38	+34	e 45·0	47·0
Oxford		97·9	37	e 17 37	?PR_1	i 24 7	[− 5]	48·2	52·7
Bidston		97·9	36	13 24	−35	24 20	[+ 8]	—	52·8
Kew		98·3	37	—	—	—	—	—	64·0
Stonyhurst		98·4	36	e 13 16	−46	i 24 14	[− 1]	43·0	51·0
Paris		98·5	40	e 13 41	−22	i 24 12	[− 4]	50·0	52·0
Eskdalemuir		98·8	32	—	—	e 24 14	[− 4]	—	—
Edinburgh		99·1	32	e 17 0?	?PR_1	i 24 18	[− 2]	50·0	54·0
Besançon		99·9	43	e 17 53	?PR_1	24 20	[− 3]	—	—
Moncalieri		100·0	45	e 13 38	−33	24 2	[−22]	52·3	—
Uccle		100·6	40	e 13 47	−36	24 24	[− 3]	e 43·0	52·0
De Bilt		101·5	39	e 13 54	−24	e 24 30	[− 1]	e 50·0	52·2
Strasbourg		101·5	41	e 13 52	−26	e 25 30	−40	38·0	—
Rocca di Papa		102·0	50	14 1	−19	24 43	[− 1]	—	25·7
Naples		102·7	51	e 14 40	+16	e 24 0	[−37]	—	—
Pompeii		102·8	51	e 17 20	?PR_1	e 20 30	?PR_2	—	—
Venice		103·2	46	e 15 3	+37	i 27 25	+59	—	—

Continued on next page.

		Δ	Az.	P.	O−C.	S.	O−C.	L.	M.
		°	°	m. s.	s.	m. s.	s.	m.	m.
Innsbruck		103·2	44	e 17 36	?PR$_1$	—	—	—	—
Hamburg		104·8	38	e 18 36	?PR$_1$	i 24 47	[+ 1]	e 51·0	55·0
Vienna		106·7	44	e 18 28	?PR$_1$	26 15	−43	—	60·0
Budapest		108·2	44	—	—	e 25 0?	[− 2]	—	—
Riverview		108·8	216	—	—	—	—	e 45·1	—
Upsala	E.	110·8	32	e 19 10	?PR$_1$	i 26 7	[+54]	e 56·0	—
Konigsberg		111·1	38	e 19 29	?PR$_1$	—	—	54·0	60·0
Pulkovo		117·0	33	19 51	?PR$_1$	29 31	+65	55·0	61·2
Kucino		121·0	38	19 4	[+ 9]	e 28 15	−42	58·5	67·3
Baku		128·9	55	e 19 11	[− 5]	e 29 33	−20	60·0	79·4
Ekaterinburg		133·1	33	i 19 17	[÷ 8]	28 33	?PR$_3$	53·0	70·7
Ootomari		145·5	320	19 48	[− 1]	—	—	—	—
Amboina		145·8	216	i 19 54	[+ 4]	—	—	—	—
Malabar		147·7	177	19 44	[− 8]	—	—	—	—
Batavia		148·7	175	19 48	[− 6]	—	—	—	—
Mizusawa	E.	149·6	306	(19 55)	[0]	19 55	?[P]	—	—
Hyderabad		150·6	99	20 44	[+47].	—	—	—	—
Irkutsk		152·5	6	—	—	—	—	79·0	—
Zi-ka-wei		167·4	302	i 20 8	[− 5]	29 0	?PR$_2$	—	80·8
Hong Kong		174·5	241	20 19	[+ 3]	—	—	—	107·5
Phu-Lien		175·2	151	e 20 13	[− 3]	e 32 22	?	46·0	—

Additional readings: La Paz i = +3m.46s. La Plata iPN = +4m.55s., +5m.55s., iPE = +5m.26s., iSE = +6m.20s., +6m.53s. Georgetown iE = +19m.40s. Ann Arbor SR$_2$? = +28m.48s. Toronto LE = +41·9m.; T$_0$ = 11h.57m.8s. Ottawa ePR$_2$N = +15m.47s., SR$_2$E = +28m.30s.; T$_0$ = 11h.57m.7s. Berkeley iZ = +12m.5s., eLN = +24·2m. Victoria MN = +46·2m.; T$_0$ = 11h.57m.36s. Granada i = +13m.15s., +23m.33s., and +26m.36s., PR$_1$ = +16m.37s., PR$_2$ = +18m.37s., SR$_1$ = +24m.21s. Toledo PR$_1$NE = +16m.18s., PR$_1$NW = +16m.24s., MNW = +51·5m. Barcelona e = +24m.35s. = S?. Honolulu eLN = +45·9m. Eskdalemuir e = +26m.39s. Edinburgh i = +26m.36s. De Bilt eN = +25m.30s., eZ = +27m.4s., MN = +55·1m., MZ = +57·3m. Strasbourg ePR$_2$? = +18m.16s. = PR$_1$ − 7s., ePR$_2$? = +21m.16s. = PR$_2$ + 6s., SR$_1$? = +27m.20s., SR$_2$? = +32m.10s. Rocca di Papa ePE = +14m.9s., E = +18m.6s. = PR$_1$ − 20s., N = +18m.39s. = PR$_1$ + 13s. Vienna PR$_1$ = +21m.52s. = PR$_2$ − 3s., SR$_1$ = +30m.28s., SR$_2$ = +31m.37s., MN = +59·0m. Riverview e = +34m.30s. = SR$_1$ + 2s. Pulkovo PR$_2$ = +25m.33s., PR$_3$ = +26m.51s., SR$_1$ = +35m.0s., MZ = +61·6m., MN = +68·8m. Kucino i = +30m.12s., eSR$_2$ = +35m.55s., MN = +63·3m. Baku i = +22m.31s. = PR$_1$ + 69s. Ekaterinburg i = +19m.34s., +21m.43s. = PR$_1$ − 7s., +22m.40s., and +39m.25s. = SR$_1$ − 4s., e = +30m.2s., MN = +65·6m., MZ = +72·5m. Zi-ka-wei PR$_1$ = +21m.15s., PR$_2$ = +21m.42s.

May 15d. 18h. 25m. 36s. Epicentre 30°·5N. 138°·5E.

A = −·645, B = +·571, C = +·508; D = +·663, E = +·749; G = −·380, H = +·336, K = −·862.

A depth of focus 0·050 is assumed. The shock appears to be associated with that of 1924 April 3d. from epicentre 32°N. 139°E., when this depth of focus was also adopted.

		Corr. for Focus	Δ	Az.	P.	O−C.	S.	O−C.	L.	M.
		°	°	°	m. s.	s.	m. s.	s.	m.	m.
Sumoto		+0·4	4·8	323	1 27	+ 7	—	—	2·6	2·6
Nagoya		+0·4	4·8	345	1 25	+ 5	—	—	2·5	2·7
Osaka		+0·3	4·9	330	1 35	+15	—	—	2·7	3·4
Kobe		+0·8	5·0	328	1 36	+14	—	—	3·5	3·6
Hukuoka		−0·1	7·5	297	i 2 4	+12	(3 25)	+ 4	3·4	3·7
Mizusawa	E.	−0·4	8·9	14	2 14	+ 5	3 53	+ 3	—	—
Zi-ka-wei		−1·2	14·6	277	i 3 16	− 2	5 51	− 2	—	8·3
Ootomari		−1·5	16·5	10	3 34	− 5	(6 37)	+ 5	—	—
Phu-Lien		−3·2	30·2	259	e 5 46	−12	e 10 15	−26	—	—
Ekaterinburg		−5·4	58·4	321	i 9 24	− 2	i 16 54	− 2	28·4	—
Baku		−5·9	69·8	306	e 10 39	+ 2	19 13	+ 1	34·4	—
Pulkovo		−5·9	72·3	330	i 10 51	− 3	i 19 39	− 3	37·4	—
De Bilt		−6·5	87·9	334	—	—	22 18	−21	e 44·4	—
La Paz		—	152·0	66	19 24	[−35]	—	—	—	—

Additional readings: Osaka MN = +3·6m. Kobe PR$_1$ = +1m.43s., PR$_2$ = +1m.53s., PR$_3$ = +2m.8s., MN = +4·0m. Mizusawa PN = +2m.15s. Ootomari readings are given as independent P's. Ekaterinburg i = +18m.26s.

May 15d. Readings also at 0h. (Lick), 2h. (near Batavia and Malabar), 8h. (Hyderabad, Manila, Ekaterinburg, and Apia), 9h. (De Bilt and Pulkovo), 10h. (Perth), 12h. (near Tacubaya), 13h. (Irkutsk), 20h. (La Paz), 21h. (near Sumoto), 23h. (Lick (4)).

May 16d. 2h. 20m. 0s. Epicentre 34°·0S. 57°·0E. (as on May 3d.).

$A = +·452$, $B = +·695$, $C = -·559$; $D = +·839$, $E = -·545$: $G = -·305$, $H = -·469$, $K = -·829$.

	Δ	Az.	P.	O−C.	S.	O−C.	L.	M.
	°	°	m. s.	s.	m. s.	s.	m.	m.
Batavia	53·7	70	11 0?	+89	—	—	—	—
Malabar	53·7	72	9 30	− 1	—	—	—	—
Baku	74·7	355	e 12 1	+14	e 21 35	+13	38·0	47·7
Manila	77·8	64	e 6 37	?	—	—	—	—
Rocca di Papa	85·9	329	12 57	+ 4	—	—	—	—
Vienna Z.	89·8	335	13 13	− 2	—	—	—	—
Almeria	89·8	318	16 27	?PR_1	—	—	—	—
Granada	90·8	317	i 13 23	+ 3	24 32	+10	e 51·9	54·5
Ekaterinburg	90·9	3	i 13 17	− 4	23 13	[−20]	e 35·0	55·4
Pulkovo	96·3	348	e 17 31	?PR_1	—	—	54·0	—
Uccle	96·6	330	—	—	—	—	60·0	—
De Bilt	97·3	332	e 13 50	− 6	—	—	e 61·0	—
Ottawa N.	142·5	302	—	—	—	—	e 74·0	—
Toronto E.	145·1	299	—	—	—	—	e 86·1	—

Additional readings: Baku MZ = +48·5m. Rocca di Papa ePE = +12m.59s. Ekaterinburg PS = +23m.55s. Ottawa eLE = +75·5m. Toronto LE = +87·4m.

May 16d. 10h. 27m. 50s. Epicentre 9°·0N. 155°·0E.

$A = -·895$, $B = +·417$, $C = +·156$; $D = +·423$, $E = +·906$; $G = -·142$, $H = +·066$, $K = -·988$.

	Δ	Az.	P.	O−C.	S.	O−C.	L.	M.
	°	°	m. s.	s.	m. s.	s.	m.	m.
Manila	33·8	282	e 6 57	− 6	—	—	8·2	—
Hong Kong	41·4	293	—	—	14 40	+13	—	23·7
Riverview	43·0	185	e 8 13	− 5	(e 14 10)	−38	e 14·2	16·3
Adelaide	46·6	200	e 11 40	?PR_1	e 12 58	−158	16·9?	18·1
Melbourne	47·7	191	—	—	—	—	e 11·5	17·8
Malabar	50·0	254	7 52	−75	—	—	—	—
Batavia	50·3	255	9 10?	+ 1	—	—	—	—
Perth	55·4	221	e 11 21	+99	17 20	− 6	23·9	—
Victoria E.	77·8	42	—	—	—	—	42·6	61·3
Ekaterinburg	84·9	329	i 12 49	+ 2	i 23 20	+ 2	40·2	57·2
Baku	95·5	314	—	—	e 24 4	[+ 4]	50·2	56·0
Pulkovo	98·6	336	e 18 28	?PR_1	e 27 53	+131	52·2	68·0
Toronto E.	108·0	39	—	—	—	—	67·7	—
Ottawa	109·2	36	—	—	e 36 10?	?	e 52·2	—
De Bilt	113·7	340	e 21 40	?PR_1	—	—	e 57·2	—
Uccle	115·1	340	—	—	—	—	e 57·2	—
Granada	129·7	338	i 22 30	?PR_1	i 32 4	?	e 72·2	77·8

Additional readings: Riverview MN = +17·5m. Ekaterinburg e = +25m.20s., MN = +47·8m. Baku MZ = +57·0m. Pulkovo MN = +61·0m.

May 16d. Readings also at 1h. (La Paz), 6h. (La Paz and near Mizusawa), 8h. (Nagasaki and near Sumoto), 12h. (near Amboina), 13h. (Mizusawa), 17h. (near Sumoto and Hukuoka), 18h. (Irkutsk, Ekaterinburg, and Bombay), 21h. (Zi-ka-wei and near Sumoto), 22h. (Ekaterinburg, Tacubaya, and Manzanillo), 23h. (Granada).

May 17d. Readings at 1h. (Manila), 9h. (Taihoku and Ekaterinburg), 11h. (near Nagoya, Osaka, Kobe, and Sumoto), 15h. (near Batavia and Malabar), 17h. and 20h. (Ekaterinburg), 21h. (Vienna, Ekaterinburg, and Manila), 22h. (La Paz).

May 18d. 7h. 22m. 30s. Epicentre 1°·5S. 66°·5E.

$A = +·399$, $B = +·917$, $C = -·026$; $D = +·917$, $E = -·399$; $G = -·010$, $H = -·024$, $K = -1·000$.

Approximate.

	Δ	Az.	P.	O−C.	S.	O−C.	L.	M.
	°	°	m. s.	s.	m. s.	s.	m.	m.
Colombo	15·8	58	6 30	?S	(6 30)	−20	7·8	8·7
Bombay	21·3	17	4 53	− 4	8 50	0	—	—
Hyderabad	22·3	32	—	—	—	—	—	11·8
Baku	44·5	342	e 8 26	− 4	e 15 4	− 5	25·5	28·0
Ekaterinburg	58·5	356	10 7	+ 5	e 18 8	+ 3	27·5	—
Pulkovo	67·4	341	e 8 41	−139	e 19 49	− 6	33·5	39·3
De Bilt	74·1	326	e 9 30?	−133	—	—	e 31·5	—

Additional readings: Baku MZ = +31·3m. Pulkovo MZ = +42·7m.
De Bilt: Is L = SR_3?

May 18d. 16h. 4m. 6s. Epicentre 36°·1N. 137°·3E. (as on 1923 Feb. 12d.).

$A = -·594$, $B = +·548$, $C = +·589$.

	Δ	Az.	P.	O−C.	S.	O−C.	L.	M.
	°	°	m. s.	s.	m. s.	s.	m.	m.
Nagoya	1·0	196	0 7	− 8	—	—	—	—
Osaka	2·1	218	0 35	+ 2	—	—	1·5	2·7
Kobe	2·2	231	e 0 44	+10	—	—	—	2·1
Mizusawa	4·3	45	0 46	−21	1 21	−37	—	—

Additional readings and note. Osaka MN = +2·6m. Kobe readings have been increased by 1m. Mizusawa SN = +1m.26s.

May 18d. Readings also at 5h. (Pulkovo and Ekaterinburg), 6h. (Manila, Loyola, and Rio Tinto), 8h. (Batavia and Malabar), 15h. (Irkutsk), 17h. (Irkutsk and near Rocca di Papa), 19h. (Irkutsk), 22h. (near Rocca di Papa and near La Paz).

May 19d. 5h. 23m. 35s. Epicentre **34°·0S. 57°·0E.**
(as on May 16d.).

$A = +·452$, $B = +·695$, $C = -·559$; $D = +·839$, $E = -·545$; $G = -·305$, $H = -·469$, $K = -·829$.

	Δ	Az.	P.	O−C.	S.	O−C.	L.	M.
	°	°	m. s.	s.	m. s.	s.	m.	m.
Johannesburg	26·1	280	5 49	0	10 25	+ 1	12·2	15·4
Cape Town	31·7	262	6 46	+ 2	11 58	− 5	16·5	20·2
Colombo	46·3	32	8 45	+ 3	15 25	− 7	22·7	25·4
Kodaikanal	48·3	26	—	—	—	—	16·1	27·3
Perth	48·8	105	e 8 25	−34	15 45	−19	23·5	—
Batavia	53·7	70	9 32	+ 1	16 55	−10	25·0	—
Malabar	53·7	72	9 31	0	—	—	—	—
Bombay	55·0	19	9 38	− 1	17 18	− 3	26·3	26·8
Hyderabad	55·4	25	9 41	− 1	17 20	− 6	23·5	30·4

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		Δ	Az.	P.	O−C.	S.	O−C.	L.	M.
		°	°	m. s.	s.	m. s.	s.	m.	m.
Simla	E.	67·9	19	19 55	?S	(19 55)	− 6	—	34·8
	N.	67·9	19	20 13	?S	(20 13)	+12	33·6	35·2
Helwan		68·3	337	i 11 16	+10	20 19	+13	—	39·0
Melbourne		68·6	122	(e 10 25)	−43	i 19 7	−62	i 20·3	35·9
Phu-Lien		72·3	49	e 11 36	+ 4	i 20 43	−11	35·4	39·5
Amboina		72·4	82	i 12 43	+71	i 21 37	+42	26·7	—
Baku		74·7	355	i 11 56	+ 9	i 21 33	+11	37·4	42·6
Riverview		74·9	121	e 11 51	+ 3	e 21 24	− 1	e 35·4	39·7
Sydney		74·9	121	11 37	−11	21 13	−12	37·2	39·4
Manila		77·8	64	e 12 8	+ 2	—	—	—	—
Hong Kong		78·3	53	12 7	− 2	21 55	− 9	—	49·9
Athens		78·3	335	i 12 13	+ 4	i 22 13	+ 9	38·1	55·2
Piatigorsk		79·0	351	e 12 13	0	e 22 15	+ 3	—	45·1
Christchurch		82·8	139	e 12 43	+ 8	22 49	− 6	39·1	46·3
Pompeii		84·4	330	e 13 25	+41	—	—	—	—
Naples		84·5	330	e 13 5	+20	e 20 55	−139	—	57·4
Taihoku		85·1	55	—	—	e 23 5	−15	—	—
Rio de Janeiro		85·2	246	e 12 55	+ 6	(e 23 25)	+ 4	40·4	42·9
Belgrade		85·5	336	e 12 52	+ 1	—	—	—	—
Wellington		85·5	139	i 12 47	− 4	i 23 4	−21	40·2	46·0
Rocca di Papa		85·9	329	e 12 54	+ 1	e 23 27	− 2	e 45·9	54·4
Algiers		86·8	320	12 59	+ 1	23 30	− 9	e 43·4	50·4
Zagreb		88·0	334	e 13 5	0	e 23 23	[+ 8]	—	63·6
La Plata	E.	88·0	229	13 11	+ 6	23 23	[+ 8]	42·1	48·4
	N.	88·0	229	13 7	+ 2	23 18	[+ 3]	41·5	47·6
Florence		88·2	330	13 5	− 1	23 25	[+ 9]	38·4	48·4
Budapest		88·2	337	13 4	− 2	e 23 55	+ 1	e 44·9	—
Zi-ka-wei		89·0	50	i 13 2	− 8	23 40	−23	44·5	48·6
Venice		89·0	331	13 25	+15	23 58	− 5	—	—
		89·0	331	13 12	+ 2	23 33	[+11]	—	—
Vienna		89·8	335	e 13 11	− 4	24 9	− 3	e 46·4	59·4
Alicante	N.	89·8	320	—	—	25 31	+79	50·6	59·6
Almeria		89·8	318	i 13 10	− 5	23 45	[+18]	e 48·1	53·4
Marseilles		90·5	325	e 13 29	+10	e 24 25	+ 6	47·4	—
Barcelona		90·7	324	e 13 17	− 3	24 2	−19	e 44·6	58·7
Moncalieri		90·7	328	13 19	− 1	24 1	−20	38·3	66·8
Granada		90·8	317	i 13 17	− 3	i 24 2	−20	e 46·1	55·7
Ekaterinburg		90·9	3	i 13 15	− 6	i 23 17	[−16]	41·4	54·1
Malaga		90·9	317	13 12	− 9	23 52	[+19]	31·4	55·9
Tortosa	E.	91·1	321	13 19	− 3	24 5	−20	—	52·6
	N.	91·1	321	13 19	− 3	23 6	[−29]	38·4	53·0
Grenoble		91·8	327	e 13 27	+ 1	e 24 9	−24	52·4	—
San Fernando		91·8	315	13 29	+ 3	24 11	−22	42·9	55·4
Zurich		92·2	330	i 13 24	− 4	e 24 1	[+20]	—	—
Toledo		92·8	319	13 27	− 4	i 24 11	−32	e 40·5	61·6
Cheb		92·8	333	e 12 25	−66	e 24 13	−30	e 56·4	66·4
Besançon		93·2	329	e 13 36	+ 3	24 40	− 7	50·4	53·4
Strasbourg		93·5	330	e 13 31	− 4	e 24 18	[+29]	41·4	62·9
Konigsberg		94·2	341	e 19 20	?PR$_2$	24 14	[+21]	e 47·3	57·4
Lisbon		95·1	315	e 13 25	−19	—	—	—	53·4
Paris		95·9	329	e 13 36	−12	i 24 30	[+29]	40·4	53·4
Pulkovo		96·3	348	i 13 40	−11	e 24 22	[+18]	43·4	57·2
Hamburg		96·5	335	e 13 43	− 9	—	—	50·4	60·4
Uccle		96·6	330	e 13 44	− 8	24 26	[+20]	39·4	61·8
De Bilt		97·3	332	13 47	− 9	e 26 47	+78	48·4	62·5
Kew		99·1	328	—	—	—	—	—	61·4
Upsala		99·3	343	e 17 58	?PR$_1$	e 24 41	[+20]	e 51·4	67·3
Oxford		99·7	328	e 13 57	−12	i 24 46	[+23]	50·4	64·5
Stonyhurst		101·7	329	e 14 8	−11	24 59	[+27]	—	49·4
Edinburgh		103·4	330	i 18 35	?PR$_1$	i 27 55	+87	44·4	65·9
Bergen		103·4	338	e 16 26?	?	—	—	—	—
La Paz		107·4	235	18 54	?PR$_1$	i 28 37	+92	50·6	53·7
Apia		113·4	128	—	—	—	—	—	81·4
Harvard	E.	139·0	298	e 22 38	?PR$_1$	—	—	e 72·1	75·6
Ottawa		142·5	302	e 19 49	[+ 5]	e 33 5	?	e 56·4	83·9
Ithaca		143·0	298	—	—	—	—	78·4	—
Georgetown		143·1	291	e 19 48	[+ 3]	e 34 6	?	80·1	—
Toronto	E.	145·1	299	19 49	[+ 1]	e 33 17	?	56·9	86·0
Honolulu		146·7	102	i 19 56	[+ 5]	e 42 49	?SR$_1$	i 72·4	77·4
Ann Arbor		148·3	296	20 1	[+ 8]	i 37 31	?	70·9	86·4
Chicago	E.	151·2	296	e 20 0	[+ 3]	—	—	e 75·6	88·9
	N.	151·2	296	e 20 24	[+27]	—	—	e 74·0	86·7
Victoria		165·6	1	20 15	[+ 3]	32 8	?PR$_2$	—	105·0
Berkeley		176·1	352	i 20 24	[+ 7]	—	—	—	91·9

For Notes see next page.

NOTES TO MAY 19d. 5h. 23m. 35s.

Additional readings and notes: Perth $PR_1 = +10m.0s.$, $PR_2 = +11m.8s.$, $SR_1 = +20m.11s.$ Simla SN = +24m.31s. (?SR_1). Melbourne gives P as eS and S as simple i. Phu-Lien MN = +38·4m. Baku $SR_1 = +26m.36s.$, MZ = +43·7m. Riverview PS = +22m.1s. and +29m.49s. = $SR_2 - 18s.$, MN = +40·4m., MZ = +40·6m. : $T_0 = 5h.23m.59s.$ Sydney $SR_1 = +29m.37s. = SR_2 - 30s.$ Athens $PR_1 = +15m.17s.$, MN = +51·0m. Piatigorsk eP = +12m.16s., iP = +12m.19s., $PR_1 = +15m.49s.$, $PR_2 = +18m.39s.$, iS = +22m.18s., PS = +23m.1s., $SR_1 = +28m.1s.$, $SR_2 = +31m.36s.$, $SR_3 = +33m.22s.$, MN = +45·6m. Christchurch $SR_1 = +28m.19s.$, $SR_2 = +31m.49s.$ Rio de Janeiro S is given as eL. Belgrade iP = +12m.55s., i = +13m.46s. +14m.4s., and +14m.18s. Wellington $SR_1 = +28m.49s.$; $T_0 = 5h.23m.50s.$ Rocca di Papa iPE = +12m.57s., iPN = +12m.59s. Zagreb i = +13m.9s. +14m.13s., and +14m.48s., $iPR_1 = +16m.40s.$, $iPR_2 = +18m.35s.$, e = +20m.37s. = $PR_3 + 17s.$, $eSR_1 = +29m.13s.$ La Plata PE = +17m.51s., SE = +30m.1s. and +33m.19s., SN = +30m.3s. = $SR_1 - 1s.$, and +37m.37s. Zi-ka-wei $PR_1 = +17m.36s.$, PS = +24m.59s., MZ = +49·1m. Vienna iPZ = +13m.16s., iE = +19m.1s., iN = +19m.3s., $PR_2 = +19m.20s.$, $S_cP_cS = +23m.55s.$, PS = +25m.2s., PPS = +25m.34s., MN = +68·4m. Almeria MN = +49·6m. Barcelona MN = +57·5m. Moncalieri MN = +58·6m. Granada i = +13m.19s., $PR_1 = +17m.0s.$, PS = +25m.34s. Ekaterinburg $PR_1 = +16m.40s.$, $PR_2 = +18m.45s.$, iPS = +24m.10s., i = +25m.27s., $SR_1 = +29m.50s.$, MN = +51·4m., MZ = +54·4m. Malaga MN = +58·7m. San Fernando MN = +53·4m. Toledo iNWZ = +13m.30s., iNW = +24m.43s. Strasbourg $ePR_1 = +17m.21s.$, $ePR_2 = +19m.20s.$, MN = +60·5m. Konigsberg $SR_1 = +31m.25s.$?, e = +51m.25s.?, MN = +53·4m. Paris iP = +13m.41s., $PR_1 = +17m.42s.$ Pulkovo $PR_1 = +17m.36s.$, i = +26m.22s., $SR_1 = +31m.13s.$, MN = +56·5m., MZ = +57·8m. Uccle e = +26m.25s., MN = +64·8m. De Bilt $ePR_1Z = +17m.41s.$, $ePR_2 = +19m.49s.$, MZ = +66·8m., MN = +70·5m. Upsala MN = +59·7m. Oxford i = +18m.8s. (?PR_1). Edinburgh i = +25m.5s. (o − c = [+25s.]). La Paz e = +17m.46s. = [P] − 27s., L = +46·6m. and +49·6m. Harvard eE = +35m.7s., eLN = +72·3m., MN = 78·1m. Ottawa eE = +22m.59s., eN = +23m.10s., SR_1?E = +41m.35s., SR_2?E = +46m.25s., MN = +82·2m. Toronto iE = +23m.12s. = $PR_1 + 5s.$, LN = +56·7m., MN = +81·0m. Honolulu MN = +77·7m. Ann Arbor i = +23m.43s. = $PR_1 + 17s.$ Chicago $ePR_1E = +23m.31s.$, ePR_1N? +23m.48s. Victoria MN = +96·9m. Berkeley iPZ = +20m.27s., iPN = +22m.13s., $iPR_1NZ = +25m.57s.$, $iPR_1E = +26m.1s.$, $iPR_2N = +30m.11s.$, $iPR_2E = +30m.25s.$, eE = +40m.35s., eN = +42m.29s., $eSR_2E = +54m.53s.$, MN = +96·6m.

May 19d. Readings also at 0h. (Apia), 4h. (Ekaterinburg), 9h. (near Amboina), 10h. (Ekaterinburg), 12h. (Fordham), 18h. (near Port au Prince), 20h. (Nagasaki), 23h. (Ekaterinburg and near Manila).

May 20d. 7h. 53m. 48s. Epicentre 37°·5N. 19°·7E. (as on 1923 Feb. 13d.).

A = +·747, B = +·267, C = +·609 ; D = +·337, E = −·941 ;
G = +·573, H = +·205, K = −·793.

	Δ	Az.	P.	O−C.	S.	O−C.	L.	M.
	°	°	m. s.	s.	m. s.	s.	m.	m.
Pompeii	5·2	310	e 3 12	?L	—	—	(e 3·2)	—
Rocca di Papa	6·8	311	—	—	e 2 36	−29	—	—
Belgrade	7·3	4	e 1 50	− 1	e 3 16	− 2	—	3·6
Zagreb	8·8	341	—	—	—	—	i 4·4	—
Laibach	9·3	337	e 2 14	− 6	e 4 11	+ 1	—	4·7
Venice	9·6	327	—	—	4 19	+ 1	—	—
Strasbourg	14·1	326	—	—	—	—	e 7·9	—
Uccle	17·2	325	—	—	—	—	e 9·4	—
De Bilt	17·8	329	—	—	—	—	e 9·2	10·6
Ekaterinburg	33·1	41	—	—	e 17 41	?L	19·2	—

Additional readings: Rocca di Papa e = 7h.53m.25s. Belgrade eP = +2m.8s. Zagreb e = 7h.40m.?, i = 7h.53m.29s.

May 20d. 11h. 4m. 48s. Epicentre 30°·6N. 141°·8E.

(as on 1919 Mar. 26d.).

A = −·677, B = +·532, C = +·509; D = +·618, E = +·786;
G = −·400, H = +·315, K = −·861.

		Δ	Az.	P.	O−C.	S.	O−C.	L.	M.
		°	°	m. s.	s.	m. s.	s.	m.	m.
Nagoya		6·2	319	1 43	+ 8	—	—	3·7	4·4
Osaka		6·7	308	1 55	+13	—	—	3·8	4·7
Sumoto		6·9	304	1 53	+ 8	3 8	+ 1	3·7	4·4
Kobe		7·0	308	1 43	− 3	3 19	+ 9	6·6	6·9
Mizusawa	E.	8·5	355	2 4	− 5	4 24	+34	6·9	—
	N.	8·5	355	2 6	− 3	4 22	+32	6·8	—
Nagasaki		10·4	285	(2 36)	0	2 36	?P	6·1	8·0
Ootomari		16·1	2	3 51	− 2	(6 33)	−24	6·6	11·5
Zi-ka-wei		17·5	277	i 4 9	− 2	7 31	+ 2	10·0	11·9
Taihoku		18·8	258	4 32	+ 5	—	—	9·9	—
Manila		24·9	235	e 5 40	+ 3	—	—	i 11·2	—
Hong Kong		26·0	258	5 34	−14	10 30	+ 8	—	16·2
Phu-Lien		33·1	260	e 6 45	−12	e 12 25	− 1	17·2	21·9
Honolulu	E.	54·3	84	—	—	e 17 12	− 1	e 29·2	29·9
Simla	E.	54·7	289	—	—	—	—	e 31·3	—
Ekaterinburg		60·1	322	i 10 12	− 1	18 23	− 1	27·2	35·4
Colombo		62·5	263	15 12?	?PR$_3$	39 54	?L	(39·9)	—
Kodaikanal		62·8	268	43 12	?	—	—	—	—
Victoria	E.	70·6	45	20 34	?S	(20 34)	+ 1	—	—
Baku		72·1	307	i 11 32	+ 1	i 20 59	+ 8	36·2	46·1
Pulkovo		73·6	331	e 11 39	− 1	e 21 7	− 2	35·2	48·1
Piatigorsk		75·0	314	e 11 37	−12	e 21 10	−16	—	49·0
Upsala		78·7	335	—	—	—	—	e 42·2	51·0
Konigsberg		80·8	330	e 12 26	+ 2	—	—	e 43·1	50·2
Bergen		82·3	340	—	—	—	—	e 40·2	—
Hamburg		86·0	334	12 54	+ 1	e 23 21	− 9	e 45·2	54·2
Budapest		86·6	326	e 12 12?	−45	—	—	—	—
Vienna		87·2	327	e 12 51	− 9	e 23 4	[− 6]	e 45·2	54·2
Edinburgh		88·6	341	—	—	i 23 42	−17	45·2	—
Eskdalemuir		89·0	341	e 13 1	− 9	e 23 42	−21	44·2	—
De Bilt		89·1	335	13 3	− 8	23 38	−26	e 43·2	59·1
Zagreb		89·2	326	e 12 46	−25	i 16 35	?PR$_1$	—	56·1
Stonyhurst		90·1	340	—	—	—	—	e 42·2	49·2
Uccle		90·4	335	e 12 54	−24	e 23 30	[0]	e 44·2	49·2
Bidston		90·6	340	—	—	—	—	44·2	62·8
Strasbourg		90·9	332	13 12	− 9	i 24 6	−17	45·2	59·7
Venice		91·2	329	—	—	—	—	—	67·2
Kew		91·5	339	—	—	—	—	—	61·2
Oxford		91·6	339	—	—	i 24 8	−23	e 45·2	63·0
Besançon		92·6	332	—	—	—	—	49·2	—
Paris		92·7	335	e 13 21	−10	e 24 18	−24	49·2	61·2
Moncalieri		93·6	329	e 13 22	−14	23 55	[+ 5]	49·9	57·6
Rocca di Papa		93·8	325	e 8 48	?	e 17 12	?PR$_1$	e 49·7	60·7
Ottawa		96·7	25	—	—	e 24 12?	[+ 6]	e 52·2	—
Toronto		96·7	29	—	—	—	—	45·8	—
Toledo		102·7	334	—	—	e 25 47	−34	e 49·6	49·9
San Fernando		106·6	335	—	—	30 36	?	—	66·7
La Paz		149·3	70	i 20 4	[+ 9]	26 1	?	—	—

Additional readings and notes: Sumoto MN = +5·0m. Kobe PR$_1$ = +2m.15s., PR$_2$ = +2m.56s., SR$_1$ = +3m.53s. Nagasaki eP = 11h.1m.24s. Zi-ka-wei MZ = +12·0m. Hong Kong MN = +19·9m. Honolulu eN = +24m.9s., eE = +24m.52s., eN = +26m.19s., MN = +26·5m. Ekaterinburg e = +20m.1s. and +21m.55s., MN = +32·8m., MZ = +38·8m. Baku i = +11m.36s., MZ = +51·8m. Pulkovo PR$_1$ = +14m.26s., PR$_2$ = +16m.11s., SR$_1$ = +25m.48s., MN = +45·4m., MZ = +48·0m. Piatigorsk MN = +50·0m. Upsala MN = +53·4m. Vienna iPZ = +12m.54s., PR$_1$ = +16m.16s. Eskdalemuir e = +16m.26s. De Bilt PR$_1$Z = +16m.29s., MN = +55·0m., MZ = +61·0m. Strasbourg ePR$_1$ = +16m.51s., ePR$_2$ = +19m.6s., SR$_1$ = +30m.9s., SR$_2$ = +34m.13s., MN = +58·4m., MZ = +59·2m. Venice M has been increased by 1h. Paris MN = +51·2m. Rocca di Papa L = +58·5m. Ottawa eE = +31m.32s. = SR$_1$ − 25s. and +40m.12s. Toronto LN = +52·4m. San Fernando MN = +70·7m.

May 20d. 22h. 46m. 6s. Epicentre 8°·0S. 127°·5E. (as on 1924 Feb. 11d.).

$A = -\cdot603$, $B = +\cdot786$, $C = -\cdot139$; $D = +\cdot793$, $E = +\cdot609$; $G = +\cdot085$, $H = -\cdot110$, $K = -\cdot990$.

		Δ	Az.	P.	O−C.	S.	O−C.	L.	M.
		°	°	m. s.	s.	m. s.	s.	m.	m.
Manila		23·5	344	e 6 44	+81	—	—	—	—
Adelaide		28·8	161	6 18	+ 2	e 10 42?	−31	e 20·4	—
Melbourne		33·7	156	—	—	(e 11 36)	−60	e 11·6	17·6
Riverview		33·8	142	e 7 0	− 3	11 6	−92	e 13·4	16·4
Sydney		33·8	142	7 42	+39	—	—	13·9	16·4
Nagasaki		40·8	3	4 43	?	—	—	—	—
Wellington		53·4	137	—	—	e 21 50	?SR_1	24·7	—
Honolulu	E.	78·7	68	—	—	—	—	e 27·3	38·4
Ekaterinburg		84·5	330	e 12 43	− 2	e 23 15	+ 1	42·9	55·8
Helwan		99·4	300	i 41 39	?L	—	—	(i 41·6)	41·9
Pulkovo		100·5	330	e 18 23	?PR_1	e 24 29	[+ 3]	53·9	69·7
Victoria	E.	108·9	41	22 54	?PR_2	—	—	—	51·1
Rocca di Papa		113·8	311	—	—	e 34 16	?SR_1	e 79·3	87·0
Strasbourg		115·4	320	e 20 27	?PR_1	—	—	62·9	—
De Bilt		115·8	322	e 20 18	?PR_1	—	—	e 61·9	—
Uccle		116·7	321	—	—	—	—	e 62·9	—
Paris		118·6	320	e 21 54	?PR_1	—	—	73·9	—
Toronto		137·3	28	—	—	—	—	70·3	—
Ottawa		137·6	23	—	—	—	—	e 58·7	—
Georgetown	E.	142·0	31	—	—	—	—	e 67·2	—

Additional readings: Adelaide i = +17m.48s. Riverview eP? = +9m.48s., MN = +17·1m., MZ = +23·7m. Sydney P has been increased by 10m. Honolulu eN = +26m.49s., eE = +34m.19s., MN = +27·2m. Ekaterinburg e = +16m.33s., +25m.25s. and +30m.19s., MN = +46·4m., MZ = +56·0m. Pulkovo S = +27m.48s. =S +107s., SR_1 = +34m.12s. =SR_1 +88s.

May 20d. Readings also at 0h. (De Bilt), 5h., 6h., and 8h. (Ekaterinburg), 13h. (Granada), 22h. (near Sumoto).

May 21d. Readings at 1h. (Granada), 5h. (Ottawa, Toronto, and De Bilt), 6h. (Ekaterinburg), 7h. (near Mostar), 11h. (Ottawa and Toronto), 12h. (Tacubaya), 17h. (near Nagasaki), 22h. (near La Paz).

May 22d. 9h. 40m. 10s. Epicentre 30°·6N. 141°·8E. (as on May 20d.).

$A = -\cdot677$, $B = +\cdot532$, $C = +\cdot509$; $D = +\cdot618$, $E = +\cdot786$; $G = -\cdot400$, $H = +\cdot315$, $K = -\cdot861$.

		Δ	Az.	P.	O−C.	S.	O−C.	L.	M.
		°	°	m. s.	s.	m. s.	s.	m.	m.
Osaka		6·7	308	1 46	+ 4	—	—	4·2	4·6
Sumoto		6·9	304	e 2 14	+29	—	—	e 3·9	6·4
Kobe		7·0	308	1 44	− 2	3 6	− 4	4·3	4·8
Misusawa		8·5	355	1 58	−11	3 25	−25	5·2	—
Hukuoka	E.	10·2	290	2 35	+ 2	—	—	5·4	6·4
Nagasaki		10·4	285	2 27	− 9	—	—	6·2	7·4
Ootomari		16·1	2	3 40	−13	—	—	6·7	11·4
Zi-ka-wei		17·5	277	i 4 9	− 2	7 45	+16	—	11·7
Taihoku		18·8	258	4 22	− 5	8 9	+11	11·1	—
Manila		24·9	235	e 5 47	+10	—	—	i 11·9	—
Hong Kong		26·0	258	5 35	−13	10 26	+ 4	—	16·3
Phu-Lien		33·1	260	7 50?	+53	—	—	—	—
Honolulu	E.	54·3	84	—	—	i 17 14	+ 1	e 25·2	30·8
Ekaterinburg		60·1	322	i 10 14	+ 1	i 18 23	− 1	25·8	39·1
Colombo		62·5	263	19 20	?S	(19 20)	+25	(38·6)	47·8
Bombay		62·8	277	e 18 50?	?S	(e 18 50?)	− 8	—	—
Riverview		65·1	172	e 14 32	?PR_1	e 20 38	+72	e 35·9	41·2
Victoria		70·6	45	20 36	?S	(20 36)	+ 3	29·8	35·4
Baku		72·1	307	i 11 31	0	i 20 54	+ 3	36·8	46·2
Pulkovo		73·6	331	11 38	− 2	21 4	− 5	35·8	48·8
Platigorsk		75·0	314	e 11 47	− 2	e 21 18	− 8	—	40·8
Upsala		78·7	335	—	—	e 21 56	−12	e 41·8	53·3

Continued on next page.

	Δ	Az.	P.	O−C.	S.	O−C.	L.	M.
	°	°	m. s.	s.	m. s.	s.	m.	m.
Konigsberg	80·8	330	—	—	e 22 12	−21	e 42·7	46·8
Hamburg	86·0	334	—	—	i 23 19	−11	e 41·8	46·8
Edinburgh	88·6	341	e 17 50?	?PR$_1$	23 44	−15	46·8	61·8
Eskdalemuir	89·0	341	—	—	i 23 42	−21	44·8	—
De Bilt	89·1	335	13 0	−11	23 42	−22	e 43·8	59·2
Zagreb	89·2	326	e 13 31	+20	e 23 30	[+ 7]	e 47·6	—
Stonyhurst	90·1	340	—	—	24 1	−14	45·8	—
Uccle	90·4	335	e 12 59	−19	e 23 36	[+ 6]	e 43·8	49·8
Bidston	90·6	340	23 56	?[S]	(23 56)	[+24]	44·8	62·8
Strasbourg	90·9	332	13 9	−12	i 24 2	−21	41·8	55·3
Kew	91·5	339	—	—	—	—	—	61·8
Oxford	91·6	339	—	—	i 24 9	−22	e 41·0	57·5
Paris	92·7	335	e 13 18	−13	e 23 49	[+ 5]	48·8	54·8
Moncalieri	93·6	329	e 13 6	−30	23 49	[− 1]	47·7	55·8
Rocca di Papa	93·8	325	e 12 9	−88	—	—	e 52·0	57·6
Ottawa	96·7	25	e 23 58	?[S]	(e 23 58)	[− 8]	e 39·3	—
Toronto E.	96·7	29	24 10	?[S]	(24 10)	[+ 4]	39·1	58·6
Tortosa N.	100·1	332	—	—	—	—	e 51·8	62·5
Algiers	102·3	328	—	—	e 24 35	[0]	—	64·8
Toledo	102·7	334	—	—	—	—	e 51·8	63·8
Granada	104·9	334	e 14 48	+14	27 32	+51	53·8	71·5
Malaga	105·6	333	—	—	—	—	e 54·6	—
San Fernando	106·6	335	—	—	e 24 58	[+ 3]	—	60·8
La Paz	149·3	80	20 4	[+ 9]	29 9	?	—	—

Additional readings: Sumoto MN = +6·3m. Mizusawa SN = +3m.26s. Taihoku SN = +8m.16s. Hong Kong MN = +19·7m. Honolulu eLN = +24·0m., MN = +29·8m. Ekaterinburg ePR$_1$ = +12m.29s., iP = +23m.43s. =SR$_1$ +33s., MN = +38·3m., MZ = +39·2m. Riverview P and S are given as e simply, MN = +42·2m. Victoria MN = +33·2m. Baku MZ = +52·2m. Pulkovo PR$_1$ = +16m.6s. =PR$_2$ −34s., MN = +43·5m., MZ = +46·4m. De Bilt eLN = +45·8m., MN = +59·0m., MZ = +60·9m. Stonyhurst SR$_1$? = +30m.18s. Strasbourg MZ = +59·1m. Rocca di Papa ePE = +12m.17s., PR$_1$N = +21m.56s. = PR$_2$ +28s., PR$_1$E = +21m.58s. Ottawa eS = +31m.20s. =SR$_1$ −37s. Toronto SE = +31m.22s. =SR$_1$ −35s., LN = +39·3m. Tortosa eLE = +57·8m. Toledo MNW = +63·6m. Granada PR$_1$ = +18m.27s., PR$_2$ = +21m.10s., 1 = +30m.3s. and +34m.17s.

May 22d. Readings also at 1h. (Ann Arbor), 2h. (near Mostar), 4h. (La Paz and Granada), 5h. (Ekaterinburg and Malaga), 6h. (Tacubaya), 7h. (near Wellington), 10h. (Ekaterinburg), 11h. (Alicante), 13h. (Irkutsk), 16h. (Kodaikanal), 17h. (Lick), 18h. (Irkutsk), 19h. (Paris), 23h. (Naples).

May 23d. 2h. 9m. 40s. Epicentre 35°·7N. 134°·8E.

Epicentre adopted to agree with the determination by K. Suda see note in introduction to this number of the Summary.

A = −·572, B = +·576, C = +·584; D = +·710, E = +·705; G = −·411, H = +·414, K = −·812.

See note on p. 51 of the Summary for 1922. The expectation of abnormal focus is apparently not realised, except so far as is represented by the La Paz residual.

	Δ	Az.	P.	O−C.	S.	O−C.	L.	M.
	°	°	m. s.	s.	m. s.	s.	m.	m.
Kobe	1·1	163	0 22	+ 5	(0 35)	+ 4	0·6	0·7
Osaka	1·2	154	0 24	+ 6	—	—	0·7	1·4
Sumoto	1·4	177	0 29	+ 8	(0 45)	+ 6	0·8	—
Nagoya	1·8	107	0 38	+10	—	—	—	—
Hukuoka	4·3	240	1 20	+15	—	—	2·3	2·4
Nagasaki	5·1	235	1 19	0	(2 27)	+ 7	2·4	3·0
Mizusawa	6·0	54	1 37	+ 5	3 3	+19	—	—
Tsingtau E.	11·7	276	5 37	?S	(5 37)	+25	(8·1)	—
Zi-ka-wei	12·0	252	13 5	+ 6	5 2	−17	—	—
Ootomari	12·4	26	3 5	0	(5 35)	+ 6	5·6	8·3
Taihoku	15·6	231	3 46	− 1	(6 50)	+ 4	6·8	9·7

Continued on next page.

		Δ	Az.	P.	O−C.	S.	O−C.	L.	M.
		°	°	m. s.	s.	m. s.	s.	m.	m.
Hokoto		18·0	232	4 10	− 7	(e 7 55)	+15	e 7·9	—
Hong Kong		22·4	239	5 5	− 5	9 13	0	11·3	12·8
Manila		24·5	214	e 5 20	−13	i 9 48	− 6	i 11·9	12·4
Irkutsk		27·1	317	—	—	e 10 20?	−23	14·3	—
Phu-Lien		28·8	246	e 6 6	−10	e 10 55	−18	13·8	16·4
Amboina	E.	39·9	192	i 8 2	+ 8	i 13 44	−21	17·3	—
	N.	39·9	192	i 7 56	+ 2	i 13 38	−27	—	—
Simla		47·6	281	—	—	e 16 26	+37	e 18·4	31·1
Batavia		49·5	220	9 3	− 1	16 5	− 8	32·3	—
Malabar		50·0	219	9 4	− 3	—	—	—	—
Ekaterinburg		52·4	319	i 9 19	− 3	16 46	− 3	23·3	31·8
Hyderabad		52·8	267	9 18	− 7	16 48	− 6	26·4	35·0
Bombay		56·6	271	17 38	?S	(17 38)	− 3	—	—
Kodaikanal		57·7	260	28 14	?L	—	—	37·8	40·8
Colombo		57·8	255	—	—	24 30	?SR$_2$	38·3	39·7
Honolulu	E.	59·6	85	—	—	17 44	−34	e 27·9	29·0
	N.	59·6	85	—	—	18 28	+10	e 27·4	30·4
Baku		64·3	303	10 45	+ 5	19 25	+ 8	32·8	41·6
Pulkovo		66·2	328	10 53	0	19 44	+ 4	33·3	41·1
Piatigorsk		67·1	310	e 10 37	−22	19 31	−20	—	42·3
Perth		70·0	197	15 20	?PR$_1$	—	—	—	—
Adelaide		70·8	177	e 9 20?	−122	e 20 20	−16	e 39·3	46·4
Victoria	E.	71·0	43	—	—	20 48	+10	35·3	49·1
Riverview		71·2	167	e 11 50	+26	e 20 48	+ 8	e 31·0	32·1
Sydney		71·2	167	—	—	29 44	?	33·8	35·9
Upsala		71·5	332	e 11 25	− 2	e 20 37	− 7	e 34·3	45·0
Konigsberg		73·4	327	12 4	+26	20 58	− 9	e 35·3	39·3
Melbourne		74·2	173	—	—	e 22 2	+46	—	38·3
Lemberg		74·9	321	—	—	—	—	e 38·3	46·9
Hamburg		78·8	330	e 12 15	+ 3	e 22 10	0	e 39·0	47·8
Vienna		79·7	324	e 12 14	− 3	22 22	+ 2	e 40·3	46·3
Belgrade		80·0	320	e 12 22	+ 3	e 22 33	+10	e 38·5	53·0
Edinburgh		81·4	338	e 13 40	+73	i 22 38	− 1	40·3	52·5
Zagreb		81·6	322	e 12 28	0	e 22 36	− 6	e 38·5	47·8
De Bilt		81·8	331	12 28	− 1	22 39	− 5	e 37·3	50·3
Eskdalemuir		82·2	338	—	—	e 22 42	− 6	37·3	47·3
Laibach		82·2	324	e 12 30	− 1	e 22 27	−21	e 43·0	46·0
Athens		82·6	312	e 12 50	+16	e 22 55	+ 2	e 31·6	51·2
Uccle		83·1	331	e 12 30	− 7	22 50	− 8	e 37·3	46·7
Stonyhurst		83·1	336	e 12 32	− 5	22 54	− 4	38·0	41·4
Strasbourg		83·5	329	e 12 35	− 4	i 22 57	− 6	32·3	53·0
Venice		83·6	324	e 12 41	+ 1	e 23 14	+ 9	e 46·5	—
Bidston		83·7	336	23 5	?S	(23 5)	− 1	41·3	59·4
Zurich		84·0	326	e 12 40	− 2	e 23 3	− 5	e 46·3	—
Kew		84·3	334	—	—	—	—	—	50·3
Oxford		84·5	335	i 23 4	?S	(i 23 4)	−10	45·1	49·1
Paris		85·4	331	e 12 47	− 3	e 23 14	− 9	42·3	51·3
Besançon		85·4	328	—	—	23 17	− 6	45·3	49·3
Florence		85·4	323	12 20?	−30	23 12	−11	44·8	46·3
Moncalieri		86·2	326	12 23	−31	i 23 18	−14	40·2	56·1
Rocca di Papa		86·2	321	e 12 37	−17	—	—	e 46·6	49·4
Grenoble		86·9	327	12 53	− 5	23 38	− 2	44·3	52·1
Puy de Dôme		87·9	330	—	—	—	—	48·3	53·6
Bagnères		91·0	330	—	—	e 24 19	− 5	46·3	55·0
Barcelona		91·5	326	—	—	—	—	e 47·1	56·4
Tortosa	N.	92·7	328	—	—	—	—	34·6	55·9
Chicago	E.	93·3	30	—	—	—	—	e 51·8	56·0
	N.	93·3	30	—	—	e 24 25	−23	e 44·9	60·8
Ottawa		94·4	20	—	—	e 23 20	[−34]	e 42·3	54·3
Ann Arbor		94·4	27	—	—	—	—	e 47·3	—
Algiers		94·8	323	—	—	e 24 49	−15	e 45·3	60·3
Toronto	E.	94·8	24	—	—	24 48	−16	54·0	55·5
	N.	94·8	24	—	—	24 5	[+ 9]	48·6	59·7
Alicante	N.	95·2	327	e 14 25	+41	—	—	e 46·3	56·3
Toledo		95·4	330	e 14 35	+50	e 26 10	+60	e 44·6	53·3
Granada		97·5	328	—	—	—	—	e 45·3	65·6
Malaga		98·2	328	e 14 54	+53	26 26	+48	47·3	54·4
Rio Tinto		98·3	331	15 20	+78	—	—	—	30·3
Lisbon		98·5	332	—	—	—	—	e 52·2	—
San Fernando		99·3	330	—	—	25 25	−24	48·3	57·3
Loyola		101·9	39	—	—	—	—	56·3	—
La Paz		152·0	53	20 11	[+12]	e 34 12	?	74·6	98·2
Rio de Janeiro		167·0	352	—	—	e 32 13	?PR$_3$	e 45·8	—

For Notes see next page.

NOTES TO MAY 23d. 2h. 9m. 40s.

Additional readings and notes: Mizusawa PN = +1m.38s. Ootomari MN = +8·7m. Taihoku LN = +6·9m., MN = +9·9m. Hong Kong MN = +13·3m. Phu-Lien MN = +16·5m. Simla MN = +27·5m. Ekaterinburg MN = +30·1m., MZ = +36·2m. Honolulu eE = +19m.33s., eN = +24m.53s. = $SR_2 - 8$s.; T_o = 2h.9m.55s. Pulkovo SR_1 = +24m.20s., MN = +38·3m. Adelaide e = +29m.20s.? = $SR_3 - 52$s. Victoria LN = +30·8m. Riverview MN = +38·2m. Upsala MN = +42·6m. Konigsberg PS = +21m.56s., e = +25m.8s., SR_2 = +29m.33s. Lemberg MN = +42·4m. Hamburg MN = +48·6m. Vienna iPZ = +12m.20s., iE = +16m.17s. PR_1 +30s., iN = +25m.52s., SR_1 = +27m.56s., MN = +45·3m. Zagreb ePR_1 = +15m.25s., ePR_2 = +17m.58s., e = +24m.41s., +26m.51s., and +41m.36s. De Bilt MN = +51·2m., MZ = +55·0m. Laibach PR_1 = +16m.33s., PR_2 = +19m.20s. = PR_3 +10s., SR_1 = +29m.4s., MN = +47·3m. Athens MN = +57·3m. Uccle MN = +46·9m. Strasbourg MN = +53·1m. Bidston S = +30m.26s. or +32m.44s. = $SR_2 - 7$s. Paris MN = +53·3m. Rocca di Papa ePN = +12m.56s., eLZ = +47·2m., eLN = +47·9m. Barcelona MN = +54·5m. Tortosa ME = +58·3m. Grenoble MN = +49·5m. Ottawa e?E = +31m.0s. = $SR_1 - 28$s., eLN? = +39·8m., MN = +57·3m. Ann Arbor reading has been diminished by 1h. Toronto eE = +31m.12s. = $SR_1 - 20$s. Alicante eLE = +47·3m. Malaga MN = +61·5m. San Fernando MN = +55·3m.

May 23d. The following additional shocks from the above epicentre were recorded as below for 23d.

Kobe			Osaka			Nagoya			Mizusawa		
h.	m.	s.	h.	m.	s.	h.	m.	s.	h.	m.	s.
2	19	53		—			—			—	
2	21	9		—			—			—	
2	21	41		—			—			—	
2	24	34		—			—			—	
2	37	39		—			—			—	
2	38	40	2	38	43		—			—	
(2	59	18)	2	59	26		—			—	
3	2	42	3	2	46	3	2	48	3	4	11
3	8	51		—			—			—	
3	23	15	3	23	34		—			—	
3	32	9		—			—			—	
3	35	18		—			—			—	
3	40	43	3	40	54		—			—	
(4	15	25)		—			—			—	
	—		4	35	20		—			—	
4	52	54	4	52	57	4	53	2		—	
5	0	52	5	1	1	5	1	7		—	
5	3	30		—			—			—	
5	47	39	5	47	15	5	47	32		—	
7	26	24	7	26	30		—			—	
(7	30	54)		—			—			—	
(8	9	22)	8	9	32		—			—	
8	9	29		—			—			—	
(8	20	7)	8	17	26		—			—	
(8	32	4)		—			—			—	
(8	38	11)	8	37	43		—			—	
(9	5	14)		—			—			—	
9	28	39	9	28	41	9	28	37		—	
9	38	57	9	39	0	9	38	47		—	
(9	46	52)		—			—			—	
13	26	25		—			—			—	
(13	27	23)		—			—			—	
14	45	21	14	45	13	13	44	44	14	45	50
(14	54	40)		—			—			—	
(16	50	20)		—			—			—	
(17	15	59)		—			—			—	
(21	5	54)		—			—			—	

Times given in parentheses for Kobe are recorded as M except 9h.5m.14s., which is given as L; all other times are given as P. The Nagoya time for 14h.45m.21s. is apparently given 1h. in error. Hukuoka P = 3h.3m.43s. Sumoto P = 3h.2m.52s. Nagasaki P = 3h.3m.56s.

May 23d. 7h. 34m. 50s. (I) } Epicentre 24°·0N. 123°·0E. (as on 1923 Nov. 25d.).
21h. 21m. 42s. (II) }

A = −·498, B = +·766, C = +·407 ; D = +·839, E = +·545 ;
G = −·224, H = +·341, K = −·913.

	Δ	Az.	P.	O−C.	S.	O−C.	L.	M.
	°	°	m. s.	s.	m. s.	s.	m.	m.
I Taihoku	1·7	308	0 28	+ 2	—	—	0·7	0·8
II	1·7	308	0 20	− 6	—	—	0 6	0·6
I Hokoto	3·2	262	e 0 10	−40	1 45	+17	—	1·8
II	3·2	262	0 31	−19	—	—	e 0·9	1·0
I Zi-ka-wei	7·3	349	3 25	?S	(3 25)	+ 7	(5·3)	—
II	7·3	349	3 2	+71	e 4 4	+46	—	—
I Hong Kong	8·3	260	1 40	−26	3 42	− 3	—	4·5
I Manila	9·6	192	e 2 44	+20	—	—	—	—
I Phu-Lien	15·5	261	e 6 41	?S	(e 6 41)	− 3	8·8	—
II	15·5	261	e 7 0	?S	(e 7 0)	+16	—	—
I Ekaterinburg	55·1	325	—	—	e 17 16	− 6	22·3	35·0
II	55·1	325	9 28	−12	—	—	28·3	35·0
I Pulkovo	70·8	328	—	—	—	—	e 34·2	—
II	70·8	328	e 13 7	+105	—	—	28·3	44·1
I De Bilt	86·7	327	—	—	—	—	e 47·2	—
II	86·7	327	—	—	—	—	e 47·3	—

Zi-ka-wei I gives S as P and L as S. Ekaterinburg II gives also MN = +29·7m., MZ = +34·9m. Pulkovo II eE = +6m.9s.: Is L = SR_2?

May 23d. Readings also at 1h. (Nagoya), 2h. (Vienna, Melbourne, and near Phu-Lien), 6h. (Manila and near Batavia and Malabar), 9h. (Taihoku and near Athens), 16h. (Zi-ka-wei), 17h. (Ekaterinburg), 21h. (La Paz, Ottawa, Toronto, Victoria, Eskdalemuir, Granada, De Bilt, Kucino, Taihoku, and Manila), 22h. (Kucino, Ekaterinburg, and near Lick).

May 24d. 1h. 24m. 20s. Epicentre 24°·0N. 123°·0E. (as on May 23d.).

A = −·498, B = +·766, C = +·407 ; D = +·839, E = +·545 ;
G = −·224, H = +·341, K = −·913.

	Δ	Az.	P.	O−C.	S.	O−C.	L.	M.
	°	°	m. s.	s.	m. s.	s.	m.	m.
Taihoku	1·7	308	0 30	+ 4	(0 47)	− 1	0·8	—
Hokoto	3·2	262	0 45	− 5	(e 1 9)	−19	e 1·2	1·2
Zi-ka-wei	7·3	349	2 6	+15	3 32	+14	—	5·4
Hong Kong	8·3	260	1 50	−16	3 14	−31	—	4·8
Manila	9·6	192	e 2 31	+ 7	—	—	—	—
Osaka	15·2	43	4 25	+43	—	—	7·7	16·2
Phu-Lien	15·5	261	e 3 33	−13	e 7 14	+30	e 8·7	9·4
Simla	41·0	290	e 14 4	?S	(e 14 4)	−17	e 21·0	25·7
Colombo	44·8	256	—	—	—	—	—	31·2
Kodaikanal	45·5	261	28 46	?L	—	—	(28·8)	—
Ekaterinburg	55·1	325	i 9 39	− 1	i 17 15	− 7	25·7	35·2
Baku	62·3	307	10 30	+ 3	—	—	—	—
Piatigorsk	66·6	311	10 33	−22	e 19 33	−12	—	38·7
Pulkovo	70·8	328	11 22	0	20 31	− 5	33·7	44·4
Upsala	76·7	331	—	—	e 21 52	+ 7	e 38·7	48·3
Konigsberg	77·4	325	—	—	—	—	e 39·7	41·7
Vienna	82·6	321	i 12 31	− 3	—	—	—	49·7
Hamburg	83·4	327	—	—	—	—	e 40·7	44·7
Victoria E.	86·5	38	—	—	—	—	52·0	56·1
De Bilt	86·7	327	12 53	− 4	23 31	− 7	e 41·7	56·4
Strasbourg	87·4	323	—	—	—	—	e 41·7	56·1
Uccle	87·8	326	—	—	—	—	43·7	48·7
Edinburgh	88·0	333	—	—	e 23 40?	−12	44·7	56·5
Eskdalemuir	88·4	333	—	—	e 23 40?	−16	41·7	48·7
Besançon	89·1	323	—	—	—	—	47·7	—
Stonyhurst	89·1	330	—	—	e 24 1	− 3	42·6	51·2

Continued on next page.

		Δ	Az.	P.	O−C.	S.	O−C.	L.	M.
		°	°	m. s.	s.	m. s.	s.	m.	m.
Moncalieri		89·3	320	e 13 42	+30	23 58	− 8	49·0	57·8
Bidston		89·6	330	—	—	—	—	—	33·7
Kew		89·6	329	—	—	—	—	—	58·7
Paris		90·0	326	—	—	—	—	e 47·7	53·7
Oxford		90·0	329	—	—	—	—	44·2	49·4
Tortosa	N.	96·1	320	—	—	—	—	e 49·7	63·2
Algiers		97·0	316	—	—	—	—	e 59·7	62·2
Granada		100·9	320	—	—	—	—	e 55·3	66·2
San Fernando		102·9	320	—	—	42 8	?	56·7	60·2
Ottawa		108·5	13	—	—	e 51 20	?	e 54·2	—

Additional readings and notes: Hokoto reading has been increased by 1m. Osaka MN = +12·9m. Simla MN = +23·1m. Ekaterinburg iPR_1 = +11m.43s., MN = +29·9m., MZ = +35·1m. Piatigorsk e = +13m.3s. Pulkovo PR_1 = +15m.44s., SR_1 = +25m.22s., MN = +39·3m., MZ = +44·5m. Upsala MN = +42·3m. Vienna PR_1 = +15m.51s. De Bilt MN = +49·2m. Paris MN = +48·7m. Strasbourg L = +47·7m., MZ = +56 3m. Granada e = +57m.18s., eL = +61·8m. San Fernando MN = +57·7m.

May 24d. 5h. 9m. 25s. Epicentre 24°·0N. 123°·0E. (as at 1h.).

	Δ	Az.	P.	O−C.	S.	O−C.	L.	M.
	°	°	m. s.	s.	m. s.	s.	m.	m.
Taihoku	1·7	308	0 30	+ 4	(0 45)	− 3	0·8	1·1
Hokoto	3·2	262	0 27	−23	—	—	e 0·8	—
Zi-ka-wei	7·3	349	e 3 18	?S	(e 3 18)	0	(e 4·2)	—
Pulkovo	70·8	328	e 15 29	$?PR_1$	—	—	—	—

Additional readings and notes: Taihoku MN = +0·9m. Hokoto readings have been increase by 1m. Zi-ka-wei gives S as P and L as S.

May 24d. Continuation of the list of shocks from 35°·7N. 134°·8E. appended to 23d.

Kobe			Osaka			Sumoto			Nagoya		
h.	m.	s.	h.	m.	s.	h.	m.	s.	h.	m.	s.
(0	55	59)		—			—			—	
0	56	21		—		0	56	28		—	
3	53	6	3	53	18	3	53	8	3	53	55
(7	47	23)		—			—			—	
(7	50	48)		—			—			—	
10	55	35	10	55	38	10	55	43	10	56	13
12	54	29	12	54	32	12	53	35	12	55	13
22	32	43		—		22	32	38		—	

Hukuoka P = 3h.52m.36s. Nagasaki gives P = 3h.52m.40s.

May 24d. Readings also at 1h. (Taihoku (2)), 3h. (Taihoku (4) and Rio de Janeiro), 4h. (Pulkovo), 5h., 6h., 8h., and 11h. (Taihoku), 13h. (Tacubaya). 14h. (Nagoya (2)), 18h. (Irkutsk), 21h. (Manila), 22h. (Apia), 23h. (Denver, Taihoku, and near Batavia and Malabar).

May 25d. 3h. 43m. 0s. Epicentre **12°·0N. 123°·1E.**
(as on 1922 Aug. 29d.).

A = −·534, B = +·819, C = +·208; D = +·838, E = +·546; G = −·114, H = +·174, K = −·978.

	Δ	Az.	P.	O−C.	S.	O−C.	L.	M.
	°	°	m. s.	s.	m. s.	s.	m.	m.
Manila	3·3	322	e 0 46	− 6	(i 1 17)	−14	i 1·3	—
Taihoku	13·1	354	—	—	(e 5 42)	− 4	e 5·7	10·5
Hong Kong	13·4	322	3 9	− 9	5 30	−23	6·3	7·7
Amboina	16·5	162	i 5 42	+103	—	—	11·1	—
Phu-Lien	18·1	301	e 4 10	− 8	(e 7 37)	− 5	e 7·6	9·9

Continued on next yage.

		Δ	Az.	P.	O−C.	S.	O−C.	L.	M.
		°	°	m. s.	s.	m. s.	s.	m.	m.
Zi-ka-wei		19·2	356	4 31	0	8 7	+ 1	—	13·0
Hukuoka	E.	22·5	16	e 5 9	− 2	9 19	+ 4	12·3	14·7
Batavia		24·4	222	5 22	−10	9 49	− 3	10·0	—
Malabar		24·7	219	5 30	− 5	—	—	—	—
Kobe		25·2	24	5 42	+ 2	7 49	?	12·6	—
Osaka		25·3	24	5 33	− 8	(10 27)	+18	10·4	13·9
Irkutsk		43·0	345	—	—	—	—	e 18·0	—
Colombo		43·0	267	10 0	?PR_1	21 0	?L	28·0	29·0
Hyderabad		43·4	283	8 7	−14	14 29	−25	22·0	30·7
Perth		44·5	189	13 0	?	—	—	—	—
Kodaikanal		44·8	276	18 30	?SR_1	—	—	—	—
Simla	N.	46·4	302	—	—	e 15 12	−21	—	33·0
Bombay		48·4	283	9 2	+ 6	15 47	−12	—	—
Adelaide		49·2	164	e 4 48	?	e 15 48	−21	e 23·7	27·1
Riverview		53·0	151	e 10 36	+70	e 17 12	+16	e 28·4	30·3
Melbourne		53·8	160	—	—	i 17 30	+24	e 22·3	31·6
Baku		69·5	309	e 11 20	+ 6	20 33	+13	34·0	40·4
Piatigorsk		74·5	314	e 11 37	− 9	e 21 31	+11	—	43·0
Kucino		77·4	325	e 12 14	+11	e 22 0	+ 7	36·2	47·4
Pulkovo		81·0	330	12 20	− 5	22 27	− 8	36·0	50·0
Upsala		87·2	331	e 12 58	− 2	23 31	−12	e 41·0	56·5
Konigsberg		87·2	326	13 1	+ 1	23 30	−13	43·0	53·0
Vienna		91·9	321	e 13 17	− 9	e 24 26	− 8	e 46·0	51·0
Hamburg		93·5	327	—	—	e 24 0?	[+11]	e 46·0	57·0
Victoria	E.	95·9	38	24 13	?S	(24 13)	[+11]	47·1	57·4
Rocca di Papa	Z.	96·7	316	e 17 10	?PR_1	—	—	e 35·2	—
De Bilt		96·8	327	e 13 47	− 6	e 24 20	[+13]	e 44·0	58·3
Strasbourg		97·0	323	22 0?	?PR_2	—	—	47·0	53·0
Uccle		97·8	326	—	—	e 24 23	[+11]	45·0	53·7
Moncalieri		98·5	320	e 14 29	+26	25 58	+17	40·0	45·4
Besançon		98·6	322	—	—	—	—	—	53·0
Edinburgh		98·6	333	—	—	e 28 0?	+138	50·0	63·5
Stonyhurst		99·6	331	—	—	e 24 24	[+ 2]	48·0	55·2
Paris		99·8	325	—	—	24 34	[+11]	50·0	61·0
Kew		99·8	328	—	—	—	—	—	63·0
Bidston		100·1	331	23 58	?S	(23 58)	[−26]	48·5	62·0
Oxford		100·3	329	—	—	e 24 33	[+ 7]	48·0	62·1
Tortosa	E.	105·2	320	—	—	—	—	e 56·0	68·3
Algiers		105·5	313	—	—	—	—	e 66·0	80·5
Alicante	N.	107·2	319	—	—	—	—	e 66·0	—
Toledo		108·7	320	—	—	—	—	e 45·5	67·2
Granada		109·8	319	e 21 1	?PR_1	i 31 5	?	56·7	65·5
Malaga		110·7	318	—	—	—	—	e 46·2	—
San Fernando		111·9	318	e 33 12	?	47 19	?L	61·0	69·5
Ottawa		120·2	15	—	—	e 30 25	?	66·0	—
Toronto	E.	120·7	19	—	—	e 30 35	?	62·2	—
Rio de Janeiro	E.	163·0	228	—	—	—	—	e 86·5	—
La Paz		168·2	113	i 20 34	[+20]	e 34 36	?	44·3	49·9

Additional readings and notes: Phu-Lien eS = +6m.40s. Zi-ka-wei MZ = +13·1m. Osaka MN = +14·6m. Riverview MN = +35·4m. Melbourne e = +13m.36s. = PR_2 + 20s. Kucino MN = +39·6m. Pulkovo MN = +43·9m., MZ = +50·0m. Upsala MN = +49·5m. Konigsberg e = +22m.36s., MN = +47·0m. Vienna eN = +22m.55s., PS? = +25m.13s. Hamburg MN = +51·0m. Victoria MN = +74·0m. Rocca di Papa eN = +19m.10s. De Bilt MN = +53·4m., MZ = +61·4m. Strasbourg MZ = +60·0m. Moncalieri readings have been increased by 48m. Paris MN = +55·0m. Tortosa eLN = +49·0m., MN = +64·2m. Toledo MNW = +59·6m. Granada i = +22m.21s. = $PR_2 \pm 0$s., i = +26m.39s. and +30m.20s. San Fernando MN = +72·0m. Ottawa e? = +33m.29s., eL = +37·0m. Toronto LN = +59·7m.

May 25d. Repetitions of the above shock were recorded at Manila at :—

h.	m.	s.	h.	m.	s.
5	3	39	17	8	32
5	7	44	18	29	0
5	18	2	18	38	25
9	53	3			

May 25d. 16h. 22m. 14s. Epicentre 35°·7N. 134°·8E. (as on 23d.).

A = −·572, B = +·576, C = +·584; D = +·710, E = +·705; G = −·411, H = +·414, K = −·812.

		Δ	Az.	P.	O−C.	S.	O−C.	L.	M.
		°	°	m. s.	s.	m. s.	s.	m.	m.
Kobe		1·1	163	0 20	+ 3	(0 33)	+ 2	0·6	0·7
Osaka		1·2	154	0 26	+ 8	(0 44)	+11	0·7	1·6
Sumoto		1·4	177	0 21	0	(0 40)	+ 1	0·7	—
Nagoya		1·8	107	0 24	− 4	(0 56)	+ 5	0·9	1·1
Hukuoka		4·3	240	1 17	+10	—	—	2·3	2·4
Nagasaki		5·1	235	1 15	− 4	(2 22)	+ 2	2·4	2·6
Mizusawa	E.	6·0	54	1 35	+ 3	2 37	− 7	(2·6)	—
Zi-ka-wei		12·0	252	e 2 53	− 6	6 27	?L	(6·4)	9·0
Ootomari		12·4	26	3 9	+ 4	(5 39)	+10	5·6	9·1
Taihoku		15·6	231	—	—	—	—	e 7·6	—
Hong Kong		22·4	239	4 46?	−24	9 12	− 1	—	13·0
Manila		24·5	214	e 5 35	+ 2	—	—	—	—
Irkutsk		27·1	317	5 49	−10	10 29	−14	12·8	14·9
Phu-Lien		28·8	246	—	—	e 11 53	+40	—	16·6
Baku		64·3	303	e 10 47	+ 7	e 19 54	+37	33·3	41·6
Kucino		64·7	322	—	—	e 19 30	+ 9	32·1	36·4
Pulkovo		66·2	328	10 52	− 1	19 42	+ 2	30·8	41·2
Piatigorsk		67·1	310	—	—	—	—	—	36·8
Upsala		71·5	332	—	—	—	—	e 37·8	42·3
Konigsberg		73·4	327	—	—	—	—	e 37·8	41·8
Hamburg		78·8	330	—	—	—	—	e 34·8	46·1
Budapest		78·9	322	—	—	—	—	e 40·8	—
Vienna		79·7	324	e 12 16	− 1	—	—	e 41·8	45·8
Edinburgh		81·4	338	—	—	—	—	44·8	—
De Bilt		81·8	331	—	—	22 43	− 1	e 37·8	49·2
Stonyhurst		83·1	336	—	—	—	—	e 38·8	—
Uccle		83·1	331	—	—	—	—	e 39·8	46·8
Strasbourg		83·5	329	—	—	—	—	e 37·8	48·8
Bidston		83·7	336	—	—	35 6	?SR_a	45·3	53·4
Kew		84·3	334	—	—	—	—	—	49·8
Oxford		84·5	335	—	—	—	—	e 41·3	49·2
Paris		85·4	331	—	—	—	—	e 46·8	47·8
Besançon		85·4	328	—	—	—	—	47·8	—
Florence		85·4	323	—	—	—	—	38·8	43·8
Moncalieri		86·2	326	e 12 43	−11	23 52	+20	40·8	63·1
Tortosa	N.	92·7	328	—	—	—	—	e 46·8	51·7
Ottawa		94·4	20	—	—	—	—	e 51·3	—
Algiers		94·8	323	—	—	e 38 46	?SR_a	53·3	—
Toronto		94·8	24	—	—	—	—	59·0	—
Alicante	N.	95·2	327	—	—	—	—	e 55·8	—
Toledo		95·4	330	—	—	—	—	e 47·2	58·1
San Fernando		99·3	330	—	—	—	—	—	57·3
La Paz		152·0	53	19 7	[−52]	—	—	—	—

Additional readings and notes: Osaka MN = +1·5m. Hukuoka MN = +2·5m. Mizusawa SN = +2m.40s. Irkutsk MZ = +17·2m. Baku MZ = +41·9m. Kucino e = +26m.42s. =SR_a −5s., MN = +36·2m. Pulkovo MN = +38·6m., MZ = +44·9m. Upsala MN = +42·4m. Konigsberg eLN = +39·8m. Edinburgh e = +37m.46s.? De Bilt MN = +49·4m., MZ = +53·9m. Moncalieri readings have been increased by 1h.14m. Tortosa ME = +50·8m. Toledo MNW = +57·2m. San Fernando MN = +57·8m.

May 25d. Continuation of the list of shocks from 35°·7N. 134°·8E. appended to 24d.

Kobe			Osaka			Sumoto			Nagoya		
h.	m.	s.	h.	m.	s.	h.	m.	s.	h.	m.	s.
	—		2	13	43	2	13	44		—	
(13	25	1)	13	24	47	13	24	55		—	
14	18	33	14	18	33	14	18	36		—	
14	41	23	14	41	25	14	41	26		—	
14	42	33		—			—			—	
14	44	41		—		14	44	31		—	
	—			—		17	56	2		—	
18	10	49	18	10	39	18	10	44	18	10	35
18	14	17		—			—			—	
18	32	14	18	32	13	18	32	18	18	32	46
20	39	11	20	39	18	20	39	19		—	
23	42	39	23	42	39	23	42	44	23	42	43

Hukuoka LN = 23h.44m.28s.

May 25d. Readings also at 8h. (Apia), 14h. (Strasbourg), 16h. (near La Paz).

May 26d. 8h. 20m. 24s. Epicentre 16°·5N. 89°·5W. (as on 1921 Feb. 4d.).

A = +·009, B = −·959, C = +·284; D = −1·000, E = −·009;
G = +·002, H = −·284, K = −·959.

		Δ	Az.	P.	O−C.	S.	O−C.	L.	M.
		°	°	m. s.	s.	m. s.	s.	m.	m.
Merida	Z.	4·5	359	0 34	−36	1 54	−10	2·0	3·3
Vera Cruz		6·9	294	2 24	+39	(3 3)	− 4	3·0	5·0
Oaxaca		7·0	276	1 49	+ 3	—	—	2·4	2·5
Puebla		8·7	288	0 48	−84	—	—	1·6	2·7
Tacubaya		9·7	289	1 33	−53	—	—	2·3	3·0
Loyola	N.	13·4	358	3 24	+ 6	5 6	−47	—	—
Guadalajara		14·0	290	—	—	—	—	8·0	8·5
Georgetown		24·8	23	e 5 42	+ 6	e 10 32	+33	e 13·3	—
Ann Arbor		26·3	10	e 4 42	−69	14 36	?L	(14·6)	—
Toronto		28·4	15	—	—	10 49	−17	12·2	13·7
Ottawa		31·1	21	i 7 40	?PR$_1$	e 11 30	−23	e 13·0	20·1
La Paz		39·2	147	e 6 38	−70	11 5	−169	15·9	17·6
Victoria	E.	42·2	328	13 31	?S	(13 31)	−67	22·8	23·0
	N.	42·2	328	—	—	—	—	23·2	26·2
Rio de Janeiro	N.	60·0	130	—	—	e 18 33	+10	—	—
Edinburgh		74·4	37	—	—	—	—	e 40·6	—
Bidston		74·7	39	22 30	?S	(22 30)	+68	—	47·6
Stonyhurst		75·0	39	—	—	—	—	e 34·4	—
Oxford		76·0	40	—	—	i 21 38	+ 1	e 36·8	44·4
Granada		76·9	55	i 15 40	?PR$_1$	i 22 55	+67	35·6	39·4
De Bilt		79·8	39	—	—	22 21	0	38·6	42·9
Hamburg		82·3	37	e 12 29	− 3	i 22 38	−11	e 39·6	—
Strasbourg		82·4	42	—	—	—	—	e 44·6	—
Upsala		84·1	28	—	—	i 22 45	[− 5]	e 41·6	—
Zagreb		88·6	43	—	—	e 23 20	[+ 1]	—	—
Pulkovo		89·6	26	12 54	−20	23 18	[− 8]	37·6	57·2
Kucino		95·3	27	—	—	—	—	e 42·6	—
Ekaterinburg		102·6	17	e 13 52	−31	i 24 25	[−11]	40·6	61·2
Baku		111·7	32	e 19 14	[+47]	e 25 14	[− 3]	53·6	59·8

Additional readings and notes: Merida readings increased by 1m. Ann Arbor L = +30·7m. Ottawa MN = +22·3m. La Paz PR$_1$ = +8m.0s.; T$_e$ = 8h.21m.22s. Bidston S = +29m.46s.? Pulkovo PR$_1$ = +16m.34s., SR$_1$ = +28m.48s., MZ = +48·0m. Ekaterinburg i = +18m.8s. (?PR$_1$). Baku e = +29m.3s.

May 26d. 15h. 37m. 0s. Epicentre 24°·0N. 123°·0E. (as on May 24d.).

A = −·498, B = +·766, C = +·407; D = +·839, E = +·545;
G = −·224, H = +·341, K = −·913.

		Δ	Az.	P.	O−C.	S.	O−C.	L.	M.
		°	°	m. s.	s.	m. s.	s.	m.	m.
Taihoku		1·7	308	0 38	+12	—	—	1·2	2·0
Zi-ka-wei		7·3	349	1 57	+ 6	3 56	?L	(3·9)	7·9
Hong Kong		8·3	260	(2 8)	+ 2	2 8	?P	—	5·5
Manila		9·6	192	2 16	− 8	—	—	i 5·3	—
Nagasaki		10·6	33	e 2 49	+11	—	—	e 7·1	—
Osaka		15·2	43	3 53	+11	—	—	7·5	12·8
Phu-Lien		15·5	261	e 3 48	+ 2	e 7 5	+21	e 8·0	9·7
Mizusawa	E.	21·5	42	4 57	− 2	9 53	− 2	—	—
Irkutsk		31·7	338	6 29	−15	11 39	−24	16·0	—
Hyderabad		42·0	270	7 59	−12	14 29	− 6	21·6	27·1
Bombay		46·7	275	e 16 0?	?S	(e 16 0?)	+23	—	—
Ekaterinburg		55·1	325	i 9 43	+ 3	i 17 23	+ 1	25·0	30·8

Continued on next page.

	Δ	Az.	P.	O−C.	S.	O−C.	L.	M.
	°	°	m. s.	s.	m. s.	s.	m.	m.
Baku	62·3	307	10 33	+ 6	18 48	− 4	30·0	37·2
Platigorsk	66·6	311	—	—	—	—	—	36·0
Kucino	67·7	323	e 11 17	+15	20 10	+12	32·5	36·5
Pulkovo	70·8	328	11 24	+ 2	20 35	− 1	32·0	39·4
Upsala	76·7	331	—	—	i 21 43	− 2	e 39·0	50·2
Konigsberg	77·4	325	12 21	+18	21 56	+ 3	e 39·0	40·0
Budapest	81·4	319	—	—	e 22 0?	−39	—	—
Vienna	82·6	321	e 11 22	−72	e 22 0?	−53	e 43·0	—
Hamburg	83·4	327	e 13 18	+40	e 23 0	− 1	e 41·0	46·0
Zagreb	84·0	319	e 12 53	+11	e 22 57	−11	48·0	—
De Bilt	86·7	327	12 55	− 2	23 32	− 6	e 39·0	48·7
Strasbourg	87·4	323	—	—	—	—	e 43·0	49·0
Uccle	87·8	326	—	—	e 23 0?	[−14]	e 42·0	48·8
Rocca di Papa E.	88·0	316	e 13 2	− 3	e 23 36	[+21]	—	—
Edinburgh	88·0	333	—	—	e 34 0?	?SR_2	46·0	57·5
Besançon	89·1	323	—	—	—	—	—	48·0
Stonyhurst	89·1	330	—	—	—	—	e 42·0	—
Bidston	89·6	330	29 20	?SR_1	—	—	45·0	59·8
Kew	89·6	329	—	—	—	—	—	58·0
Paris	90·0	326	—	—	—	—	e 48·0	—
Oxford	90·0	329	—	—	—	—	e 43·7	50·8
Granada	100·9	320	i 33 46	?SR_1	i 43 24	?	53·7	67·0
San Fernando	102·9	320	—	—	—	—	53·5	68·0
Ottawa	108·5	13	—	—	—	—	e 50·0	—
Toronto N.	109·3	15	—	—	—	—	63·6	—
La Paz	167·1	56	i 21 27	[+74]	—	—	—	—

Additional readings and notes: Taihoku MN = +1·8m. Zi-ka-wei SR_1 = +4m.24s. Osaka MN = +12·7m. Mizusawa SN = +8m.54s. Ekaterinburg SR_1 = +21m.36s., MN = +30·5m., MZ = +36·4m. Baku MN = +36·7m., MZ = +42·3m. Kucino MN = +37·0m. Pulkovo MZ = +45·6m. Upsala MN = +42·8m. De Bilt MZ = +56·3m. Rocca di Papa ePEN = +13m.15s., ePN = +13m.20s., eSZ = +23m.28s.

May 26d. Continuation of the list of shocks from epicentre 35°·7N. 134°·8E. appended to 25d., recorded as follows:—

Kobe			Osaka			Sumoto			Nagoya		
h.	m.	s.	h.	m.	s.	h.	m.	s.	h.	m.	s.
5	48	57	5	48	56		—			—	
	—		5	49	4	5	49	4		—	
6	57	28	6	57	33	6	57	34	6	57	30
10	29	20		—		10	29	23		—	
(12	36	39)		—		12	36	20		—	
12	47	26	12	47	29	12	47	32	12	47	31
	—			—		12	50	4		—	
13	33	41		—		13	34	45		—	
16	40	49	16	40	54	16	40	59		—	
16	44	48		—			—			—	
	—			—		23	47	53		—	

May 26d. Continuation of the list of shocks from the epicentre 12°·0N. 123°·1E., recorded at Manila, appended to 25d.

h.	m.	s.	h.	m.	s.	h.	m.	s.
4	19	28	15	7	44	16	27	9
9	10	25	15	8	49	18	46	2
15	4	31	16	12	45	20	11	3

May 26d. Readings also at 0h. (near La Paz), 1h. (Apia), 2h. (near Hong Kong), 5h. (near Nagasaki), 6h. (Sumoto), 15h. (Batavia and Ekaterinburg), 19h. (Ekaterinburg), 23h. (Apia).

May 27d. 2h. 29m. 54s. Epicentre 36°·5N. 133°·0E.

A = −·548, B = +·588, C = +·595 ; D = +·731, E = +·682 ; G = −·406, H = +·435, K = −·804.

A depth of focus 0·050 has been assumed.

		Corr. for Focus	Δ	Az.	P.	O−C.	S.	O−C.	L.	M.
		°	°	°	m. s.	s.	m. s.	s.	m.	m.
Kobe		+1·1	2·5	136	1 0	+ 4	1 30	− 9	1·9	2·0
Osaka		+1·0	2·7	133	0 56	− 2	—	—	1 9	3·0
Sumoto		+1·0	2·7	145	0 59	+ 1	1 6	−36	1·9	2·0
Nagoya		+0·8	3·5	112	1 3	− 4	(1 55)	− 3	1·9	2·0
Hukuoka		+0·7	3·7	218	1 15	+ 7	—	—	2·4	2·5
Nagasaki		+0·5	4·6	216	1 32	+13	—	—	2·8	2·9
Mizusawa		−0·0	6·9	65	1 30	−15	1 34	?	—	—
Zi-ka-wei		−0·7	11·0	245	i 2 43	+ 9	i 5 7	+30	—	7·4
Ootomari		−1·0	12·5	32	2 43	− 9	(4 49)	−18	4·8	4·8
Taihoku		−1·3	15·1	224	3 24	+ 1	(e 5 16)	−47	e 6·3	—
Hong Kong		−2·1	21·6	234	4 35	0	8 15	+ 2	—	13·6
Manila		−2·5	24·4	209	e 5 6	+ 2	—	—	i 9·1	—
Phu-Lien		−2·9	27·8	243	e 5 43	+ 6	i 10 3	+ 2	12·2	—
Amboina		−4·0	40·4	189	i 8 18	+53	i 13 42	+26	—	—
Simla	E.	−4·5	46·0	281	e 14 24	?S	(e 14 24)	− 4	—	20·3
	N.	−4·5	46·0	281	14 30	?S	(14 30)	+ 2	(17·3)	20·8
Batavia		−4·8	49·2	217	8 22	− 7	15 8	+ 1	—	—
Malabar		−4·8	49·8	216	8 33	0	15 17	+ 2	—	—
Ekaterinburg		−4·8	50·8	320	e 8 27	−13	e 15 14	−14	25·1	33·0
Bombay		−5·2	55·2	270	8 54	−13	e 16 31	−12	—	—
Baku		−5·6	62·7	302	10 1	+ 8	17 57	+10	—	—
Pulkovo		−5·7	64·9	328	10 7	+ 1	18 14	+ 1	32·6	38·8
Piatigorsk		−5·7	65·5	310	e 11 39	+88	e 18 25	+ 4	—	—
Upsala		−5·9	70·1	332	e 10 35	− 4	i 19 16	+ 1	—	—
Victoria	N.	−5·9	71·4	43	10 44	− 4	19 22	− 9	—	29·7
Konigsberg		−5·9	71·9	327	10 57	+ 6	19 42	+ 5	e 30·2	40·1
Melbourne		−6·0	75·1	172	—	—	i 20 24	+ 9	—	39·7
Hamburg		−6·1	77·4	330	e 11 36	+11	e 20 36	− 6	—	47·1
Budapest		−6·1	77·4	322	10 37	−48	21 10	+28	e 43·1	—
Vienna		−6·1	78·2	324	e 11 26	− 5	20 50	− 1	i 23·5	50·1
Belgrade		−6·1	78·4	319	e 13 3	+91	e 20 51	− 3	e 29·4	—
Zagreb		−6·2	80·1	321	e 11 33	− 8	i 21 16	+ 3	e 33·1	51·6
Edinburgh		−6·2	80·3	338	—	—	i 21 16	+ 1	—	—
De Bilt		−6·2	80·4	331	11 44	+ 1	e 21 13	− 3	—	—
Innsbruck	N.W.	−6·3	81·3	325	e 11 48	− 1	e 21 22	− 4	—	—
Uccle		−6·3	81·7	331	e 11 49	− 2	21 23	− 7	—	—
Stonyhurst		−6·3	81·8	336	e 11 44	− 8	i 21 22	−10	e 38·1	—
Strasbourg		−6·3	82·0	328	11 47	− 6	i 21 27	− 7	33·1	—
Bidston		−6·3	82·4	336	11 54	− 2	21 48	+10	—	52·1
Zurich		−6·3	82·5	326	e 11 52	− 4	e 21 32	− 7	—	—
Venice		−6·3	82·8	324	e 11 19	−39	i 22 35	+52	—	—
Kew		−6·3	83·0	334	—	—	—	—	—	24·1
Oxford		−6·3	83·1	335	—	—	i 21 29	−18	—	—
Besançon		−6·4	83·8	328	—	—	21 44	− 9	e 47·1	—
Florence		−6·4	83·9	322	—	—	21 40	−15	—	24·6
Paris		−6·4	84·0	331	e 12 0	− 5	e 21 51	− 5	48·1	—
Rocca di Papa		−6·4	84·6	320	e 12 7	− 1	e 21 47	−15	e 50·2	—
Moncalieri		−6·4	84·8	325	12 8	− 1	i 22 2	− 3	35·4	—
Algiers		−6·6	93·3	323	—	—	e 22 31	[−77]	e 30·1	35·6
Alicante	N.	−6·6	93·7	327	—	—	—	—	e 35·9	—
Ottawa		−6·6	94·1	20	—	—	22 34	[−78]	33·1	—
Toronto	E.	−6·6	94·6	23	—	—	e 22 44	[−71]	26·1	—
Granada		−6·6	96·1	328	e 16 51	?PR_1	i 25 3	+54	e 41·2	43·3
San Fernando		−6·7	97·8	330	—	—	23 0	[−72]	45·6	59·6
La Paz		—	152·6	49	i 19 17	[−43]	23 45	?PR_1	—	—

Additional readings : Kobe MN = +2·6m. Osaka MN = +2·7m. Sumoto SR_1 = +1m.16s., SR_2 = +1m.26s. Ootomari MN = +4·9m. Taihoku LN = +3·6m., MN = +3·7m. ; these, together with P, are given as a local shock. Ekaterinburg iP = +8m.35s., i = +9m.51s. and +9m.57s., e = +11m.55s., iS = +15m.22s., iSR_1 = +17m.30s. and +17m.40s., SR_2 = +20m.23s., MN = +29·1m., MZ = +32·9m. Baku i = +11m.30s. Pulkovo P = +11m.32s. and +12m.14s., S = +19m.24s. and +20m.49s., SR_1 = +24m.48s. = SR_2 −5s., MZ = +37·8m., MN = +40·0m. Victoria ME = +23·6m. ; T_e = 2h.30m.2s. Konigsberg iZ = +11m.0s., P = +20m.23s. Vienna PR_1 = +14m.11s., PS = +21m.19s. = [S] −9s.

Continued on next page.

Belgrade $SR_1 = +22$m.31s. Zagreb i = +11m.43s. and +23m.14s., e = +13m.22s., iSR_1? = +23m.51s., MNW = +45·8m. Edinburgh i = +23m.54s. De Bilt e = +13m.9s. and +23m.49s. Uccle i = +24m.1s. Strasbourg i = +24m.7s. Rocca di Papa iPE = +12m.17s. (O−C. = +9s.). Moncalieri S = +21m.41s. Ottawa gives many e readings from 2h.35m.20s. Toronto LN = +25·4m. Granada $PR_1 = +18$m.9s. San Fernando MN = +65·6m.

May 27d. 20h. 58m. 36s. Epicentre 60°·0N. 175°·0E.

A = −·498, B = +·044, C = +·866; D = +·087, E = +·996; G = −·863, H = +·075, K = −·500.

Was there a preliminary shock about a minute earlier ? See note at end.

		Δ	Az.	P.	O−C.	S.	O−C.	L.	M.
		°	°	m. s.	s.	m. s.	s.	m.	m.
Victoria	E.	36·4	80	—	—	—	—	18·8	24·1
	N.	36·4	80	—	—	—	—	16·3	23·8
Zi-ka-wei		45·3	257	8 22	−13	e 18 42	?SR_1	—	28·3
Ekaterinburg		52·2	322	i 8 13	−68	e 15 32	−74	24·4	27·8
Hong Kong		56·3	258	17 43	?S	(17 43)	+ 5	—	32·9
Pulkovo		57·1	340	9 47	− 6	17 40	− 7	31·4	43·0
Ottawa		60·0	50	—	—	e 18 24?	+ 1	e 28·9	—
Toronto	E.	60·0	54	—	—	—	—	32·3	37·0
De Bilt		67·6	353	—	—	—	—	e 41·4	—
Piatigorsk		68·8	325	—	—	—	—	e 39·4	—
Baku		70·0	320	e 11 18	+ 1	e 20 28	+ 2	36·4	42·0
Vienna	Z.	70·7	346	—	—	e 21 18	[+ 2]	—	—
Strasbourg		70·9	352	—	—	—	—	41·4	—
Innsbruck	N.W.	71·9	350	e 11 30	+ 1	—	—	—	—
Zagreb		72·8	346	e 11 45	+10	—	—	—	—
Granada		82·8	359	e 11 38	−57	21 52	−63	e 45·4	52·5
San Fernando		83·6	1	—	—	—	—	e 39·1	60·4

Additional readings: Ekaterinburg iP = +7m.19s., MN = +31·9m. Pulkovo P = +8m.55s., S = +18m.45s., MN = +38·3m., MZ = +40·2m. Toronto LN = +38·6m., MN = +49·2m. Baku MZ = +46·8m., MN = +47·1m. Zagreb eS? = +12m.47s. Granada i = +12m.20s. and +17m.56s. $=PR_2$?

Note: There is some evidence of a double shock. Thus collecting the observations from text and notes we have two observations at Pulkovo for both P and S, viz.:—

P = +8m.55s. and +9m.47s., S = +17m.40s. and +18m.45s.

These would assign Δ = 65°·8; $T_0 = -1$m.55s. and Δ = 68°·0; $T_0 = -1$m.17s. respectively. For Ekaterinburg we have two values of P, viz., +7m.19s. and +8m.13s., but only one of S = +15m.32s. If we take the S with the second P we get Δ = 51°·1 and $T_0 = -1$m.1s.; and using this value of Δ for the first P we get $T_0 = -1$m.55s. Hence we have a consistent set of observations at these two stations for two values of T_0 preceding that adopted by about 2m. and 1m.; with Δ = 67° for Pulkovo and 51° for Ekaterinburg. But this would give a nearly unique solution for the epicentre close to Hong Kong, which records nothing until nearly 20 minutes later. This tempting solution is therefore ruled out. The alternative is to suppose that there was another shock at a time about 1 min. earlier than that adopted, which was recorded at Ekaterinburg and Granada as in the text; and for Pulkovo P as in the notes. But this still leaves unexplained Ekaterinburg P (notes), which is 1min. earlier still; and Pulkovo S (notes) and Zagreb (notes), which are 1 min. later. It seems doubtful whether the puzzle has really been solved.

May 27d. Continuation of the list of shocks from 35°·7N. 134°·8E. appended to 26d.

Kobe	Osaka	Sumoto	Nagoya
h. m. s.	h. m. s.	h. m. s.	h. m. s.
(5 39 1)	—	5 38 43	—
7 11 18	—	—	—
7 11 35	7 11 40	7 11 43	7 11 41
7 35 29	7 35 32	7 35 32	7 35 53
16 38 53	16 38 52	16 39 3	—

Nagasaki gives also P = 16h.36m.49s.

May 27d. Readings also at 0h. (Tacubaya), 2h. (Phu-Lien and Victoria), 3h. (Manila), 5h. (Ekaterinburg, Pulkovo, and Baku), 6h. (Johannesburg, Georgetown, and Rio Tinto), 9h. (Bombay and near Zurich), 12h. (Manila), 14h. (Ekaterinburg and Konigsberg).

May 28d. 3h. 19m. 15s. Epicentre 22°·0N. 63°·0E.

A = +·421, B = +·826, C = +·375 ; D = +·891, E = −·454 ;
G = +·170, H = +·334, K = −·927.

	Δ	Az.	P.	O−C.	S.	O−C.	L.	M.
	°	°	m. s.	s.	m. s.	s.	m.	m.
Bombay	9·8	107	2 31	+ 4	4 31	+ 8	5·3	—
Hyderabad	15·2	105	6 32	?S	(6 32)	− 5	11·0	14·0
Simla	15·6	51	—	—	e 6 33	−13	—	8·0
Baku	21·4	332	e 5 0	+ 2	8 57	+ 4	11·8	18·2
Kucino	38·5	338	—	—	e 14 32	+47	19·4	—
Pulkovo	44·2	337	e 8 21	− 6	—	—	20·8	31·4
De Bilt	53·2	319	—	—	—	—	e 32·8	—

Additional readings: Hyderabad S? = +9m.7s. Simla eN = +5m.15s. Baku MN = +15 8m., MZ = +18 0m. Kucino e = +15m.56s. = SR_1 −18s. Pulkovo e = +9m.56s. = PR_1 −16s. and +17m.55s. = SR_1 −19s., MN = +28·8m., MZ = +30·6m.

May 28d. 5h. 55m. 10s. Epicentre **34°·0S. 57°·0E.**
(as on May 19d.).

A = +·452, B = +·695, C = −·559 ; D = +·839, E = −·545 ;
G = −·305, H = −·469, K = −·829.

	Δ	Az.	P.	O−C.	S.	O−C.	L.	M.
	°	°	m. s.	s.	m. s.	s.	m.	m.
Cape Town	31·7	262	11 21	?S	(11 21)	−42	—	17·9
Colombo	46·3	32	8 50	+ 8	15 50	+18	23·2	26·5
Kodaikanal	48·3	26	16 20	?S	(16 20)	+22	26·1	31·2
Perth	48·8	105	13 50	?	—	—	—	—
Batavia	53·7	70	9 34	+ 3	i 17 15	+10	—	—
Malabar	53·7	72	9 32	+ 1	17 20	+15	—	—
Bombay	55·0	19	9 38	− 1	17 38	+17	29·6	30·0
Hyderabad	55·4	25	9 46	+ 4	17 46	+20	23·9	29·4
Adelaide	65·2	116	—	—	i 15 20	−247	e 30·0	37·2
Simla	67·9	19	e 20 14	?S	(e 20 14)	+13	e 33·5	36·5
Helwan	68·3	337	11 12	+ 6	21 26	+80	—	40·8
Melbourne	68·6	122	e 9 50	?	—	—	e 33·0	35·7
Phu-Lien	72·3	49	i 11 39	+ 7	i 20 27	−27	—	41·9
Baku	74·7	355	i 11 53	+ 6	i 21 49	+27	34·8	43·0
Riverview	74·9	121	e 11 56	+ 8	e 21 20	− 5	e 35·7	41·9
Sydney	74·9	121	—	—	—	—	38·0	49·3
Manila	77·8	64	e 12 8	+ 2	—	—	—	—
Hong Kong	78·3	53	12 9	0	22 11	+ 7	—	50·8
Platigorsk	79·0	351	i 12 14	+ 1	i 22 28	+16	—	39·8
Pompeii	84·4	330	e 12 25	−19	—	—	—	—
Naples	84·5	330	e 9 50	?	—	—	—	52·8
Taihoku	85·1	55	—	—	—	—	42·8	—
Rio de Janeiro	85·2	246	e 22 55	?S	(e 22 55)	[− 2]	39·3	—
Wellington	85·5	139	i 12 33	−18	i 22 58	[− 1]	e 39·6	42·6
Rocca di Papa N.	85·9	329	i 12 44	− 9	e 23 37	+ 8	e 56·0	—
Algiers	86·8	320	12 53	− 5	23 33	−16	e 41·8	47·8
Zagreb	88·0	334	i 12 57	− 8	i 23 53	+ 1	e 49·2	57·8
La Plata E.	88·0	229	12 45	−20	23 7	[− 8]	41·0	42·6
N.	88·0	229	12 45	−18	23 7	[− 8]	46·0	—
Budapest	88·2	337	12 32	−34	23 33	−21	e 50·8	—
Florence	88·2	330	—	—	(23 20)	[+ 4]	23·3	42·8
Zi-ka-wei	89·0	50	i 13 2	− 8	i 25 11	+68	48·0	52·4
Venice	89·0	331	i 13 7	− 3	i 24 3	0	—	—

Continued on next page.

		Δ	Az.	P.	O−C.	S.	O−C.	L.	M.
		°	°	m. s.	s.	m. s.	s.	m.	m.
Vienna		89·8	335	e 13 5	−10	e 23 35	[+ 8]	e 51·8	60·8
Almeria		89·8	318	i 12 44	−31	23 43	[+16]	—	57·0
Alicante	N.	89·8	320	13 9	− 6	24 19	+ 7	e 46·3	54·2
Moncalieri		90·7	328	13 14	− 6	24 20	− 1	49·5	—
Barcelona		90·7	324	e 13 7	−13	e 24 11	−10	e 49·5	56·4
Granada		90·8	317	i 13 10	−10	i 24 17	− 5	e 45·4	58·9
Malaga		90·9	317	13 9	−12	24 12	−11	43·8	56·6
Innsbruck		91·0	331	e 13 7	−14	—	—	—	—
Tortosa	N.	91·1	321	13 12	−10	23 41	[+ 6]	e 41·8	56·5
Kucino		91·2	350	13 15	− 7	i 24 32	+ 6	44·7	—
San Fernando		91·8	315	13 27	+ 1	24 18	−15	46·8	57·3
Toledo		92·8	319	13 18	−13	e 24 23	−20	e 42·3	55·4
Strasbourg		93·5	330	13 20	−15	24 48	− 3	38·8	—
Puy de Dôme		93·6	326	e 13 9	−27	e 17 13	?PR_1	—	—
Konigsberg		94·2	341	—	—	—	—	e 52·8	—
Paris		95·9	329	e 13 31	−17	—	—	53·8	61·8
Pulkovo		96·3	348	13 32	−19	25 5	−14	39·8	57·6
Hamburg		96·5	335	e 15 11	+79	—	—	e 53·8	—
Uccle		96·6	330	—	—	—	—	49·8	—
De Bilt		97·3	332	13 39	−17	e 25 12	−17	e 47·8	60·9
Kew		99·1	328	—	—	—	—	—	63·8
Upsala		99·3	343	—	—	e 24 23	[+ 2]	e 52·8	59·2
Oxford		99·7	328	—	—	—	—	e 54·1	60·5
Bidston		101·6	329	44 26	?L	—	—	(44·4)	66·3
Stonyhurst		101·7	329	e 13 17	−62	e 24 44	[+11]	48·8	—
Edinburgh		103·4	330	—	—	—	—	e 62·8	—
La Paz		107·4	235	18 35	?PR_1	28 49	+104	52·1	54·6
Ottawa		142·5	302	e 19 26	[−18]	e 28 16	?	72·8	—
Toronto		145·1	299	e 19 40	[− 8]	e 30 0	?PR_2	75·0	—
Victoria	E.	165·6	1	20 21	[+ 9]	35 35	?	62·2	99·7
	N.	165·6	1	20 13	[+ 1]	35 53	?	—	—
Berkeley		176·1	352	i 20 12	[− 5]	—	—	—	—
Lick		176·4	342	e 20 17	[0]	—	—	—	—

Additional readings and notes: Adelaide eSR_1 = +21m.38s. Simla eSN = +24m.56s. =SR_1 −9s., MN = +37·2m. Baku MN = +41·6m., MZ = +47·2m. Riverview MN = +40·2m. Hong Kong readings have been increased by 1h. Taihoku reading is given for 29d. Wellington PR_1 = +16m.14s., SR_1 = +28m.31s.; T_o =5h.55m.3s. Rocca di Papa e = +12m.17s., iPE = +12m.50s. Zagreb i = +13m.9s. +14m.10s. and +36m.2s. =SR_2 −18s. Zi-ka-wei PR_1 = +16m.46s. Vienna iPZ = +13m.6s., PR_1 = +16m.41s., PR_2 = +18m.45s. Alicante eLE = +52·5m. Barcelona MN = +59·4m. Granada PR_1 = +16m.52s., PR_2 = +19m.30s., i = +24m.27s., SR_1 = +30m.52s. Malaga MN = +56·3m. Innsbruck eNW = +13m.20s. Kucino PR_1 = +16m.59s., e = +23m.13s., i = +23m.58s., SR_1 = +31m.0s. San Fernando MN = +71·3m. Toledo iZ = +13m.20s., PR_1NW = +17m.5s., i = +24m.32s., MNW = +57·7m. Paris MN = +55·8m. Pulkovo PR_1 = +17m.25s., e = +19m.35s. and +22m.46s., MZ = +57·5m. Hamburg i = +15m.13s. and +18m.24s. De Bilt ePR_1Z = +17m.37s., MN = +57·4m., MZ = +62·8m. Upsala MN = +67·2m. La Paz PR_1 = +21m.49s. =PR_2 −11s., PR_2 = +25m.1s. =[S] +3s., S? = +30m.9s., L = +49·1m. Ottawa e = +22m.50s. (?PR_1), eN = +29m.6s. =PR_2 −7s. Toronto iPE = +19m.42s., iE = +23m.2s. =PR_1 −5s., eE = +29m.37s. =PR_2 +1s. Berkeley iZ = +21m.5s., +21m.58s., +25m.53s. =PR_1 −18s., +26m.11s. =PR_1, and +28m.55s., eN = +22m.55s and +32m.39s., eZ = +29m.46s. =PR_2 −23s., +32m.18s., +32m.55s., and +41m.0s., eE = +48m.57s. Lick eE = +18m.27s., iE = +20m.20s. =[S] +3s., eZ = +20m.21s., iEZ = +21m.55s. and +25m.55s. =PR_1 −17s., eN = +25m.58s. =PR_1 −14s., iE = +26m.25s., iN = +32m.37s.

May 28d. Continuation of the list of shocks from the origin 35°·7N. 134°·8E. appended to 27d. :—

Kobe			Osaka			Sumoto			Nagoya		
h.	m.	s.	h.	m.	s.	h.	m.	s.	h.	m.	s.
6	46	15	6	46	6	6	46	38		—	
	—		10	56	10		—			—	
(17	52	49)	17	51	57		—			—	
	—			—		18	37	46		—	
22	40	19	22	40	21	22	40	21	22	40	32
23	24	25	23	24	39	23	24	37		—	

May 28d. Readings also at 2h. (Nagasaki and near La Paz), 3h. (Nagasaki and Rio de Janeiro), 4h. (Batavia), 5h. (La Paz and Nagasaki), 7h. (Nagasaki), 8h. (Rocca di Papa and Ekaterinburg), 9h. (Baku and Port au Prince), 11h. (Nagasaki), 13h. (Irkutsk and Rocca di Papa), 14h. (Wellington (2)), 17h. (Tucson, Georgetown, Ottawa, and Toronto), 20h. (La Paz), 22h. (La Paz and near Hukuoka), 23h. (Manila and Ekaterinburg).

May 29d. Continuation of the list of shocks from 35°·7N. 134°·8E. appended to 28d. :—

Kobe			Osaka			Sumoto			Nagoya		
h.	m.	s.	h.	m.	s.	h.	m.	s.	h.	m.	s.
(1	54	12)		—			—			—	
(3	30	20)		—			—			—	
	—			—		8	14	44		—	
8	47	59		—			—			—	
8	48	20	8	48	19		—		8	48	30
13	7	3	13	7	11	13	6	54	13	4	49

May 29d. Readings also at 1h. (Berkeley), 2h. (Baku), 8h. (Pulkovo and Rio de Janeiro), 9h. (Ekaterinburg and Batavia (2)), 16h. (Irkutsk and Ekaterinburg), 17h. (Ottawa, Toronto, Victoria, and near Mizusawa), 18h. (Irkutsk), 22h. (near Mizusawa).

May 30d. 22h. 45m. 0s. Epicentre 43°·8N. 15°·7E. (as on 1924 Mar. 1d.).

A = +·695, B = +·195, C = +·692 ; D = +·271, E = −·963 ; G = +·666, H = +·187, K = −·722.

	Δ	Az.	P.	O−C.	S.	O−C.	L.	M.
	°	°	m. s.	s.	m. s.	s.	m.	m.
Sinj	0·7	96	i 0 10	− 1	i 0 17	− 3	—	0·3
Mostar	1·6	106	i 0 19	− 5	i 0 37	− 8	—	0·7
Zagreb	2·0	6	i 0 49	+18	i 1 15	+20	—	—
Sarajevo	2·0	88	i 0 39	+ 8	i 1 3	+ 8	—	1·2
Laibach	2·4	340	e 1 58	+81	i 2 28	+82	—	2·6
Gorje	2·8	336	0 49	+ 5	1 34	+17	—	1·7
Venice	2·9	304	e 1 5	+20	—	—	—	1·5
Rocca di Papa	3·0	228	i 1 10	+23	1 45	+22	2·3	3·0
Pompeii	3·1	197	e 1 40	?L	—	—	(e 1·7)	3·3
Naples	3·1	205	e 1 25	?S	(e 1 25)	− 1	(e 2·0)	—
Belgrade	3·6	71	e 1 8	+12	i 1 53	+14	—	2·4
Vienna	4·5	6	e 1 21	+11	2 36	?L	(2·6)	3·0
Innsbruck	4·6	322	e 1 38	+27	i 2 25	+19	(i 2·4)	—
Zurich	6·1	309	e 1 52	+19	—	—	—	3·9
Strasbourg	7·3	314	e 3 33	?L	e 4 34	?	5·0	—
Besançon	7·6	300	—	—	—	—	e 3·8	—
Pulkovo	18·2	24	4 29	+10	7 25	−19	—	—

Additional readings : Zagreb iPR = +55s. and +1m.6s., iSR = +1m.17s. and +1m.28s. Venice ePN = +1m.41s. Rocca di Papa SE = +1m.47s., MN = +2·7m. Belgrade iP = +1m.22s. Vienna P = +1m.40s., MN = +3·2m. Innsbruck iNW = +2m.31s., +3m.5s., and +3m.36s., iNE = +3m.0s.

May 30d. Readings also at 1h. (Rocca di Papa (2)), 5h. (Taihoku), 14h. (La Paz (2)), 15h. (Taihoku and Toronto), 17h. (Irkutsk, Baku, and Ekaterinburg), 18h. (Apia), 22h. (Malabar and near Sumoto), 23h. (Ekaterinburg).

May 31d. Readings at 0h. (Berkeley), 3h. (Apia and Ottawa), 4h. (Tacubaya), 5h. (Kobe), 8h. (Manila), 12h. (Ekaterinburg), 13h. (Barcelona (2)), 15h. (Ottawa), 20h. (Simla), 22h. (Nagasaki, Kucino, and La Paz), 23h. (Kobe).

June 1d. Readings at 0h. (Baku and Ekaterinburg), 1h. (Apia), 2h. (Nagasaki), 4h. (Apia), 5h. (Tacubaya (2)), 14h. (Kodaikanal), 15h. (Taihoku), 16h. (Nagoya), 19h. (Kodaikanal), 22h. (Kucino).

June 2d. 3h. 43m. 50s. Epicentre 41°·0N. 144°·0E. (as on 1924 July 9d.).

A = −·611, B = +·444, C = +·656 ; D = +·588, E = +·809 ; G = −·531, H = +·386, K = −·755.

	Δ	Az.	P.	O−C.	S.	O−C.	L.	M.
	°	°	m. s.	s.	m. s.	s.	m.	m.
Mizusawa	2·9	230	0 49	+ 4	1 17	− 3	—	—
Ootomari	5·7	351	1 7	−21	—	—	—	—
Nagoya	8·0	226	2 0	− 1	(3 40)	+ 3	3·7	4·1
Osaka	9·2	230	2 33	+14	—	—	4·9	11·8
Zi-ka-wei	20·6	249	e 5 13	+25	e 8 41	+ 5	—	14·1
Ekaterinburg	53·4	317	9 21	− 8	e 16 57	− 4	19·7	35·0
Kucino	64·9	323	—	—	—	—	e 33·5	37·6
Pulkovo	65·6	330	10 46	− 3	19 41	+ 9	34·2	—
De Bilt	80·3	336	—	—	—	—	e 42·2	—
Uccle	81·7	336	—	—	—	—	e 42·2	—
Granada	96·4	335	—	—	—	—	i 57·4	63·4

Additional readings: Mizusawa SN = +1m.18s. Osaka MN = +5·4m. Ekaterinburg MN = +31·1m., MZ = +35·2m. Kucino eL = +37·2m. Granada L = +59·5m.

June 2d. 5h. 18m. 12s. Epicentre 41°·0N. 144°·0E. (as at 3h.).

	Δ	Az.	P.	O−C.	S.	O−C.	L.	M.
	°	°	m. s.	s.	m. s.	s.	m.	m.
Mizusawa	2·9	230	0 47	+ 2	1 17	− 3	—	—
Ootomari	5·7	351	1 30	+ 2	—	—	3·7	—
Nagoya	8·0	226	2 3	+ 2	(3 36)	− 1	3·6	4·2
Osaka	9·2	230	2 20	+ 1	—	—	4·6	5·2
Kobe	9·4	231	2 14	− 8	3 11	−62	5·7	5·8
Sumoto	9·8	230	e 2 26	− 1	(4 23)	0	4·4	—
Zi-ka-wei	20·6	249	4 35	−13	8 28	− 8	—	13·0
Hong Kong	31·2	240	11 18	?S	(11 18)	−36	(17·4)	20·8
Manila	33·1	224	e 6 48?	− 9	—	—	—	—
Phu-Lien	37·5	250	e 7 14	−20	e 13 1	−30	18·8	—
Ekaterinburg	53·4	317	9 22	− 7	16 49	−12	27·8	34·4
Batavia	58·2	225	e 10 0	0	17 51	−10	—	—
Victoria E.	62·2	49	—	—	—	—	37·8	39·0
Kucino	64·9	323	—	—	19 17	− 7	34·4	37·4
Pulkovo	65·6	330	10 47	− 2	19 26	− 6	29·8	37·8
Baku	67·5	305	e 11 2	+ 1	19 50	− 6	34·8	37·5
Upsala	70·0	335	—	—	—	—	e 39·8	—
Konigsberg	72·8	330	—	—	—	—	e 40·3	47·8
Bergen	73·2	341	—	—	—	—	e 31·8	—
Hamburg	77·5	334	—	—	—	—	e 41·8	—
Budapest	79·0	325	—	—	—	—	e 44·8	—
Edinburgh	79·2	342	—	—	—	—	e 45·8	—
De Bilt	80·3	336	—	—	—	—	e 40·8	47·9
Stonyhurst	80·9	341	—	—	—	—	e 42·8	—
Bidston	81·5	341	27 58	?SR_1	—	—	44·8	53·8
Uccle	81·7	336	—	—	e 22 30	−13	e 40·8	—
Oxford	82·5	340	—	—	—	—	e 44·3	49·8
Strasbourg	82·6	333	e 12 48?	+14	—	—	41·8	49·8
Paris	84·0	336	e 12 35	− 7	—	—	46·8	51·8
Moncalieri	85·6	331	e 12 11	−40	23 6	−20	e 36·4	—
Rocca di Papa	86·3	326	e 12 48	− 7	—	—	e 49·1	57·1
Toronto E.	86·8	30	—	—	e 23 33	− 6	48·4	—
Tortosa N.	91·8	333	—	—	—	—	e 51·8	53·4
Granada	96·4	335	—	—	25 13	− 7	e 51·8	57·6
Malaga	97·1	335	—	—	—	—	e 49·6	—
San Fernando	97·9	336	—	—	—	—	—	58·3
La Paz	143·2	58	19 52	[+ 7]	—	—	—	—

Additional readings: Mizusawa PN = +46s. Osaka MN = +5·4m. Ekaterinburg i = +9m.30s., MN = +31·2m., MZ = +35·5m. Kucino e = +23m.11s. and +28m.54s., MN = +37·6m. Baku e = +11m.10s., MN = +44·2m. Konigsberg MN = +41·8m. De Bilt MN = +52·2m., MZ = +54·2m. Rocca di Papa ePE = +12m.44s. Granada PR_1 = +17m.32s., SR_1 = +29m.23s. Malaga reading has been increased by 1h. San Fernando MN = +58·8m.

June 2d. Readings also at 1h. (Victoria, Toronto, Malabar, and near Batavia), 2h. (Georgetown), 3h. (Victoria), 6h. and 11h. (Ekaterinburg), 13h. (near Mostar), 14h. (Kobe and near Taihoku), 15h. (Nagasaki), 19h. (near Taihoku), 20h. (Rio Tinto), 22h. (Victoria), 23h. (Tacubaya).

June 3d. 4h. 33m. 50s. Epicentre 3°·0N. 126°·0E.

A = −·587, B = +·808, C = +·052 ; D = +·809, E = +·588 ;
G = −·031, H = +·042, K = −·999.

		△	Az.	P.	O−C.	S.	O−C.	L.	M.
		°	°	m. s.	s.	m. s.	s.	m.	m.
Amboina		7·0	162	i 3 34	?S	(i 3 34)	+24	(4·5)	—
Manila		12·6	337	i 3 28	+21	(i 5 2)	−32	i 5·0	5·3
Malabar		21·0	241	4 45	− 8	8 40	− 4	i 16·3	—
Batavia		21·2	244	4 49	− 6	8 53	+ 5	13·8	—
Taihoku		22·5	349	5 29	+18	(9 35)	+20	9·6	16·4
Hong Kong		22·5	330	5 16	+ 5	9 11	− 4	11·0	15·8
Phu-Lien		26·0	315	i 5 50	+ 2	10 23	+ 1	12·2	14·8
Zi-ka-wei		28·5	352	6 14	+ 1	11 8	0	—	28·8
Nagasaki		30·0	7	6 28	0	—	—	15·6	—
Hukuoka		30·9	7	6 47	+10	11 29	−21	15·0	22·6
Kobe		32·8	13	6 47	− 8	12 26	+ 5	22·1	26·1
Osaka		32·9	15	6 53	− 3	12 20	− 2	16·7	17·3
Nagoya		33·8	16	7 9	+ 6	(12 47)	+ 9	12·8	13·0
Perth		36·3	194	4 52	?	12 30	−43	14·5	—
Mizusawa	E.	38·7	21	7 43	− 1	13 41	− 7	19·5	—
	N.	38·7	21	7 42	− 2	13 43	− 5	19·4	—
Adelaide		39·7	164	—	—	—	—	—	29·2?
Calcutta	E.	41·4	303	9 4	+58	15 52	+85	22·6	24·1
Riverview		43·8	149	i 7 56	−28	e 14 52	− 7	e 18·8	26·1
Sydney		43·8	149	7 40	−44	15 28	+29	27·9	31·5
Melbourne		44·4	159	6 34	−115	14 4	−63	22·0	30·3
Ootomari		46·0	15	8 39	− 1	(15 35)	+ 7	15·6	20·1
Colombo		46·1	276	8 45	+ 4	15 10	−19	27·8	31·1
Kodaikanal		48·7	281	8 10	−48	—	—	—	—
Hyderabad		48·8	290	i 8 55	− 4	15 55	− 9	22·7	29·7
Irkutsk		52·5	344	—	—	e 17 57	+67	25·2	—
Simla	E.	53·9	309	e 17 10	?S	(e 17 10)	+ 2	e 28·1	30·7
	N.	53·9	309	e 17 16	?S	(e 17 16)	+ 8	27·5	41·1
Bombay		54·3	291	9 17	−18	17 1	−12	27·3	33·4
Wellington		62·6	140	9 52	−37	18 22	−34	27·5	36·2
Christchurch		63·0	144	e 10 46	+14	18 58	− 3	31·3	42·0
Apia		63·9	106	11 1	+24	19 56	+44	32·9	34·2
Ekaterinburg		74·2	329	i 11 48	+ 5	21 24	+ 8	32·2	49·6
Honolulu	E.	75·8	68	e 12 3	+ 9	e 21 32	− 3	34·6	43·0
	N.	75·8	68	—	—	e 21 39	+ 4	31·6	32·0
Baku		77·5	312	e 12 8	+ 4	i 22 6	+11	38·7	—
Piatigorsk		82·8	314	i 12 39	+ 4	23 0	+ 5	—	53·4
Kucino		86·5	326	i 12 56	0	i 23 16	[+10]	39·3	46·3
Pulkovo		90·3	330	13 13	− 5	24 5	−12	43·2	55·9
Helwan		92·5	300	13 22	− 8	23 48	[+ 5]	—	58·2
Lemberg		95·4	320	e 13 34	−11	e 24 4	[+ 5]	e 56·2	—
Konigsberg		96·4	326	e 13 46	− 5	e 24 16	[+12]	e 37·2	56·2
Upsala		96·5	332	e 13 38	−14	i 25 3	−18	e 43·2	59·5
Athens		97·7	310	e 13 28	−30	24 16	[+ 4]	41·8	64·8
Vienna		100·6	321	e 13 55	−18	24 38	[+11]	e 41·2	58·2
Victoria	E.	101·2	39	14 3	−13	24 40	[+10]	44·1	56·0
	N.	101·2	39	14 1	−15	24 50	[+20]	—	43·0
Zagreb		101·6	318	i 16 5	+107	—	—	e 53·2	—
Bergen		101·9	335	18 10?	?PR_1	i 24 10	[−23]	33·2	—
Hamburg		102·6	327	e 14 30	+ 7	i 24 46	[+10]	e 38·2	60·2
Innsbruck		104·1	321	e 13 22	−68	i 18 56	?PR_1	—	—
Pompeii		104·1	315	e 15 30	+60	e 25 10	[+27]	66·2	—
Venice		104·1	319	e 14 2	−28	24 54	[+11]	—	—
Naples		104·2	315	16 45	+134	e 24 15	[−29]	54·2	69·2
Berkeley	E.	105·0	50	—	—	e 24 47	[0]	—	—
Rocca di Papa		105·1	316	14 17	−18	24 52	[+ 4]	e 50·6	66·8
Florence		105·4	317	14 10?	−26	26 20	−26	—	61·2
Lick	E.	105·8	50	e 17 59	[−8]	e 25 6	[+15]	e 48·5	—
De Bilt		105·9	327	14 24	−15	e 25 1	[+ 9]	e 52·2	62·1
Strasbourg		105·9	323	e 14 24	−15	i 27 59	+66	e 50·2	65·8

Continued on next page.

		Δ	Az.	P.	O−C.	S.	O−C.	L.	M.
		°	°	m. s.	s.	m. s.	s.	m.	m.
Cape Town		106·2	235	25 2	?S	(25 2)	[+ 9]	—	55·2
Dyce		106·9	335	—	—	25 7	[+10]	48·6	71·3
Uccle		106·9	326	e 14 27	−17	25 5	[+ 8]	44·2	66·7
Moncalieri		107·3	320	13 41	−64	28 6	+62	39·6	65·8
Besançon		107·5	321	e 18 41	?PR_2	e 28 17	+71	—	65·2
Edinburgh		108·1	333	e 18 40	?PR_1	i 25 16	[+14]	47·2	67·7
Paris		108·8	325	e 14 38	−14	e 27 55	+38	55·2	67·2
Stonyhurst		108·9	330	e 14 54	+ 1	28 24	+66	51·2	67·8
Kew		109·1	329	—	—	—	—	—	69·2
West Bromwich		109·4	329	16 10	+75	25 11	[+ 3]	—	57·2
Oxford		109·5	329	e 19 27	?PR_1	e 24 56	[−12]	e 53·8	65·6
Bidston		109·5	330	19 28	?PR_1	28 35	+71	—	72·2
Marseilles		109·5	319	e 19 10	?PR_1	e 27 10?	−14	51·2	—
Barcelona		112·5	318	e 19 29	?PR_1	—	—	e 52·6	68·4
Algiers		113·8	313	—	—	25 36	[+11]	e 45·2	72·2
Tortosa	N.	113·8	318	19 46	?PR_1	29 8	+68	47·8	72·4
Alicante	E.	115·7	316	e 15 47	+23	29 37	+81	e 62·4	69·8
	N.	115·7	316	e 15 51	+27	—	—	—	65·0
Tucson	E.	115·8	50	—	—	—	—	e 58·3	—
Toledo		117·4	318	16 7	+36	i 30 14	+105	e 49·7	60·3
Almeria		117·7	315	15 11	−22	29 46	+74	e 52·4	63·9
Granada		118·4	316	e 15 19	−17	—	—	e 46·7	76·6
Malaga		119·2	315	e 15 22	−17	30 20	+97	53·2	73·8
San Fernando		120·9	317	—	—	30 8	+72	58·2	83·2
Lisbon		121·3	319	—	—	—	—	e 41·3	—
Chicago	E.	125·9	30	—	—	—	—	e 64·0	67·6
Ann Arbor		127·3	27	e 21 40	?PR_1	—	—	66·7	73·2
Ottawa		127·9	19	e 19 25	[+11]	—	—	e 39·2	72·8
Toronto		128·1	22	e 19 50	[+36]	—	—	39·4	66·7
Ithaca		130·2	21	e 22 43	?PR_1	e 41 10	?	71·2	—
Tacubaya		130·3	61	19 18	[− 1]	22 52	?PR_1	23·3	—
Loyola	N.	132·3	42	23 10	?PR_1	—	—	56·2	66·2
Fordham		132·6	20	—	—	—	—	—	74·1
Georgetown		133·0	24	e 19 25	[0]	22 59	?	32·8	—
La Plata	E.	147·9	175	19 36	[−17]	—	—	63·4	64·7
	N.	147·9	175	i 19 41	[−12]	—	—	—	80·6
Rio de Janeiro		157·5	207	e 20 18	[+12]	(e 44 40)	?SR_1	86·3	—
La Paz		160·6	135	i 20 8	[− 1]	34 10	?	76·6	81·3

Additional readings and notes: Amboina gives S as P and L as S, also i = +3m.40s. Manila MN = +5·1m. Batavia i = +5m.42s. = PR_2 +14s. Hong Kong MN = +17·7m. Phu-Lien MN = +13·1m. Kobe SR_1 = +14m.45s., SR_2 = +17m.20s., MN = +25·6m. Osaka MN = +17·5m. Calcutta PN = +9m.10s. Riverview iPR_1 = +10m.4s., iS = +14m.12s., eSR_1 = +16m.52s., SR_2 = +17m.39s., MN = +24·9m., MZ = +26·2m. Sydney PS = +14m.4s., SR_1 = +23m.10s., SR_2 = +25m.40s. Melbourne i = +22m.40s. and +25m.52s. Hyderabad PR_1 = +11m.10s. Irkutsk e = +22m.7s. = SR_2 − 20s. Simla eSN = +21m.10s. = SR_1 − 11s., eSE = +23m.46s. = SR_2 +19s. Wellington i = +15m.22s. = PR_2 +12s. Christchurch PR_2 = +14m.46s., SR_2 = +26m.16s. Ekaterinburg PR_1 = +14m.56s., PR_2 = +17m.1s., PR_3 = +18m.10s., SR_1 = +26m.35s., SR_2 = +30m.18s., MN = +45·7m. Baku i = +12m.10s., iP = +12m.11s. Piatigorsk SR_2 = +35m.26s., MN = +46·2m. Kucino i = +13m.22s., PR_1 = +16m.55s., MN = +44·4m. Pulkovo i = +23m.39s. = [S] +9s., SR_1 = +30m.28s., SR_2 = +35m.28s., MN = +58·0m., MZ = +97·0m. Konigsberg iP = +13m.57s., e = +16m.49s., PS = +25m.9s. = S − 11s., e = +27m.39s., SR_1 = +30m.10s., iN = +31m.39s. = SR_1 − 13s., and +32m.19s., eLN = +43·2m., MN = +51·2m. Upsala MN = +52·9m. Vienna iPZ = +14m.1s., iE = +16m.3s., PR_1 = +17m.45s., iNZ = +17m.59s., PR_2 = +19m.41s., iEN = +25m.13s., PS = +25m.44s. = S − 17s., SR_1? = +31m.44s., SR_2? = +36m.13s., MN = +54·2m. Zagreb i = +16m.21s., +26m.42s., and +29m.37s., iPR_1? = +20m.47s., e = +35m.34s. Are the readings all 2m. too large? Hamburg MN = +55·2m. Rocca di Papa eZ = +12m.52s., e(P)N = +14m.4s., PN = +14m.46s., PR_1 = +17m.52s., eS = +24m.58s., N = +37m.22s., E = +38m.12s. Lick eN = +18m.58s., eN = +25m.16s. De Bilt iPR_1 = +19m.7s., MN = +63·8m., MZ = +77·8m. Strasbourg ePR_1 = +18m.58s., MZ = +65·5m., MN = +66·5m. Cape Town S = +33m.57s. (?SR_1). Dyce PR_1 = +19m.7s. Uccle i = +19m.10s. (?PR_1), +27m.54s., +28m.14s., and +34m.19s. = SR_1 +15s., MN = +60·0m. Edinburgh i = +28m.28s. Paris PR_1 = +19m.23s., MN = +61·2m. Stonyhurst PS? = +30m.22s. West Bromwich i = +19m.27s. = PR_1 +13s. Oxford e = +26m.16s., +28m.38s., and +34m.48s. = SR_1 +12s. Algiers ePR_1 = +19m.19s., MN = +74·7m.

Continued on next page.

Tortosa eE = +19m.10s.?, SE = +29m.6s., ME = +74·2m. Toledo PR_1Z = +20m.49s., PR_1NE, NW = +20m.51s., PR_1NE. NW = +26m.13s., SR_1NW = +37m.39s., SR_1NE = +37m.45s., MNW = +60·0m. Almeria MN = +79·5m. Granada P = +18m.47s. =[P] −1s., PR_1 = +20m.37s., PR_2 = +22m.57s., PS = +30m.6s., PR_2 = +33m.9s., SR_1 = +37m.34s. Malaga MN = +77·0m. San Fernando PR_1 = +30m.8s., MN = +67·7m. Chicago ePR_1E = +21m.2s., ePR_1N = +21m.15s., ePSN = +31m.20s., eSR_1N = +37m.46s., eSR_1E = +37m.55s., eSR_2E = +43m.58s., eE = +58m.53s., eLN = +63·6m., MN = +64·0m. ; T_o =4h.33m.30s. Ann Arbor i = +24m.28s. =PR_2 −15s., e = +28m.34s., i = +31m.34s., iN = +47m.40s. = SR_2 −42s. and +51m.28s., LN = +53·7m. Ottawa eE = +21m.28s. = PR_1 +13s., eN = +21m.38s. =PR_1 +23s., e = +22m.34s. and +26m.40s. = PR_2 −27s., eLN = +38·4m., MN = +72·2m. Toronto e = +21m.32s. = PR_1 +15s., i = +22m.49s. Fordham iPR_1 = +21m.55s., P_cP_cS = +22m.54s. Georgetown SN = +23m.10s. La Plata PR_1N = +23m.20s., S_cP_cSE = +26m.11s., S_cP_cSN = +26m.39s., SR_1E = +42m.11s. La Paz PR = +25m.5s. =PR_1 +23s., +27m.47s. =PR_2 −43s., and +31m.11s. =PR_2 −35s., SR = +39m.35s., +45m.10s. =SR_1 +14s., and +52m.5s. ; T_o =4h.34m.8s.

June 3d. Readings also at 0h. (near Tacubaya), 1h. (Oaxaca), 4h. (Amboina), 6h. (near Manila), 7h. (Apia and near Port au Prince), 8h. (near Osaka, Kobe, and Sumoto).

June 4d. 1h. 13m. 10s. (I) } Epicentre 43°·0N. 125°·0W. (as on 1924 July 1d.).
12h. 2m. 55s. (II) }

A = −·420, B = −·599, C = +·682 ; D = −·819, E = +·574 ;
G = −·391, H = −·559, K = −·731.

			Δ	Az.	P.	O−C.	S.	O−C.	L.	M.
			°	°	m. s.	s.	m. s.	s.	m.	m.
I	Victoria	E.	5·5	12	1 40	+16	—	—	3·1	3·4
II		E.	5·5	12	1 29	+ 4	(2 38)	+ 7	2·6	2·8
I	Berkeley	Z.	5·5	157	—	—	—	—	e 4·1	—
II		Z.	5·5	157	—	—	e 2 32	+ 1	e 3·1	—
I	Lick		6·5	155	—	—	—	—	e 4·4	—
II			6·5	155	e 2 5	+26	—	—	i 3·7	—
II	Sitka	E.	15·5	339	—	—	(e 6 30)	−14	e 6·5	7·1
II		N.	15·5	339	—	—	—	—	e 7·2	8·2
II	Chicago	E.	27·4	80	—	—	e 10 30	−18	e 13·8	18·4
II		N.	27·4	80	—	—	e 11 4	+16	e 14·0	17·8
I	Ann Arbor		30·1	77	e 10 26	?	13 38	+122	17·6	21·0
II			30·1	77	6 35	+ 6	12 35	+59	e 17·3	19·4
I	Toronto		32·8	72	e 8 10?	?PR_1	13 9	+48	18·5	22·0
II			32·8	72	6 34	−21	e 12 35	+14	18·9	21·8
I	Ottawa		34·9	69	e 9 2	?PR_1	e 13 14	+20	e 17·3	23·8
II			34·9	69	e 7 15	+ 3	e 12 54	0	e 17·1	22·1
I	Honolulu	N.	34·9	243	—	—	—	—	e 14·3	—
II		E.	34·9	243	—	—	—	—	e 14·0	19·0
II		N.	34·9	243	—	—	—	—	e 13·9	16·0
II	Ithaca		35·1	74	—	—	—	—	e 17·1	—
I	Georgetown	E.	36·0	80	—	—	—	—	e 26·1	—
II			36·0	80	e 7 32	+10	13 5	− 5	22·2	—
I	Fordham		37·5	76	e 9 26	?PR_1	—	—	e 16·8	22·5
II			37·5	76	—	—	—	—	19·6	24·2
I	Edinburgh		69·6	31	—	—	—	—	e 55·8	—
II			69·6	31	—	—	—	—	e 35·1	—
I	Eskdalemuir		70·0	31	—	—	—	—	e 32·8	—
II			70·0	31	—	—	e 20 45	+19	30·1	—
I	Stonyhurst		71·5	32	—	—	—	—	e 52·8	—
II			71·5	32	—	—	—	—	e 29·1	—
I	Bidston		71·5	32	40 40	?L	46 30	?	(40·7)	57·8
II			71·5	32	—	—	—	—	31·1	40·1
I	Upsala	N.	72·7	19	—	—	—	—	e 47·8	—
II			72·7	19	—	—	—	—	e 36·1	—
I	Osaka		73·3	303	11 36	− 2	—	—	—	23·4
II			73·3	303	28 16	?	—	—	—	36·8
II	Oxford		73·5	33	—	—	—	—	e 32·3	43·6

Continued on next page.

		Δ	Az.	P.	O−C.	S.	O−C.	L.	M.
		°	°	m. s.	s.	m. s.	s.	m.	m.
II	Kew	74·1	32	—	—	—	—	—	44·1
I	Pulkovo	75·3	13	e 11 54	+ 3	21 36	+ 7	37·8	52·8
II		75·3	13	11 53	+ 2	21 34	+ 5	35·1	42·9
I	De Bilt	75·6	29	—	—	—	—	e 41·8	55·5
II		75·6	29	e 12 7	+14	e 21 49	+16	e 32·1	37·0
II	Irkutsk	75·7	332	—	—	—	—	e 48·1	—
II	Hamburg	76·0	26	—	—	e 21 5?	−32	—	—
I	Uccle	76·4	30	—	—	e 22 2	+20	e 49·8	55·8
II		76·4	30	—	—	e 21 53	+11	32·6	37·6
I	Paris	77·4	32	—	—	—	—	e 42·8	—
II		77·4	32	e 12 16	+13	—	—	42·1	49·1
II	La Paz	79·1	125	11 59	−15	—	—	—	—
I	Strasbourg	79·5	30	—	—	—	—	46·8	—
II		79·5	30	e 12 5?	−11	(e 22 5?)	−13	e 22·1	—
I	Ekaterinburg	80·1	357	12 16	− 4	e 22 18	− 6	31·8	—
II		80·1	357	i 12 17	− 3	e 22 19	− 5	32·6	51·6
II	Kucino	80·2	10	—	—	—	—	e 43·1	—
II	Vienna z.	82·7	25	e 12 41	+ 7	—	—	—	—
II	Tortosa N.	82·9	39	—	—	—	—	e 33·1	—
II	San Fernando	83·0	45	—	—	—	—	35·1	49·6
I	Granada	83·8	43	—	—	—	—	i 44·5	47·9
II		83·8	43	i 9 47	−174	20 9	−178	41·1	45·4
II	Zi-ka-wei z.	84·1	309	e 11 25	−78	—	—	—	—
I	Baku	96·5	4	—	—	e 26 3	+42	42·3	—
II		96·5	4	—	—	e 24 23	[+18]	e 42·1	60·3
II	Manila	96·6	299	—	—	e 27 5?	+103	—	—
II	Phu-Lien	100·5	313	—	—	—	—	46·1	—
II	Hyderabad	115·8	335	—	—	—	—	—	59·7

Additional readings and notes: Victoria II PN = +1m.21s.; T_o (I) = 1h.13m.9s., T_o(II) = 12h.3m.0s. Berkeley I eE = +4m.32s., eN = +5m.14s., iE = +5m.52s., iZ = +6m.19s., II eE = +3m.48s., iN = +5m.30s. Lick I eN = +5m.8s., II eN = +2m.6s., iE = +4m.9s. Toronto II e = +8m.10s. = PR_2+0s. Ottawa I MN = +21·8m., II ePR_2E = +8m.37s.; T_o = 12h.3m.3s. Honolulu I eE = +14m.25s. = SR_1 − 31s. Eskdalemuir I L = +50·8m. Upsala II reading is given for 5d. Pulkovo I SR_1 = +27m.38s., MN = +47·6m., II SR_1 = +27m.35s., MZ = +43·6m. De Bilt I MZ = +46·2m., II MN = +38·6m., MZ = +45·2m. Uccle I e = +36m.50s. Ekaterinburg I e = +16m.45s., II MN = +52·8m., MZ = +55·3m. San Fernando MN = +49·1m. Granada I eL = +46·6m., II PR_1 = +13m.9s. = PR_1 − 180s., PR_2 = +15m.13s. = PR_2 − 189s., SR_1 = +24m.19s. = SR_1 − 229s., SR_2 = +31m.34s. = SR_2 − 192s. Readings all 3 min. too small? Baku I e = +32m.13s. = SR_1 +19s., II e = +38m.58s. = SR_2 − 8s., MNZ = +67·6m.

June 4d. 1h. 19m. 40s. Epicentre 27°·0N. 125°·0E.

A = −·511, B = +·730, C = +·454; D = +·819, E = +·574; G = −·260, H = +·372, K = −·891.

	Δ	Az.	P.	O−C.	S.	O−C.	L.	M.
	°	°	m. s.	s.	m. s.	s.	m.	m.
Taihoku	3·7	239	e 0 57	− 1	—	—	1·4	2·2
Zi-ka-wei	5·2	324	e 1 36	+16	—	—	—	—
Hong Kong	10·9	247	2 34	− 9	—	—	—	7·2
Manila	13·0	198	e 3 9	− 4	—	—	8·3	—
Phu-Lien	17·9	254	e 4 27	+11	e 7 41	+ 3	9·3	—

No additional readings.

June 4d. Readings also at 0h. (Ekaterinburg (2) and near Mizusawa), 1h. (near Merida and Tacubaya), 5h. (Taihoku and Kobe), 6h. (Amboina), 7h. (Manila and Batavia), 14h. (Tortosa and Granada), 15h. (Toledo, Ekaterinburg, and near Kobe and Sumoto), 19h. (Ekaterinburg and Manila), 20h. (near Sumoto), 21h. (Baku).

June 5d. Readings at 0h. (near Taihoku), 3h. (near Sumoto), 5h. (La Paz), 7h, (Baku and Ekaterinburg), 15h. (Mizusawa and near Malabar).

June 6d. 3h. 42m. 25s. Epicentre 30°·0S. 77°·0W.

$A = +·195$, $B = -·844$, $C = -·500$; $D = -·974$, $E = -·225$; $G = -·112$, $H = +·487$, $K = -·866$.

		Δ	Az.	P.	O−C.	S.	O−C.	L.	M.
		°	°	m. s.	s.	m. s.	s.	m.	m.
La Paz		15·7	33	3 40	− 8	7 0	+12	9·5	10·2
La Plata	E.	16·8	112	i 4 4	+ 2	e 6 59	−14	7·8	8·3
	N.	16·8	112	i 4 10	+ 8	e 6 53	−20	8·0	10·8
Rio de Janeiro		31·0	85	—	—	—	—	16·1	—

La Paz gives also SE = +7m.13s.

June 6d. 8h. 51m. 28s. Epicentre 39°·0N. 22°·0E. (as on 1922 Mar. 15d.).

$A = +·721$, $B = +·291$, $C = +·629$; $D = +·375$, $E = -·927$; $G = +·584$, $H = +·236$, $K = -·777$.

	Δ	Az.	P.	O−C.	S.	O−C.	L.	M.
	°	°	m. s.	s.	m. s.	s.	m.	m.
Athens	1·7	127	0 24	− 2	(i 0 44)	− 4	i 0·7	0·9
Belgrade	5·9	344	e 2 45	?S	(e 2 45)	+ 4	e 4·4	7·5
Pompeii	6·0	289	e 1 32	0	—	—	—	—
Naples	6·2	290	e 3 4	?L	—	—	(e 3·1)	—
Rocca di Papa	7·6	294	e 2 3	+ 8	—	—	e 5·5	6·1
Zagreb	8·1	329	e 2 32?	+29	e 5 0	+80	(e 5·0)	—
Venice	9·6	315	e 2 5	−19	—	—	—	6·2
De Bilt	17·6	324	—	—	—	—	e 10·5	—

Additional readings: Athens MN = +0·8m. Belgrade SR_1 = +4m.54s. Rocca di Papa PR_1N = +4m.45s. Zagreb i = +5m.16s., +5m.24s., and +6m.38s.

June 6d. 20h. 45m. 25s. Epicentre 32°·0S. 95°·5W.

$A = -·081$, $B = -·844$, $C = -·530$; $D = -·995$, $E = +·096$; $G = +·051$, $H = +·527$, $K = -·248$.

		Δ	Az.	P.	O−C.	S.	O−C.	L.	M.
		°	°	m. s.	s.	m. s.	s.	m.	m.
La Paz		29·2	65	6 20	0	—	—	16·3	18·4
Rio de Janeiro	N.	46·9	91	—	—	e 15 43	+ 3	—	—
Ann Arbor		75·1	9	—	—	e 22 41	+74	36·5	—
Toronto	E.	77·1	12	—	—	—	—	35·1	—
Ottawa		79·5	14	—	—	e 22 18	0	e 34·6	—
Uccle		120·2	46	—	—	—	—	e 60·6	—
De Bilt		120·9	45	—	—	—	—	e 61·6	—
Ekaterinburg		150·2	26	—	—	e 49 18	?SR_2	e 81·1	—

Additional readings: Toronto LN = +39·1m. De Bilt eLNZ = +62·6m.

June 6d. Readings also at 0h. (Apia), 1h. (near Mizusawa), 2h. (Taihoku and Zi-ka-wei), 5h. (Mizusawa), 6h. (Apia), 7h. (Riverview), 9h. (Honolulu), 10h. (Apia), 11h. (near Sumoto), 16h. (Irkutsk, Taihoku and Zi-ka-wei), 17h. (Ekaterinburg, near La Paz, and near Zagreb).

June 7d. 23h. 41m. 40s. Epicentre 3°·0N. 80°·5W.

(as on 1924 Oct. 18d.).

A = +·165, B = −·985, C = +·052 ; D = −·986, E = −·165 ; G = +·009, H = −·052, K = −·999.

A depth of focus 0·045 has been assumed.

		Corr. for Focus	Δ	Az.	P.	O−C.	S.	O−C.	L.	M.
		°	°	°	m. s.	s.	m. s.	s.	m.	m.
Balboa Hts.	E.	0·0	6·1	9	2 30	+57	3 14	+28	3·7	3·8
Port au Prince		−1·5	17·5	27	i 3 51	− 1	(6 27)	−28	6·4	6·8
La Paz		−2·1	23·0	148	i 4 53	+ 1	i 8 48	+ 6	10·1	11·4
Tacubaya		−2·4	24·6	313	5 35	+28	10 29	?SR_1	—	—
Georgetown	E.	−3·0	36·1	6	e 6 57	0	12 9	−17	e 14·4	—
	N.	−3·0	36·1	6	i 6 56	− 1	12 12	−14	—	—
Chicago		−3·6	39·3	353	i 7 13	− 6	(e 12 57)	− 9	e 13·6	18·2
Ann Arbor		−3·6	39·4	357	i 7 20	0	i 13 8	+ 1	e 18·0	—
Ithaca		−3·6	39·6	6	7 19	− 3	13 4	− 6	e 21·3	—
Toronto	R.	−3·7	40·7	2	e 7 50	+20	i 13 26	+ 2	19·5	—
	N.	−3·7	40·7	2	i 7 27	− 3	i 13 29	+ 5	18·5	26·6
Ottawa		−3·8	42·6	6	i 7 40	− 4	i 13 48	− 1	e 18·3	—
La Plata	E.	−3·9	43·4	153	7 47	− 4	13 58	− 1	20·5	24·0
	N.	−3·9	43·4	153	7 51	0	14 1	+ 2	20·9	28·7
Rio de Janeiro		−4·0	44·7	129	i 7 43	−18	13 58	−19	e 17·3	24·3
Lick		−4·5	51·0	319	i 9 11	+27	—	—	—	—
Victoria		−5·0	58·3	329	9 55	+27	18 1	+61	29·7	32·4
San Fernando		−5·5	75·6	54	11 53	+35	20 29	+ 2	—	22·3
Malaga		−5·6	77·1	54	11 41	+14	i 20 43	− 1	26·8	—
Honolulu	E.	−5·6	77·4	291	e 12 37	+69	e 22 7	+79	e 38·0	43·4
Toledo		−5·8	77·7	51	11 27	− 4	e 20 48	− 3	e 30·7	—
Granada		−5·8	77·7	54	i 11 30	− 1	i 20 54	+ 3	e 29·2	40·2
Almeria	•	−5·6	78·7	54	11 49	+12	i 21 4	+ 1	e 38·4	—
Bidston		−5·7	80·1	37	—	—	21 23	+ 4	—	34·3
Eskdalemuir		−5·7	80·3	35	e 11 53	+ 7	i 21 25	+ 4	38·3	—
Alicante	E.	−5·7	80·3	51	12 26	+40	21 22	+ 1	—	—
	N.	−5·7	80·3	51	12 22	+36	21 17	− 4	—	—
Edinburgh		−5·7	80·5	35	—	—	i 21 28	+ 4	—	—
Oxford		−5·7	81·0	40	e 11 54	+ 3	i 21 30	+ 1	—	—
Tortosa	E.	−5·7	81·3	50	11 53	0	i 21 30	− 3	—	—
	N.	−5·7	81·3	50	11 55	+ 2	i 21 31	− 2	e 33·3	—
Kew		−5·7	81·8	40	—	—	—	—	—	57·3
Barcelona		−5·7	82·5	48	e 12 31	+31	21 40	− 7	e 33·4	—
Algiers		−5·8	83·1	54	e 11 58	− 5	21 45	− 7	e 38·3	—
Paris		−5·8	83·2	42	e 12 2	− 1	i 21 51	− 2	31·3	39·3
Uccle		−5·8	84·4	40	e 12 7	− 4	i 22 5	− 2	—	—
De Bilt		−5·8	85·0	39	12 14	0	22 14	0	—	—
Besançon		−5·9	85·5	44	e 12 16	− 1	22 13	− 6	—	—
Strasbourg		−5·9	86·8	43	e 12 21	− 2	i 22 27	− 4	32·3	—
Moncalieri		−5·9	86·6	46	12 13	−10	22 24	− 7	29·0	—
Zurich		−5·9	87·2	44	e 12 24	− 3	e 22 29	− 9	—	—
Hamburg		−5·9	87·9	37	e 12 29	− 1	e 22 41	− 5	e 36·3	—
Innsbruck	N.E.	−5·9	89·1	43	e 12 56	+19	e 22 50	− 9	—	—
Florence		−5·9	89·2	47	22 45	?S	(22 45)	−15	—	29·3
Venice		−5·9	89·8	45	e 13 38	+57	23 5	− 3	—	—
Rocca di Papa		−5·9	90·4	49	e 12 43	− 2	e 23 3	−11	—	—
Upsala		−6·0	91 5	30	e 13 20?	+29	e 22 56	[− 3]	—	—
Naples		−6·0	91·6	49	e 14 20	+89	e 23 50	+24	—	—
Zagreb		−6·0	92·4	45	i 13 50?	+55	e 22 54	[− 7]	—	—
Vienna		−6·0	92·4	41	e 12 59	+ 4	23 24	−10	e 35·3	—
Konigsberg		−6·0	93·8	35	13 2	− 2	e 23 32	−18	—	—
Pulkovo		−6·1	97·6	29	13 15	− 9	23 33	[−38]	38·3	40·4
Ekaterinburg		—	112·5	22	e 17 14	?	e 24 50	[−30]	27·3	29·1
Baku		—	117·3	41	e 20 7	?PR_1	e 25 11	[−25]	—	—
Manila		—	152·4	310	e 20 50?	[+50]	—	—	—	—
Batavia		—	172·0	246	21 20?	[+64]	—	—	—	35·3

Additional readings and notes: La Paz MN = +11·2m. ; T_0 = 23h.41m.34s. Georgetown PR_1N = +7m.31s., i = +17m.20s. Chicago eE = +9m.10s., eN = +9m.14s., eSE = +11m.23s., eLN = +13·9m., MN = +20·2m., eSR_1N is entered as s. Ann Arbor SR_2 = +16m.8s. Ithaca i = +8m.4s., +17m.13s. and +18m.11s., PR_1 = +8m.57s. Toronto iE = +14m.18s. and +16m.28s. = SR_2 +7s. ; T_0 = 23h.41m.29s. Ottawa i = +8m.13s., PR_1N = +9m.8s., PR_2 = +9m.22s., SR_2E = +16m.54s. Rio de Janeiro

Continued on next page.

$PR_1N = +9m.20s.$, $PR_1E = +9m.28s.$, $MN = +25{\cdot}5m.$ Victoria $LN = +31{\cdot}6m.$; $T_0 = 23h.41m.33s.$ Honolulu $eN = +22m.39s.$, ePSE? = +23m.14s. Toledo $iZ = +11m.29s.$, $iNE = +20m.52s.$, $iNW = +20m.53s.$ Granada $iPEN = +11m.32s.$, $i = +12m.16s.$, $PR_1 = +14m.6s.$, $PR_2 = +15m.55s.$, $i = +20m.43s.$, $SR_1 = +22m.50s.$, $SR_2 = +23m.39s.$ Eskdalemuir $SR_1 = +26m.20s.$ Paris $e = +12m.45s.$, $MN = +34{\cdot}3m.$ De Bilt $iZ = +12m.57s.$, $i = +23m.11s.$ Rocca di Papa $eN = +12m.24s.$, $PE = +13m.21s.$, $PN = +13m.32s.$ Naples readings have been increased by 1h. Zagreb $e = +12m.20s.$? Vienna $iZ = +13m.30s.$, $PR_1? = +16m.56s.$, $PS = +24m.23s.$, $SR_1? = +30m.25s.$ Konigsberg $eZ = +13m.44s.$, $iS = +23m.45s.$, $iPS = +24m.42s.$, $e = +26m.8s.$ Pulkovo $PS = +24m.14s.$ = $S - 15s.$, $e = +25m.32s.$, $SR_1 = +29m.44s.$, $MN = +51{\cdot}6m.$, $MZ = +52{\cdot}1m.$ Baku $e = +29m.15s.$

June 7d. Readings also at 4h. (Chicago and near Mizusawa), 5h. (La Paz), 6h. (Mizusawa), 8h. (near Zagreb (2)), 15h. (Ekaterinburg), 19h. (Florence).

June 8d. Readings at 2h. (Florence), 3h. (Baku, Pulkovo, and Ekaterinburg), 6h. (Ekaterinburg), 10h. (Simla and near Athens), 11h. (Ekaterinburg), 13h. (near Malabar), 15h. (La Paz), 17h. (Taihoku), 18h. (Irkutsk), 22h. (La Paz (2) and La Plata), 23h. (Rio de Janeiro and Ekaterinburg).

June 9d. 13h. 40m. 20s. Epicentre 3°·5S. 142°·0E.

(as on 1918 July 3d.).

$A = -{\cdot}787$, $B = +{\cdot}615$, $C = -{\cdot}061$; $D = +{\cdot}616$, $E = +{\cdot}788$; $G = +{\cdot}048$, $H = -{\cdot}038$, $K = -{\cdot}998$.

		Δ	Az.	P.	O−C.	S.	O−C.	L.	M.
		°	°	m. s.	s.	m. s.	s.	m.	m.
Amboina		13·8	269	4 58	+95	10 16	?L	(10·3)	—
Manila		27·7	312	i 5 58	− 7	(i 10 52)	− 2	i 10·9	11·2
Riverview		31·5	165	i 7 2	+19	i 12 2	+ 2	e 14·1	21·7
Sydney		31·5	165	7 4	+21	12 40	+40	17·7	18·8
Adelaide		31·6	185	7 1	+18	e 11 58	− 3	i 14·5	20·0
Melbourne		34·4	176	e 6 40	−28	12 4	−42	19·1	20·2
Malabar		34·5	263	7 1	− 8	(e 12 40)	− 8	e 12·7	—
Taihoku	E.	34·9	326	6 59	−13	(12 12)	−42	12·2	18·3
	N.	34·9	326	6 59	−13	(12 28)	−26	12·5	14·9
Batavia		35·2	264	6 52	−23	12 52	− 6	21·7	—
Hong Kong		37·5	315	7 21	−13	12 52	−39	17·2	23·2
Perth		37·6	218	i 7 14	−21	12 57	−35	17·5	22·8
Nagasaki		38·0	345	e 7 40	+ 2	—	—	16·7	20·2
Sumoto		38·4	351	7 50	+ 9	—	—	e 16·6	20·8
Osaka		38·7	351	7 55	+11	13 25	−23	18·3	20·0
Kobe		38·7	351	7 46	+ 2	13 38	−10	19·0	23·6
Hukuoka		38·7	345	7 38	− 6	13 28	−20	16·4	20·2
Nagoya		39·0	354	12 12	?	16 2	?SR_1	22·0	—
Zi-ka-wei		39·9	332	i 7 49	− 5	13 45	−20	19·8	21·7
Phu-Lien		42·4	307	i 8 5	− 9	14 41	+ 1	20·7	23·2
Mizusawa		42·6	359	8 22	+ 7	14 39	− 4	20·8	—
Apia		46·8	106	9 20	+34	16 27	+49	25·7	27·7
Wellington		47·9	146	e 9 17	+24	i 16 21	+28	22·4	30·4
Ootomari		50·2	1	9 25	+17	(16 29)	+ 8	16·5	26·4
Colombo		62·9	280	10 35	+ 4	—	—	—	—
Honolulu		63·7	64	i 11 18	+42	20 7	+58	e 31·5	40·7
Irkutsk		64·2	336	i 10 55	+16	i 19 23	+ 8	26·7	34·6
Kodaikanal		65·8	283	10 52	+ 2	—	—	31·7	63·8
Hyderabad		66·1	291	i 10 40	−12	19 10	−28	32·1	42·5
Simla	E.	70·6	305	e 11 34	+13	(e 20 22)	−11	e 20·4	20·9
Bombay		71·6	291	11 24	− 3	20 39	− 6	38·4	—
Ekaterinburg		88·2	328	i 13 12	+ 6	i 23 43	−11	36·7	53·7
Baku		93·8	311	i 13 40	+ 3	24 46	− 8	47·7	55·2
Victoria	E.	95·8	42	13 54	+ 6	24 39	−35	—	52·8
	N.	95·8	42	14 1	+13	25 19	+ 5	40·7	—
Berkeley		96·6	52	e 14 18	+26	e 24 54	−28	e 47·1	55·5
Lick		97·2	53	i 14 11	+16	e 24 50	−38	e 45·9	57·3
Piatigorsk		98·8	315	e 15 40?	+96	—	—	—	—
Kucino		100·7	326	14 8	− 6	e 24 28	[0]	46·9	61·8
Pulkovo		103·8	332	14 23	− 6	26 4	−27	47·7	62·1

Continued on next page.

		Δ	Az.	P.	O−C.	S.	O−C.	L.	M.
		°	°	m. s.	s.	m. s.	s.	m.	m.
Helwan		109·5	300	e 14 47	− 8	25 43?	[+35]	—	66·4
Upsala		109·6	335	e 19 20	?PR$_1$	i 28 37	+73	e 49·7	66·7
Denver	E.	109·8	48	—	—	—	—	57·7	59·7
Konigsberg		110·5	329	—	—	—	—	e 51·0	66·7
Athens		114·2	310	19 55	?PR$_1$	29 21	?	43·7	66·7
Bergen		114·3	339	—	—	—	—	e 59·7	—
Budapest		114·4	322	e 19 40?	?PR$_1$	e 29 40?	+95	e 52·7	—
Belgrade	E.	114·4	319	e 19 44	?PR$_1$	25 56	+111	66·7	—
	N.	114·4	319	e 20 10	?PR$_1$	e 29 34	+89	e 60·0	—
Vienna		115·6	323	e 18 46	[+ 6]	29 20	+65	e 51·7	71·0
Hamburg		116·4	331	i 20 13	?PR$_1$	e 30 4	+103	e 50·7	69·7
Zagreb		117·0	321	e 19 9	[+25]	e 29 56	+90	e 58·7	96·7
Cheb		117·0	326	17 40	?	—	—	e 54·7	69·7
Laibach		117·7	322	e 20 15	?PR$_1$	e 30 9	+97	e 65·5	74·3
Innsbruck		119·0	324	19 58	?PR$_1$	29 22	+40	e 50·7	74·6
Dyce		119·2	339	—	—	28 51	+ 8	49·6	69·2
Venice		119·4	321	e 20 40?	?PR$_1$	—	—	—	—
De Bilt		119·8	331	e 15 34	− 7	—	—	e 53·7	72·7
Pompeii		120·0	316	e 19 40	?PR$_1$	—	—	—	—
Naples		120·1	316	e 20 50	?PR$_1$	e 29 10	+20	—	67·7
Strasbourg		120·4	326	e 15 46	+ 2	e 30 54	?	e 46·7	68·2
Zurich		120·6	325	e 19 22	[+28]	—	—	64·7	—
Edinburgh		120·6	338	e 20 40?	?PR$_1$	—	—	51·7	74·7
Uccle		120·8	330	—	—	—	—	e 50·7	73·7
Rocca di Papa	E.	120·8	318	e 14 57	−49	e 20 11	?PR$_1$	e 69·0	73·0
Florence		120·8	320	21 10	?PR$_1$	30 25	?	56·7	64·7
Eskdalemuir		121·1	338	15 49	+ 1	30 40	+102	49·7	—
Chicago	N.	121·5	41	—	—	e 27 52	−69	e 62·4	68·7
Stonyhurst		121·9	336	e 20 48	?PR$_1$	—	—	61·7	65·2
Besançon		122·1	326	20 52	?PR$_1$	—	—	—	74·7
Bidston		122·4	336	21 0	?PR$_1$	30 55	?	—	74·2
Moncalieri		122·5	323	e 14 40	−75	30 32	+84	e 41·8	75·1
West Bromwich		122·6	333	—	—	30 45	+96	—	77·7
Kew		122·6	333	—	—	—	—	—	82·7
Oxford		122·9	333	i 20 55	?PR$_1$	29 52	+41	e 57·0	75·0
Paris		123·0	329	e 20 58	?PR$_1$	e 31 34	?	42·7	73·7
Ann Arbor		123·8	40	i 21 16	?PR$_1$	32 52	?	e 56·9	72·7
Loyola	N.	124·1	55	—	—	—	—	49·7	—
Toronto	E.	125·8	36	e 21 19	?PR$_1$	33 3	?	58·0	77·8
	N.	125·8	36	e 21 21	?PR$_1$	e 33 6	?	—	—
Ottawa		126·7	32	i 21 32	?PR$_1$	e 33 10	?	e 56·7	73·7
Barcelona		127·8	322	e 21 46	?PR$_1$	—	—	e 64·7	84·0
Ithaca		128·1	36	21 58	?PR$_1$	—	—	66·7	—
Tortosa	N.	129·1	323	19 55	[+39]	—	—	e 56·7	80·4
Algiers		129·7	317	—	—	e 31 33	?	e 47·7	78·7
Georgetown	E.	129·9	40	e 21 56	?PR$_1$	—	—	65·7	70·4
	N.	129·9	40	e 21 57	?PR$_1$	32 4	?	66·7	68·4
Fordham		130·7	36	i 22 4	?PR$_1$	—	—	60·2	81·7
Alicante		131·2	321	e 19 47	[+26]	—	—	—	—
Harvard		131·3	32	23 18	?PR$_1$	—	—	e 66·5	70·2
Toledo		132·4	325	e 19 42	[+18]	e 33 43	?	—	74·0
Almeria		133·3	320	i 19 46	[+20]	e 33 12	?	e 52·9	82·2
Granada		133·9	321	e 17 12	?	i 28 36	?	e 67·7	80·7
Malaga		134·7	321	e 19 17	[−12]	32 31	?	45·4	73·8
Rio Tinto		135·3	324	63 40	?L	—	—	(63·7)	97·7
San Fernando		135·9	322	20 1	[+29]	34 32	?	56·7	81·7
Lisbon		136·1	326	—	—	—	—	e 62·1	72·1
La Plata	N.	137·3	156	—	—	33 0	?	70·0	77·3
Port au Prince		143·2	62	e 20 25	[+40]	—	—	—	—
La Paz		144·1	125	i 20 15	[+28]	33 57	?	71·8	98·0
Rio de Janeiro		153·1	171	e 20 40	[+40]	—	—	76·7	79·1

Additional readings: Manila iS = +9m.18s., MN = +11·1m. Riverview PR$_1$ = +8m.8s. and +8m.23s., PS = +12m.24s., MN = +20·7m., MZ = +20·9m.; T$_o$ = 13h.40m.48s. Sydney PR$_2$ = +8m.28s., SR$_1$ = +14m.40s. Adelaide SR$_1$ = +13m.16s. Melbourne SR$_1$ = +15m.22s., SR$_2$ = +16m.16s. Malabar i = +8m.48s. = PR$_2$ +12s. Taihoku SN = +9m.43s., SE = +10m.0s. Batavia i = +8m.17s. = PR$_1$ −7s., and +9m.30s. Perth PR$_1$ = +8m.49s., PR$_2$ = +9m.23s., S = +13m.6s. = S − 26s., SR$_1$ = +15m.29s., SR$_2$ = +16m.33s. Kobe MN = +20·9m. Zi-ka-wei PR$_1$ = +9m.34s., PR$_2$ = +10m.30s., SR$_1$Z = +16m.28s., MZ = +21·1m., MN = +22·2m. Phu-Lien MN = +25·4m. Mizusawa PN = +8m.28s. Wellington iP = +9m.20s., PR$_2$ = +10m.54s., PR$_3$ = +12m.7s., SR$_1$ = +20m.17s. = SR$_2$ − 26s., SR$_3$ = +21m.17s. = SR$_2$ +3s.; T$_o$ = 13h.40m.39s. Honolulu

Continued on next page.

eSR$_1$E = +24m.29s., eSR$_1$N = +24m.52s., eSR$_2$E = +26m.58s., eSR$_2$N = +27m.20s., LN = +31·8m., MN = +34·1m. : T$_0$ =13h.40m.49s. Irkutsk MZ = +36·1m., MN = +37·0m. Ekaterinburg iPR$_1$ = +16m.44s., iSR$_1$ = +30m.29s., MN = +47·3m., MZ = +53·6m. Baku MZ = +66·2m., MN = +66·4m. Berkeley iPZ = +14m.22s., eE = +14m.26s., +24m.50s., and +44m.14s., iPR$_1$Z = +18m.13s. Lick iPE = +14m.18s., iPR$_1$E = +17m.43s., iZ = +18m.9s., iE = +18m.12s., eE = +32m.43s. = SR$_1$ +41s., MZ = +48·6m. Kucino PR$_1$ = +18m.14s., i = +27m.2s., e = +27m.32s., SR$_1$ = +32m.6s., MN = +53·8m. Pulkovo PR$_1$ = +18m.5s. i = +18m.39s., PS = +27m.40s., SR$_1$ = +33m.4s., SR$_2$ = +37m.4s., MN = +60·8m., MZ = +62·0m. Upsala MN = +67·2m. Helwan PR$_1$ = +19m.17s. Konigsberg MN = +54·0m. Athens MN = +76·7m. Belgrade PR$_1$N = +25m.32s. =[S]+5s., SR$_1$N = +33m.15s. Vienna PR$_1$ = +22m.29s., PS? = +30m.29s., SR$_1$ = +35m.21s. and several i readings. Hamburg ePS = +31m.14s., eSR$_1$ = +36m.7s., MN = +70·7m. Zagreb e = +20m.26s. =PR$_1$ +22s. and +31m.47s., i = +23m.32s. =PR$_2$ +14s. Laibach PR$_1$ = +24m.31s., SR$_1$ = +32m.57s. Innsbruck iNE = +20m.45s. =PR$_1$ +27s. Dyce PR$_1$ = +20m.11s. and +20m.26s., also a reading +23m.56s. =PR$_2$ +19s. De Bilt ePR$_1$ = +20m.32s., eZ = +30m.21s. and e = +31m.6s., MN = +70·5m. Naples readings are given for 8d. Strasbourg PR$_1$ = +20m.31s., e = +36m.59s. =SR$_1$ +13s., MN = +71·7m., MZ = +74·7m. Edinburgh i = +30m.48s. and +37m.42s. = SR$_1$ +48s. Uccle PR$_1$ = +20m.24s., PR$_2$ = +23m.24s., MN = +70·8m. Rocca di Papa e = +13m.42s., ePN = +14m.37s., eSZ = +20m.41s. = PR$_1$ −9s., eSN = +20m.49s. Florence S = +30m.40s. Eskdalemuir e = +20m.42s. =PR$_1$ +10s., and +27m.40s., SR$_1$ = +36m.40s. Chicago ePR$_1$N = +20m.49s., ePR$_1$E = +20m.52s., ePSN = +30m.52s., eSR$_1$N = +37m.27s., eSR$_2$N = +42m.16s. Moncalieri MN = +76·2m. ; all readings have been diminished by 1h. Oxford i = +43m.38s. Ann Arbor SR$_2$? = +44m.40s. and many i readings. Toronto eN = +22m.18s., +36m.32s., and +38m.20s., eE = +28m.39s. Ottawa PR$_2$N? = +28m.31s., e = +36m.40s., SR$_1$? = +39m.4s., SR$_2$? = +44m.40s., MN = +72·7m. and many i and e readings. Barcelona MN = +72·6m. Ithaca e = +39m.40s. and +59m.40s. Tortosa PE? = +19m.51s., ME = +81·8m. Algiers ePR$_1$ = +21m.36s. Georgetown PR$_1$ = +23m.9s. Fordham iPR$_1$ = +23m.15s., iPS = +32m.14s., iSR$_1$ = +39m.23s., SR$_2$ = +40m.33s. Harvard eLN = +68·3m., MN = +72·7m. Toledo e = +21m.58s. = PR$_1$ +12s., iPR$_1$NE = +23m.8s., iPR$_1$NW = +23m.10s., MNW = +72·3m., MZ = +83·7m. Almeria MN = +73·1m. Granada P = +20m.21s., PR$_1$ = +23m.49s., PR$_2$ = +25m.52s. MZ = +121·5m. Malaga MN = +86·0m. San Fernando PR$_1$ = +23m.20s., SR$_1$ = +35m.38s., MN = +79·7m. La Plata PR$_1$N? = +22m.49s., PR$_1$E? = +22m.55s., iS$_c$P$_c$SN? = +26m.32s. =PR$_2$ +36s., and +33m.0s., iPSN? = +35m.9s., LE = +67·7m., ME = +80·7m. La Paz iN = +20m.39s. =[P] +52s., PR$_1$ = +25m.27s., PR$_2$ = +28m.59s. =PR$_3$ −30s., SN = +34m.11s., SR$_1$ = +42m.57s., SR$_2$ = +49m.17s. Rio de Janeiro eL = +24m.10s.(?PR$_1$).

June 9d. 18h. 53m. 45s. Epicentre 2°·0S. 128°·5E. (as on 1924 Nov. 18d.).

A = −·622, B = +·782, C = −·035 ; D = +·783, E = +·622 ; G = +·022, H = −·027, K = −·999.

	Δ	Az.	P.	O−C.	S.	O−C.	L.	M.
	°	°	m. s.	s.	m. s.	s.	m.	m.
Manila	18·2	336	e 9 15	?L	—	—	9·8	—
Perth	32·2	200	—	—	12 15?	+ 3	—	—
Riverview	38·2	148	e 15 45	?SR$_1$	(e 15 45)	+124	e 17·0	20·2
Sydney	38·2	148	12 9	?S	(12 9)	−92	17·2	20·2
Melbourne	38·8	159	—	—	e 13 45	− 4	—	17·6
Irkutsk	58·0	344	i 10 0	+ 1	e 18 32	+33	27·2	—
Honolulu	75·4	67	—	—	—	—	e 31·4	—
Ekaterinburg	79·8	330	e 12 20	+ 2	e 22 28	+ 7	e 38·2	—
Kucino	92·0	325	—	—	—	—	e 47·1	53·4
Pulkovo	95·9	330	e 11 8	?	e 26 43	+88	52·2	63·0
De Bilt	111·4	326	—	—	—	—	e 63·2	—
Strasbourg	111·4	322	—	—	—	—	62·2	—
Uccle	112·4	325	—	—	—	—	—	66·2
Eskdalemuir	114·1	332	—	—	—	—	e 61·2	—
Paris	114·4	324	—	—	—	—	e 69·2	—
Granada	123·7	314	—	—	—	—	e 73·6	85·0
Ann Arbor	130·5	30	—	—	—	—	e 62·2	—
Ottawa	131·7	21	—	—	—	—	e 58·5	—
La Paz	155·2	139	19 31	[−31]	—	—	—	—

Additional readings : Riverview MN = +19·9m. Pulkovo MN = +62·3m. Ottawa eLN = +62·2m.

June 9d. Readings also at 0h. (near Vienna), 3h. (Rocca di Papa), 11h. (La Paz), 12h. (Mizusawa), 13h. (near Kobe and Sumoto), 20h. (Manila), 21h. (near Malabar).

June 10d. 16h. 45m. 10s. Epicentre 35°·3N. 3°·5E. (as on 1924 Nov. 6d.).

A = +·815, B = +·050, C = +·578 ; D = +·061, E = −·998 ; G = +·577, H = +·035, K = −·816.

		Δ	Az.	P.	O−C.	S.	O−C.	L.	M.
		°	°	m. s.	s.	m. s.	s.	m.	m.
Algiers		1·5	346	−0 8	−31	0 3	−39	0·4	0·9
Alicante		4·4	314	1 22	+14	2 16	+15	(2·3)	3·9
Almeria		5·0	290	i 1 12	− 5	i 2 4	−13	2·7	3·0
Tortosa	E.	6·0	338	1 27	− 5	2 35	− 9	—	4·4
	N.	6·0	338	1 26	− 6	2 36	− 8	3·2	3·4
Granada		6·0	290	1 38	+ 6	2 56	+12	3·0	4·9
Barcelona		6·2	350	e 1 49	+14	3 5	+16	3·3	4·8
Malaga		6·6	285	1 42	+ 1	3 6	+ 6	5·2	—
Toledo		7·5	310	e 1 47	− 7	3 44	+20	i 4·0	4·7
San Fernando		8·0	281	—	—	—	—	3·8	4·8
Rocca di Papa		9·8	46	e 3 20	+53	(e 4 31)	+ 8	—	—
Moncalieri		10·3	17	1 57	−37	—	—	4·8	—
Besançon		12·0	8	—	—	—	—	7·8	—
Paris		13·6	357	e 3 17	− 4	—	—	6·8	7·8
Strasbourg		13·7	12	—	—	—	—	7·8	—
Uccle		15·5	2	e 3 41	− 5	—	—	e 7·8	—
Vienna	Z.	16·1	33	e 3 53	0	—	—	—	—
Oxford		16·8	350	—	—	—	—	8·3	9·8
De Bilt		16·9	4	e 4 4	0	—	—	e 7·8	11·2
Bidston		18·7	348	—	—	—	—	—	11·6
Hamburg		18·9	12	e 4 50?	+22	—	—	—	10·8
Stonyhurst		19·0	349	—	—	—	—	e 9·8	10·8
Edinburgh		21·2	350	—	—	—	—	e 10·8	—
Pulkovo		30·0	27	e 7 40	?PR_1	—	—	15·8	17·9
Kucino		31·1	38	—	—	—	—	15·8	—
Ekaterinburg		43·5	42	8 15	− 7	e 14 55	0	e 22·8	—

Additional readings and notes: Algiers MN = +0·6m. Alicante PE = +1m.28s. Almeria MN = +2·9m. Granada i = +1m.40s. and +2m.36s., P = +1m.51s. Barcelona MN = +5·1m. Toledo MNW = +4·5m. San Fernando MN = +5·8m. Rocca di Papa readings are PE and PN respectively. De Bilt MN = +10·5m., MZ = +12·9m., Pulkovo MN = +17·8m.

June 10d. Readings also at 1h. (La Paz and Nagasaki), 4h. (Apia (2) and near Athens), 5h. (Ekaterinburg and near La Paz), 6h. (Taihoku), 7h. (Ekaterinburg, Taihoku, and near Sumoto), 9h. (Victoria, Ann Arbor, Ottawa, and Toronto), 10h. (near Athens), 13h. (Kobe), 14h. (Ekaterinburg, Mizusawa, and Riverview), 17h. (near Sumoto), 18h. (Taihoku and near Algiers), 20h. (near Granada).

June 11d. 15h. 56m. 30s. Epicentre 3°·5S. 142°·0E. (as on June 9d.).

		Δ	Az.	P.	O−C.	S.	O−C.	L.	M.
		°	°	m. s.	s.	m. s.	s.	m.	m.
Manila		27·7	312	e 5 54	−11	(i 11 12)	+18	i 11·2	—
Riverview		31·5	165	e 6 29	−14	—	—	e 16·3	18·6
Sydney		31·5	165	12 0	?S	(12 0)	0	20·5	21·1
Adelaide		31·6	185	e 11 6?	?S	(e 11 6?)	−55	e 17·6	20·3
Melbourne		34·4	176	—	—	e 14 54	+128	i 18·5	22·7
Batavia		35·2	264	8 28	?PR_1	—	—	—	—
Perth		37·6	218	e 7 27	− 8	i 13 6	−26	19·5	22·8
Zi-ka-wei		39·9	332	e 7 42	−12	e 13 36	−29	20·4	22·3
Phu-Lien		42·4	307	e 7 57	−17	—	—	21·5	—
Honolulu	E.	63·7	64	e 10 6	−30	e 19 34	+25	e 32·2	38·4
	N.	63·7	64	—	—	e 19 59	+50	e 37·4	—
Irkutsk		64·2	336	10 46	+ 7	19 14	− 1	30·5	37·6
Ekaterinburg		88·2	328	12 4	−62	22 36	−78	34·5	49·2
Baku		93·8	311	—	—	e 23 52	[+ 1]	e 53·5	—
Victoria	E.	95·8	42	25 23	?S	(25 23)	+ 9	47·7	61·8
Pulkovo		103·8	332	e 14 16	−13	—	—	44·5	63·1
Upsala		109·6	335	—	—	—	—	e 65·5	—

Continued on next page.

	Δ	Az.	P.	O−C.	S.	O−C.	L.	M.
	°	°	m. s.	s.	m. s.	s.	m.	m.
Konigsberg	110·5	329	—	—	—	—	e 66·5	—
Hamburg	116·4	331	—	—	—	—	e 56·5	70·5
De Bilt	119·8	331	—	—	e 30 12	?	e 58·5	72·8
Strasbourg	120·4	326	—	—	—	—	63·5	—
Edinburgh	120·6	338	—	—	—	—	e 70·5	—
Uccle	120·8	330	—	—	—	—	e 60·5	—
Bidston	122·4	336	53 0	?L	—	—	72·5	74·0
Oxford	122·9	333	—	—	—	—	63·2	76·2
Paris	123·0	329	—	—	—	—	e 66·5	74·5
Ann Arbor	123·8	40	—	—	—	—	e 74·1	—
Toronto	125·8	36	—	—	—	—	67·1	69·5
Ottawa	126·7	32	e 21 30?	?PR_1	e 28 30?	−68	e 44·5	—
San Fernando	135·9	322	—	—	—	—	72·5	87·5
La Paz	144·1	125	i 20 5	[+18]	29 30?	?PR_3	—	—

Additional readings: Riverview MNZ = +20·7m. Sydney S = +17m.48s. Adelaide ePR$_3$ = +22m.30s.?, eS = +15m.24s. Perth SR$_1$ = +16m.46s. = SR$_1$ +50s., SR$_2$ = +17m.29s. =SR$_2$ +51s. Irkutsk MN = +37·2m. Ekaterinburg MZ = +53·1m. Pulkovo e = +18m.17s. =PR$_1$ −21s. Konigsberg L = +68·5m. De Bilt ePR$_1$Z = +20m.27s., e = +30m.59s., MN = +72·9m., MZ = +75·4m. San Fernando MN = +86·5m.

June 11d. Readings also at 6h. (near Kobe, Nagasaki, Hukuoka (2), and Sumoto), 12h. (Manila), 20h. (near Algiers), 23h. (near La Paz).

June 12d. 10h. 58m. 24s. Epicentre 3°·5S. 142°·0E. (as on June 11d.).

		Δ	Az.	P.	O−C.	S.	O−C.	L.	M.
		°	°	m. s.	s.	m. s.	s.	m.	m.
Amboina		13·8	269	5 42	+139	i 6 24	+21	—	—
Manila		27·7	312	e 6 5	0	(i 10 16)	−38	i 10·3	—
Riverview		31·5	165	e 6 59	+16	12 0	0	e 16·8	19·5
Sydney		31·5	165	12 30	?S	(12 30)	+30	22·0	23·9
Adelaide		31·6	185	—	—	e 13 18	+77	e 16·7	20·7
Melbourne		34·4	176	—	—	e 12 48	+ 2	20·0	24·9
Batavia		35·2	264	7 8	− 7	8 24	?PR_1	—	—
Hong Kong		37·5	315	7 28	− 6	—	—	—	21·9
Perth		37·6	218	e 7 46	+11	e 13 21	−11	—	20·5
Phu-Lien		42·4	307	e 8 9	− 5	—	—	17·6	—
Wellington		47·9	146	—	—	—	—	e 26·6	—
Honolulu	E.	63·7	64	e 11 23	+47	e 20 8	+59	e 30·8	—
	N.	63·7	64	e 11 8	+32	e 20 15	+66	—	—
Bombay		71·6	291	11 20	− 7	—	—	—	—
Ekaterinburg		88·2	328	i 13 16	+10	i 23 54	0	34·6	—
Baku		93·8	311	e 13 35	− 2	e 24 52	− 2	53·1	—
Victoria	E.	95·8	42	24 40	?S	(24 40)	−34	45·8	47·0
Kucino		100·7	326	—	—	e 29 33	?SR_1	52·6	—
Pulkovo		103·8	332	—	—	27 44	+73	49·6	64·3
Upsala		109·6	335	—	—	—	—	e 57·6	68·3
De Bilt		119·8	331	—	—	—	—	e 56·6	65·4
Strasbourg		120·4	326	e 20 36?	?PR_1	—	—	e 69·6	—
Edinburgh		120·6	338	—	—	e 26 36?	[+50]	—	—
Uccle		120·8	330	e 20 48	?PR_1	—	—	e 55·6	—
Rocca di Papa	E.	120·8	318	e 17 53	+127	—	—	—	—
Bidston		122·4	336	23 36	?PR_3	31 42	?	62·7	72·6
Oxford		122·9	333	—	—	—	—	—	76·6
Paris		123·0	329	e 21 5	?PR_1	—	—	68·6	72·6
Ann Arbor		123·8	40	—	—	e 25 54	[− 3]	53·4	—
Toronto		125·8	36	e 21 31	?PR_1	—	—	69·6	—
Ottawa		126·7	32	e 21 36	?PR_1	—	—	68·6	—
Granada		133·9	321	e 19 39	[+11]	27 28	?PR_3	e 78·1	85·8
San Fernando		135·9	322	22 56	?PR_1	—	—	82·6	122·1
La Paz		144·1	125	e 80 25	?L	—	—	(e 80·4)	—

Additional readings: Amboina S = +9m.30s., i = +9m.42s. Riverview MNZ = +20·9m. Sydney S = +16m.54s. Adelaide i = +17m.24s. Hong Kong ? = +8m.42s. =PR$_1$ −10s. Bombay reading is given for 14d. Ekaterinburg iPR$_1$ = +16m.42s., PS = +24m.48s. Victoria LN = +46·8m. Kucino e = +32m.6s. =SR$_1$ −41s. Pulkovo PR$_1$ = +18m.42s. SR$_1$ = +34m.0s., MZ = +64·5m., MN = +64·8m. De Bilt ePR$_1$Z = +20m.39s., MN = +66·0m., MZ = +73·6m. Rocca di Papa ePN = +19m.10s. =[P] +16s. Paris MN = +69·6m. Ottawa eE = +22m.48s., e = +28m.36s. Granada i = +21m.52s. =PR$_1$ −3s. San Fernando MN = +85·6m.

June 12d. 22h. 53m. 30s. Epicentre 21°·0N. 67°·0W.

A = +·365, B = −·859, C = +·358 ; D = −·920, E = −·391 ;
G = +·140, H = −·330, K = −·934.

Rough.

		Δ	Az.	P.	O−C.	S.	O−C.	L.	M.
		°	°	m. s.	s.	m. s.	s.	m.	m.
Port au Prince		5·6	245	1 38	+11	—	—	2·7	3·0
Georgetown		19·9	336	e 4 40	0	—	—	—	—
Toronto		24·9	338	—	—	e 8 38	−83	9·7	—
Ottawa		25·4	346	—	—	(e 10 4)	− 7	12·5	—
Ann Arbor		25·5	330	—	—	—	—	e 19·8	—
Victoria	N.	52·3	316	—	—	—	—	28·4	32·4
Granada		56·6	59	(9 27)	−23	9 27	?**P**	e 23·1	28·6
Oxford		58·7	41	—	—	e 25 32	?SR_3	28·5	32·0
Uccle		62·2	42	—	—	e 18 48	− 3	e 29·5	—
De Bilt		62·7	41	—	—	—	—	e 29·5	34·9
Strasbourg		64·4	45	—	—	—	—	e 31·5	—
Pulkovo		75·5	30	—	—	—	—	e 36·5	43·2
Ekaterinburg		90·7	26	—	—	—	—	46·5	—

Additional readings and notes: Ottawa gives S as eL. Granada eP = +3m.43s., i = +5m.56s. Are the times all about 8min. too small ? De Bilt eLN = +28·5m., MN = +34·4m., MZ = +35·6m.

June 12d. Readings also at 1h. (near Zurich), 3h. (Tacubaya), 4h. (near La Paz), 10h. (near Taihoku), 13h. (Irkutsk and Pulkovo), 15h. (near Irkutsk), 16h. (Granada), 19h. (Apia), 21h. (near Taihoku), 22h. (La Paz).

June 13d. 20h. 23m. 0s. Epicentre 30°·0S. 24°·0W.

A = +·791, B = −·352, C = −·500 ; D = −·407, E = −·914 ;
G = −·457, H = +·203, K = −·866.

		Δ	Az.	P.	O−C.	S.	O−C.	L.	M.
		°	°	m. s.	s.	m. s.	s.	m.	m.
La Plata	N.	28·9	251	6 16	− 1	12 2	+47	14·0	14·8
Cape Town		36·0	107	11 42	?S	(11 42)	−88	—	14·0
La Paz		42·5	278	8 22	+ 7	e 14 44	+ 2	22·2	31·6
San Fernando		68·5	16	—	—	20 24	+16	25·0	37·0
Granada		69·8	18	e 11 9	− 7	21 2	+38	e 29·3	38·7
Almeria		69·9	20	e 10 54	−22	20 44	+19	—	—
Algiers		71·5	24	—	—	—	—	e 29·0	36·5
Alicante	E.	71·7	21	—	—	—	—	e 36·7	—
Tortosa	N.	74·4	20	—	—	e 23 0?	?	e 38·0	42·4
Rocca di Papa		79·3	28	e 12 12	− 3	—	—	e 40·5	45·7
Paris		82·3	18	e 12 35	+ 3	e 22 56	+ 7	40·0	47·0
Strasbourg		83·5	21	e 12 0?	−39	e 22 0?	−63	35·0	—
Kew		84·1	15	—	—	—	—	—	44·0
Oxford		84·2	14	—	—	e 23 19	+ 9	35·8	43·4
Uccle		84·6	18	e 12 42	− 4	e 23 14	− 1	e 36·0	—
De Bilt		86·0	18	—	—	e 23 24	− 6	e 36·0	43·7
Vienna		86·2	26	—	—	—	—	46·0	—
Edinburgh		87·7	12	—	—	e 24 0	+11	38·0	—
Ottawa		88·8	328	e 18 0	?PR_1	—	—	e 40·0	—
Toronto	E.	89·4	325	—	—	—	—	39·9	—
Baku		98·1	48	—	—	e 24 0	[−14]	41·0	60·4
Pulkovo		100·2	25	—	—	e 24 23	[− 2]	49·0	58·8
Kucino		100·6	31	—	—	e 26 42	+41	e 45·1	52·4
Ekaterinburg		112·0	36	e 19 10	?PR_1	e 28 44	+58	49·0	68·5
Riverview		116·0	175	—	—	e 25 12	[−20]	e 50·0	61·4
Victoria	E.	117·8	314	—	—	—	—	62·3	71·6

Additional readings: La Plata E = +7m.29s. = PR_1 +24s., N = +8m.28s., ME = +17·2m. San Fernando MN = +36·0m. Alicante eLN = +39·2m. Tortosa eLE = +36·0m. Rocca di Papa ePN = +12m.18s. Oxford e = +29m.8s. = SR_1 −4s. De Bilt eSR_1N = +29m.23s., eSR_1E = +29m.38s., MN = +50·0m., MZ = +50·2m. Ottawa e = +4m.0s., +26m.0s., and +31m.24s. Toronto e = +4m.0s., LN = +25m.45s. (?SN). Pulkovo e = +32m.35s. = SR_1 −5s., MZ = +59·3m., MN = +59·4m. Baku MN = +50·0m. Kucino e = +31m.56s. = SR_1 −50s. and +36m.6s. = SR_2 −92s. Ekaterinburg e = +34m.59s. = SR_1 −9s. Riverview eS? = +41m.30s. = SR_2 +8s. Victoria LN = +59·3m.

June 13d. Readings also at 2h. (La Paz), 3h. (near La Paz and La Plata), 6h. (Apia), 12h. (near Batavia), 15h. (Ann Arbor), 16h. (near Sumoto), 17h. (Apia), 18h. (Taihoku, Granada, and Vienna), 21h. (Manila), 22h. (La Paz, Riverview, Granada, Uccle, Ekaterinburg, and Melbourne).

June 14d. 0h. 33m. 6s. Epicentre 35°·7N. 134°·8E. (as on 1925 May 25d.).

A = −·572, B = +·576, C = +·584.

	Δ	Az.	P.	O−C.	S.	O−C.	L.	ME.	MN.
	°	°	m. s.	s.	m. s.	s.	m.	m.	m.
Kobe	1·1	163	0 17	0	(0 32)	+ 1	0·5	0·6	0·8
Osaka	1·2	154	0 22	+ 4	(0 38)	+ 5	0·6	1·1	1·5
Sumoto	1·4	177	0 9	−12	(0 30)	− 9	0·5	0·5	—
Nagoya	1·8	107	0 34	+ 6	—	—	1·0	—	—

No other readings.

June 14d. 5h. 38m. 10s. (I)
6h. 49m. 30s. (II)
13h. 39m. 45s. (III)
16h. 0m. 54s. (IV)
} Epicentre 24°·0N. 123°·0E. (as on 1925 May 26d.).

A = −·498, B = +·766, C = +·407; D = +·839, E = +·545;
G = −·224, H = +·341, K = −·913.

		Δ	Az.	P.	O−C.	S.	O−C.	L.	M.
		°	°	m. s.	s.	m. s.	s.	m.	m.
I	Taihoku	1·7	308	0 28	+ 2	(0 41)	− 7	0·7	0·8
II		1·7	308	0 30	+ 4	(0 45)	− 3	0·8	1·0
III		1·7	308	0 29	+ 3	(0 44)	− 4	0·7	—
IV		1·7	308	0 30	+ 4	(0 45)	− 3	0·8	0·9
III	Hokoto	3·2	262	0 39	−11	—	—	i 1·1	—
IV		3·2	262	0 50	0	—	—	i 1·3	1·4
I	Zi-ka-wei	7·3	349	e 2 0	+ 9	3 33	+15	—	5·0
II		7·3	349	—	—	—	—	e 3·8	5·2
III		7·3	349	e 3 32	?S	(e 3 32)	+14	—	5·2
IV		7·3	349	—	—	e 3 26	+ 8	—	5·2
I	Hong Kong	8·3	260	3 10	+64	4 46	+61	5·0	5·3
II		8·3	260	3 20	+74	4 44	+59	5·2	5·7
III		8·3	260	3 9	+63	3 51	+ 6	—	5·2
IV		8·3	260	3 26	+80	—	—	—	5·6
I	Manila	9·6	192	e 2 50	+26	—	—	4·8	—
II		9·6	192	e 3 30?	+66	—	—	—	—
III		9·6	192	e 3 15?	+51	—	—	—	—
IV		9·6	192	e 3 34	+70	—	—	5·1	—
I	Osaka	15·2	43	3 49	+ 7	—	—	7·1	13·3
I	Phu-Lien	15·5	261	—	—	e 6 45	+ 1	7·8	9·9
II		15·5	261	e 7 4	?S	(e 7 4)	+20	8·8	—
III		15·5	261	e 7 10	?S	(e 7 10)	+26	9·7	—
IV		15·5	261	e 7 6	?S	(e 7 6)	+22	(e 9·4)	10·1
III	Irkutsk	31·7	338	e 6 52	+ 8	e 11 34	−29	16·2	—
IV		31·7	338	e 6 51	+ 7	e 11 41	−22	16·1	—
I	Hyderabad	42·0	270	—	—	—	—	—	25·1
III		42·0	270	e 25 31	?L	—	—	(e 25·5)	32·6
I	Bombay	46·7	275	e 15 4	?S	(e 15 4)	−33	—	—
III	Ekaterinburg	55·1	325	e 29 20	?L	—	—	33·2	35·8
IV		55·1	325	e 11 5	?PR_1	e 17 42	+20	28·1	36·0
I	Baku	62·3	307	e 14 20	?PR_2	—	—	34·8	—
III		62·3	307	—	—	—	—	e 32·3	—
IV		62·3	307	—	—	—	—	35·6	—
I	Kucino	67·7	323	—	—	—	—	e 35·4	—
I	Pulkovo	70·8	328	—	—	—	—	e 39·2	45·0
III		70·8	328	—	—	—	—	e 42·8	—
IV		70·8	328	—	—	—	—	e 43·6	—
I	Upsala E.	76·7	331	—	—	—	—	e 47·8	—

Continued on next page.

		Δ	Az.	P.	O−C.	S.	O−C.	L.	M.
		°	°	m. s.	s.	m. s.	s.	m.	m.
I	De Bilt	86·7	327	—	—	e 23 17	[+10]	e 46·8	49·1
II		86·7	327	—	—	—	—	e 54·5	—
III		86·7	327	—	—	—	—	e 46·2	—
IV		86·7	327	—	—	—	—	e 48·1	—
I	Strasbourg	87·4	323	—	—	—	—	e 42·8	55·8
II		87·4	323	—	—	—	—	e 55·5	—
III		87·4	323	—	—	—	—	e 55·2	—
IV		87·4	323	—	—	e 18 6	?PR_2	e 55·1	—
I	Uccle	87·8	326	—	—	—	—	e 47·8	—
I	Edinburgh	88·0	333	—	—	—	—	47·8	—
I	Paris	90·0	326	—	—	—	—	e 49·0	56·8
II		90·0	326	—	—	—	—	e 55·5	—
III		90·0	326	—	—	—	—	e 65·2	—
I	Oxford	90·0	329	—	—	—	—	48·3	58·3
I	Ottawa	108·5	13	—	—	—	—	e 56·8	—
I	Toronto	109·3	15	—	—	—	—	e 74·0	—

Additional readings: Zi-ka-wei II S = +4m.47s. Osaka I MN = +14·5m. Phu-Lien II eS = +8m.12s. III eS = +9m.11s., IV eS = +9m.21s. Baku III L = +35·4m. Kucino I e = +37m.5s. Pulkovo I L = +43·3m. De Bilt I MN. +49·4m., MZ = +56·5m. Strasbourg I L = +48·8m. Paris I L = +54·8m.

June 14d. 22h. 28m. 6s. Epicentre 17°·5N. 83°·0W.

A = +·116, B = −·947, C = +·301; D = −·993, E = −·122; G = +·037, H = −·298, K = −·954.

		Δ	Az.	P.	O−C.	S.	O−C.	L.	M.
		°	°	m. s.	s.	m. s.	s.	m.	m.
Merida	Z.	7·1	301	3 56	?L	—	—	5·3	5·8
Port au Prince		10·2	82	e 3 19	+46	7 10	?	11·4	—
Vera Cruz	E.	12·6	280	3 36	+29	6 32	?L	(6·5)	12·9
Tacubaya	E.	15·5	280	3 54	+ 8	7 2	+18	7·7	—
	N.	15·5	280	3 58	+12	7 5	+21	7·6	—
Cheltenham	E.	21·9	13	e 5 6	+ 2	e 8 58	− 5	e 11·2	12·5
	N.	21·9	13	5 2	− 2	9 10	+ 7	e 11·5	14·2
Georgetown	E.	22·0	12	—	—	i 9 5	0	e 11·8	12·9
	N.	22·0	12	5 6	+ 1	e 9 11	+ 6	e 12·2	14·1
St. Louis		22·0	345	i 5 9	+ 4	e 9 13	+ 8	e 12·4	14·4
Mazatlan	E.	22·7	288	5 37	+24	9 56	+37	—	—
Chicago	E.	24·6	352	e 5 46	+12	e 9 33	−22	e 12·8	13·9
	N.	24·6	352	e 5 21	−13	e 9 50	− 5	e 13·1	15·4
Ann Arbor		24·8	359	e 5 30	− 6	i 10 6	+ 7	13·0	15·9
Ithaca		25·5	11	e 5 39	− 4	10 12	− 1	e 12·4	—
Toronto	N.	26·3	6	5 46	− 5	e 10 9	−19	i 14·4	16·3
Harvard	E.	26·9	20	—	—	e 10 32	− 7	e 14·4	15·7
	N.	26·9	20	e 6 2	+ 5	e 10 36	− 3	e 14·4	15·8
Ottawa		28·5	11	e 6 6	− 7	i 10 54	−14	e 13·0	16·0
La Paz		37·0	157	e 7 27	− 3	i 13 11	−13	18·1	24·3
San Fernando		69·3	56	—	—	—	—	23·9	31·9
Edinburgh		69·9	37	—	—	i 20 30	+ 5	—	—
Stonyhurst		70·5	39	—	—	e 20 29	− 3	—	39·4
Toledo		70·6	53	e 11 21	0	20 39	+ 6	e 30·4	39·8
Oxford		71·3	40	i 11 31	+ 6	i 20 46	+ 4	e 36·9	46·9
Kew		71·9	40	—	—	—	—	—	47·9
Tortosa	N.	73·9	51	—	—	—	—	e 30·9	32·4
Paris		74·1	43	e 11 44	+ 1	e 21 19	+ 4	33·9	—
Uccle		74·9	40	e 11 48	0	21 25	0	e 30·9	—
De Bilt		75·2	39	11 58	+ 8	e 21 45	[− 5]	e 34·9	46·0
Strasbourg		77·5	43	12 2	− 2	e 21 52	− 3	30·9	—
Hamburg		77·8	38	e 11 54?	−12	—	—	41·9	—
Moncalieri		78·3	46	e 13 23	+74	24 11	+127	35·9	—
Upsala		80·2	30	—	—	—	—	e 46·9	—
Florence		81·0	47	—	—	—	—	41·9	—
Venice		81·3	45	11 54?	−33	—	—	—	—
Rocca di Papa	E.	82·6	49	e 12 41	+ 7	—	—	—	—
Vienna	Z.	83·1	40	e 12 34	− 3	—	—	—	—
Pulkovo		86·0	27	12 45	− 8	23 20	−10	41·9	50·7
Kucino		91·6	29	—	—	e 23 57	[+19]	e 46·3	—
Ekaterinburg		99·7	20	—	—	e 27 28	+95	49·9	55·1
Baku		107·4	37	e 21 16	?PR_2	e 28 12	+67	50·9	—

For Notes see next page.

NOTES TO JUNE 14d. 22h. 28m. 6s.

Additional readings and notes: Balboa Heights ($\Delta = 9°{\cdot}2$) gives 22h.23m. St. Louis $ePR_1 = +5$m.23s., $ePR_2 = +5$m.31s., $iS = +9$m.18s. Chicago $ePR_1N = +5$m.59s., $eSR_1N = +11$m.6s., $eSR_1E = +11$m.17s., $eSR_2N = +11$m.59s., $eSR_2E = +12$m.0s.; $T_0 = 22$h.28m.11s. Toronto $eSE = +10$m.12s., $iSN = +10$m.15s., $iLE = +13{\cdot}6$m. Ottawa $ePR_1 = +6$m.46s., $SR_2N = +12$m.24s. $= SR_1 - 4$s., $MN = +18{\cdot}0$m.; $T_0 = 22$h.28m.9s. San Fernando $MN = +29{\cdot}9$m. Toledo $MNW = +40{\cdot}8$m.; readings have been diminished by 1h. De Bilt $eLN = +32{\cdot}9$m., $MN = +45{\cdot}7$m., $MZ = +45{\cdot}8$m. Rocca di Papa $ePN = +12$m.47s. Pulkovo $MZ = +50{\cdot}6$m., $MN = +53{\cdot}3$m. Kucino $e = +25$m.14s., $+26$m.46s., $+30$m.32s. $= SR_1 - 18$s., $+35$m.44s. $= SR_2 + 34$s., and $+41$m.26s. Ekaterinburg $e = +36$m.32s. $= SR_1 - 51$s., $MZ = +60{\cdot}9$m.

June 14d. Readings also at 0h. (Taihoku), 1h. (Taihoku, Apia, and near Sumoto), 3h. (Taihoku and La Paz), 5h. (3) and 6h. (6) (Taihoku), 7h. (Rio de Janeiro), 8h. (Taihoku (2)), 10h. (Loyola), 12h. (Taihoku), 14h. (near Laibach), 15h. (Apia), 16h. (near Batavia and Taihoku), 17h. (La Paz and Accra), 18h. (Vienna, La Paz (2), and near Sumoto), 19h. (La Paz, Ottawa, and Ann Arbor), 20h. (Baku, Ekaterinburg, Toronto, De Bilt, and near Sumoto), 21h. (Kucino), 22h. (Taihoku).

June 15d. Readings at 0h. (Rocca di Papa), 1h. (near Kobe and Sumoto), 8h. (near Taihoku (2)), 9h. (Manila, Zi-ka-wei, and Taihoku (2)), 11h. (Ekaterinburg and Pulkovo), 13h. (near Sumoto), 14h. (near Lick), 17h. (near Kobe).

June 16d. 14h. 54m. 12s. Epicentre 44°·5N. 11°·5E. (as on 1922 Aug. 24d.).

$A = +{\cdot}699$, $B = +{\cdot}142$, $C = +{\cdot}701$; $D = +{\cdot}199$, $E = -{\cdot}980$; $G = +{\cdot}687$, $H = +{\cdot}139$, $K = -{\cdot}713$.

	Δ	Az.	P.	O−C.	S.	O−C.	L.	M.
	°	°	m. s.	s.	m. s.	s.	m.	m.
Venice	1·1	32	i 0 58	+41	—	—	—	1·8
Moncalieri	2·7	276	0 43	+ 1	1 13	− 1	1·8	—
Innsbruck	2·7	359	e 1 25	?S	(e 1 25)	+11	—	—
Rocca di Papa	2·8	161	e 0 51	+ 7	—	—	e 1·8	—
Zurich	3·5	325	i 0 55	0	—	—	—	2·0
Besançon	4·7	307	1 48?	+35	—	—	—	—
Strasbourg	4·8	329	—	—	e 2 5	− 6	—	3·3

Additional readings: Innsbruck $iNW = +1$m.38s., $eSNE = +8$m.42s. Rocca di Papa $i = +1$m.58s.

June 16d. Readings also at 2h. (Manila and Rocca di Papa), 3h. (Ekaterinburg (2), Taihoku (4), and Balboa Heights), 6h. (near Hukuoka), 10h. (Taihoku), 11h. (Ekaterinburg), 12h. (near Granada), 14h. (Manila), 15h. (La Paz), 16h. (Rocca di Papa), 17h. (Ekaterinburg, Baku, Nagoya, and near Mizusawa and Osaka), 18h. (near La Paz), 19h. (Apia), 20h. (Malabar), 21h. and 22h. (La Paz).

June 17d. Readings at 1h. (Taihoku and Ekaterinburg), 5h. (near Taihoku), 6h. (near Malabar), 7h. (near Kobe and Sumoto), 8h. (near La Paz), 10h. (Algiers, Chicago, Taihoku, Kobe, and near Sumoto), 11h. (near Taihoku), 12h. (Apia and Vienna), 13h. (Ekaterinburg and Kobe), 21h. near Batavia and Malabar), 22h. (Taihoku (4)).

June 18d. Readings at 0h. (Honolulu), 8h. (Nagasaki), 10h. and 13h. (Ekaterinburg), 15h. (Taihoku), 21h. (Victoria, Georgetown, Toronto, Chicago, Ottawa, and Ekaterinburg), 22h. (Baku and Simla).

June 19d. 7h. 50m. 28s. Epicentre 15°·0S. 172°·0W. (as on 1923 May 15d.).

A = −·956, B = −·134, C = −·259 ; D = −·139, E = +·990 ;
G = +·256, H = +·036, K = −·966.

		Δ	Az.	P.	O−C.	S.	O−C.	L.	M.
		°	°	m. s.	s.	m. s.	s.	m.	m.
Apia		1·2	11	i 0 39	+21	—	—	—	1·7
Wellington		28·7	201	—	—	13 14	?L	15·2	—
Riverview		38·1	233	—	—	e 13 38	− 1	e 16·0	22·7
Sydney		38·1	233	—	—	—	—	18·7	20·6
Honolulu		38·8	21	i 7 20	−24	i 13 40	− 9	e 18·6	20·0
Melbourne		44·2	231	e 8 14	−13	i 15 8	+ 3	—	26·5
Perth		67·1	241	—	—	—	—	29·5	—
Victoria	E.	76·7	31	12 21	+22	21 53	+ 8	36·8	—
	N.	76·7	31	—	—	22 1	+16	40·0	56·0
Zi-ka-wei		78·8	307	12 10	− 2	e 22 52	+42	—	—
Hong-Kong		81·3	296	12 22	− 5	—	—	—	43·0
Chicago		95·9	50	—	—	24 15	[+13]	45·8	—
La Paz		98·6	109	32 57	?SR_1	40 0	?SR_3	47·7	52·0
Ann Arbor		98·9	48	—	—	e 35 8	?SR_1	52·5	—
Toronto		102·2	48	e 24 47	?S	(e 24 47)	[+12]	51·2	56·4
Ottawa		105·0	45	i 25 7	?S	(i 25 7)	[+20]	e 46·9	—
Ekaterinburg		122·5	329	19 10	[+10]	—	—	46·5	77·0
Pulkovo		132·4	345	i 19 29	[+ 5]	—	—	65·5	74·3
Kucino		133·3	338	e 21 46	?PR_1	e 28 15	?PR_3	62·4	69·5
Baku		135·7	313	e 19 16	[−15]	—	—	68·5	82·7
Edinburgh		138·3	10	—	—	—	—	e 59·5	—
Piatigorsk		138·4	321	—	—	—	—	76·5	—
Konigsberg		139·0	349	—	—	—	—	e 75·5	79·0
Stonyhurst		140·3	11	—	—	—	—	e 72·5	80·0
Hamburg		141·4	359	—	—	—	—	e 71·5	—
Oxford		142·5	11	—	—	—	—	e 75·9	90·4
De Bilt		142·9	3	e 19 44	[− 1]	—	—	e 76·5	85·3
Uccle		144·1	5	—	—	—	—	e 71·5	—
Vienna		146·1	350	i 19 53	[+ 3]	e 27 32?	?PR_2	—	89·5
Paris		146·2	6	i 19 55	[+ 5]	e 23 15	?PR_1	79·5	91·5
Strasbourg		146·5	0	e 19 51	[0]	—	—	40·5	—
Innsbruck		147·6	355	e 19 59	[+ 7]	—	—	—	—
Rocca di Papa		153·0	352	—	—	28 5	?PR_1	—	—
Toledo		153·0	21	—	—	—	—	e 78·6	85·5
Granada		155·6	22	20 5	[+ 2]	—	—	77·4	93·4

Additional readings: Riverview MN = +27·3m. Honolulu ePR_1E = +8m.47s., ePR_1N = +9m.5s., eSR_1E = +16m.30s., eSR_1N = +16m.40s., eSR_2N = +17m.44s., eSR_2E = +17m.49s.; T_s = 7h.49m.48s. Toronto eN = +25m.55s. = S − 22s., eSE = +33m.12s. = SR_1 + 6s., LN = +47·0m. Ottawa ePR_1E = +28m.12s., eS = +33m.55s. = SR_1 + 15s., eN = +44m.21s. Ekaterinburg i = +20m.45s. = PR_1 + 4s., e = +26m.17s. = PR_1 + 0s., +30m.25s., and +37m.26s., MN = +66·7m., MZ = +76·1m. Pulkovo e = +21m.47s. = PR_1 + 1s., i = +22m.52s., MZ = +74·7m., MN = +75·6m. Kucino i = +22m.55s., MN = +77·7m. Baku i = +22m.10s. = PR_1 + 4s., e = +39m.43s. = SR_1 − 18s., MZ = +75·9m., MN = +82·8m. De Bilt MZ = +86·2m., MN = +86·5m. Paris MN = +83·5m. Strasbourg iZ = +19m.55s. Toledo MNW = +85·9m. Granada i = +24m.21s. = PR_1 + 9s., +27m.10s. = PR_2 − 47s., +33m.30s., +33m.51s., +43m.1s. = SR_1 − 55s., and +45m.14s.

June 19d. 16h. 38m. 20s. Epicentre 41°·5N. 40°·0W. (as on 1923 July 21d.).

A = +·574, B = −·481, C = +·663 ; D = −·643, E = −·766 ;
G = +·508, H = −·426, K = −·749.

		Δ	Az.	P.	O−C.	S.	O−C.	L.	M.
		°	°	m. s.	s.	m. s.	s.	m.	m.
Ottawa		26·1	291	e 5 51	+ 2	e 10 23	− 1	e 12·7	—
San Fernando	N.	26·6	90	—	—	—	—	—	13·7
Granada		28·2	87	e 6 35	+25	10 30	−33	13·3	15·2
Toronto	E.	28·8	288	e 6 32	+16	e 10 48	−25	e 14·9	—
Paris		30·4	62	—	—	—	—	e 14·7	—

Continued on next page.

		Δ	Az.	P.	O−C.	S.	O−C.	L.	M.
		°	°	m. s.	s.	m. s.	s.	m.	m.
Uccle		31·5	59	—	—	—	—	e 16·7	—
De Bilt		32·0	56	—	—	—	—	e 17·7	20·3
Ann Arbor		32·2	286	—	—	—	—	e 16·1	—
Strasbourg		33·9	61	—	—	—	—	17·7	—
Pulkovo		45·6	42	—	—	e 13 22	−120	25·7	—
Kucino		50·5	46	—	—	—	—	e 26·8	—
Victoria	N.	56·4	309	—	—	—	—	32·0	35·0
Ekaterinburg		61·4	39	10 22	+ 1	e 18 36	− 5	27·7	—
La Paz		63·6	210	8 35	−121	—	—	(33·6)	—
Baku		64·5	58	—	—	—	—	41·2	—
Irkutsk		81·2	22	—	—	—	—	57·7	—

Additional readings and notes: De Bilt MN = +20·5m. Strasbourg e = 16h.30m. La Paz readings are given as separate P's.

June 19d. Readings also at 0h. (Kobe and Mizusawa), 1h. (near Zagreb and near Taihoku), 2h. (Vienna), 3h. (Tacubaya), 4h. (Nagoya, Hukuoka, near Sumoto, Osaka, and Kobe), 6h. (near Taihoku), 7h. (Vienna), 8h. (near Manila), 9h. (Apia, Baku, and near Manila), 10h. (Apia and San Fernando), 13h. (Toledo), 14h. (Nagasaki and near Algiers and Granada), 15h. (Nagasaki and La Paz), 17h. (Granada, Ekaterinburg, De Bilt, Tacubaya (2), Vera Cruz, and near Mizusawa), 18h. (Baku), 21h. (Apia, Tacubaya, and near Laibach), 22h. (near Malabar and near Mostar).

June 20d. 13h. 4m. 4s. Epicentre 37°·0N. 72°·0E.

(as on 1924 Oct. 13d.).

A = +·247, B = +·760, C = +·602 ; D = +·951, E = −·309 ;
G = +·186, H = +·572, K = −·799.

A depth of focus +0·040 is assumed.

		Corr. for Focus	Δ	Az.	P.	O−C.	S.	O−C.	L.	M.
		°	°	°	m. s.	s.	m. s.	s.	m.	m.
Simla	N.	−0·2	7·2	142	2 8	+22	e 2 50	−20	e 3·3	—
Dehra Dun		−0·3	8·3	141	1 36	−25	2 36	−61	3·3	6·3
Baku		−1·3	17·5	288	e 3 54	− 1	i 6 59	− 1	7·8	10·3
Bombay		−1·4	18·1	177	4 3	+ 2	7 10	− 1	—	7·7
Hyderabad		−1·6	20·4	162	4 30	+ 3	8 0	+ 2	—	14·2
Ekaterinburg		−1·7	21·2	343	4 45	+10	i 8 26	+13	10·9	—
Piatigorsk		−1·9	23·0	297	i 4 52	− 2	8 41	− 5	—	—
Irkutsk		−2·3	27·2	46	5 44	+ 7	8 52	−69	i 9·8	12·0
Kodaikanal		−2·3	27·2	168	9 50	?S	(9 50)	−11	—	—
Kucino		−2·6	29·6	320	i 4 50	−68	i 9 28	−73	10·6	11·0
Colombo		−2·6	30·9	165	10 51	?S	(10 51)	−13	(12·3)	—
Phu-Lien		−2·9	34·1	110	e 6 41	+ 1	i 11 58	+ 4	14·9	—
Helwan		−3·0	34·4	271	e 6 31	−11	i 11 36	−22	—	—
Pulkovo		−3·0	34·9	324	i 6 41	− 5	i 11 57	−10	15·0	16·6
Lemberg		−3·1	36·4	306	e 6 2	−57	—	—	e 14·7	17·7
Konigsberg		−3·2	38·9	315	7 17	− 2	12 55	−11	e 15·9	16·4
Hong Kong		−3·2	39·1	103	7 26	+ 5	13 17	+ 8	—	17·1
Belgrade		−3·2	39·1	299	e 7 16	− 5	e 13 2	− 7	e 23·6	—
Zi-ka-wei		−3·3	40·9	85	7 34	− 1	e 13 41	+ 9	—	—
Upsala		−3·4	41·1	323	7 29	− 7	i 13 26	− 8	i 16·8	—
Vienna		−3·4	41·5	307	e 7 34	− 5	13 25	−14	—	18·0
Zagreb		−3·4	42·0	300	e 7 39	− 4	e 13 39	− 7	i 18·1	—
Pompeii		−3·5	44·1	293	e 7 58	− 2	e 14 8	− 7	—	—
Venice		−3·6	44·6	300	e 8 3	0	14 24	+ 3	—	—
Innsbruck		−3·6	44·9	306	e 8 2	− 3	e 14 18	− 7	e 17·4	—
Hamburg		−3·6	45·0	314	i 8 4	− 2	i 14 26	− 1	18·2	23·4
Rocca di Papa		−3·6	45·2	295	e 8 2	− 6	14 23	− 6	17·6	—
Florence		−3·6	45·7	299	8 11	− 1	14 26	−10	—	27·9
Zurich		−3·7	46·8	302	e 8 15	− 4	e 14 43	− 6	—	—

Continued on next page.

	Corr. for Focus	Δ	Az.	P.	O−C.	S.	O−C.	L.	M.
	°	°	°	m. s.	s.	m. s.	s.	m.	m.
Strasbourg	−3·8	47·1	306	e 8 18	− 2	e 14 58	+ 6	25·9	—
Bergen	−3·8	47·2	324	i 13 31	?	17 26	?SR_1	19·8	31·9
Moncalieri	−3·8	47·9	390	8 51	+24	15 21	+18	21·7	—
De Bilt	−3·8	48·1	311	i 8 28	0	i 15 10	+ 4	e 18·9	—
Besançon	−3·9	48·6	306	8 31	0	—	—	19·9	—
Uccle	−3·9	48·8	310	i 8 22	−10	i 15 18	+ 4	e 18·9	—
Manila	−3·9	48·8	105	e 8 45	+13	(i 14 33)	−41	i 14·6	—
Paris	−4·0	50·4	308	i 8 45	+ 2	15 39	+ 6	20·9	28·9
Oxford	−4·2	52·1	312	i 8 59	+ 6	i 16 0	+ 7	e 19·5	21·2
Edinburgh	−4·2	52·2	318	9 1	+ 7	16 8	+14	—	30·9
Eskdalemuir	−4·2	52·4	318	i 8 58	+ 3	i 16 7	+11	—	—
Barcelona	−4·2	52·8	299	9 2	+ 4	16 10	+ 9	e 21·0	—
Algiers	−4·3	53·8	222	e 8 57	− 7	16 3	−10	e 23·9	—
Batavia	−4·3	54·1	138	16 27	?S	(16 27)	+11	—	—
Tortosa	−4·3	54·2	299	9 12	+ 6	16 30	+12	—	—
Alicante	−4·4	55·8	296	9 47	+31	i 16 51	+15	—	—
Almeria	−4·5	57·8	295	e 9 37	+ 9	i 17 18	+18	e 29·4	—
Toledo	−4·5	57·8	299	9 34	+ 6	17 13	+13	e 25·7	33·8
Granada	−4·5	58·5	295	9 36	+ 3	17 33	+24	—	—
Malaga	−4·6	59·4	295	9 45	+ 7	17 33	+14	23·9	—
San Fernando	−4·6	60·8	296	8 21	−86	17 52	+16	26·9	—
Ottawa	−5·5	92·6	339	—	—	e 22 56	[−48]	e 42·9	—
Victoria	−5·5	93·5	10	13 10	+ 5	(23 24)	[−25]	23·4	26·7
Toronto	−5·5	95·3	341	—	—	e 23 26	[−32]	44·4	52·4
Ann Arbor	−5·5	97·6	344	—	—	e 26 14	+98	47·9	—

Additional readings and notes: Baku iP = +3m.55s. Ekaterinburg iPS = +8m.33s., all readings having been increased by 10m. Irkutsk P = +5m.52s., +6m.37s., +6m.52s., +7m.4s., +7m.32s., +7m.43s., and +7m.55s., MN = +11·9m. Kucino iPR_1 = +5m.51s., i = +6m.26s. Pulkovo MZ = +15·5m. Lemberg MN = +16·4m. Konigsberg PR_1 = +8m.49s. and +9m.47s., e = +14m.26s., SR_1 = +15m.5s., MN = +15·9m. Belgrade PR_1 = +10m.36s., SR_1 = +16m.58s. Vienna iPZ = +7m.35s., PR_2 = +9m.32s., SR_2 = +16m.44s. Zagreb iPR_1 = +9m.0s., iPR_2 = +9m.44s., iSR_2 = +17m.8s., i = +18m.5s. Hamburg PR_1 = +9m.56s. = PR_2 −13s., MZ = +21·0m., MN = +22·7m. Rocca di Papa eP = +8m.3s. Strasbourg PR_1 = +10m.12s., e = +16m.12s. Bergen readings are given as for 14h. De Bilt eZ = +9m.36s., iZ = +10m.22s. = PR_1 +9s., and +11m.24s. = PR_2 +22s., e = +16m.25s. Uccle i = +16m.35s. Paris MN = +25·9m. Oxford SR_1 = +17m.38s. Eskdalemuir i = +17m.23s. Tortosa iSN = +16m.34s. Alicante ePN = +7m.15s. Toledo iNE = +9m.35s., MNW = +34·3m. Granada i = +9m.52s. Ottawa e = +25m.22s., eSE = +31m.26s., eSR_1E? = +37m.56s.

June 20d. Readings also at 2h. and 6h. (Nagasaki), 7h. (Kobe), 12h. (near Athens and near Algiers and Granada), 19h. (Manila).

June 21d. 3h. 0m. 30s. Epicentre 37°·0N. 0°·0. (as on 1924 Mar. 4d.).

A = +·799, B = ·000, C = +·602; D = ·000, E = −1·000; G = +·602, H = ·000, K = −·799.

An origin 0°·5W. would fit these times better.

	Δ	Az.	P.	O−C.	S.	O−C.	L.	M.
	°	°	m. s.	s.	m. s.	s.	m.	m.
Almeria	1·9	266	0 25	− 4	i 0 46	− 7	i 0·9	1·4
Algiers	2·5	95	e 0 47	+ 8	1 19	+10	(1·3)	1·8
Granada	2·9	274	e 0 26	−19	i 1 0	−20	i 1·0	2·9
Malaga	3·6	265	0 48	− 8	1 23	−16	—	—
Toledo	4·3	314	1 5	− 2	2 30?	+32	i 2·8	3·9

Additional readings: Almeria MN = +1·0m., MZ = +1·1m. Granada P = +39s. (O−C = −6s.). Toledo P = +1m.35s., MNW = +3·5m.

June 21d. 4h. 6m. 22s. Epicentre 24°·0N. 123°·0E. (as on 1925 June 14d.).

$A = -\cdot498$, $B = +\cdot766$, $C = +\cdot407$; $D = +\cdot839$, $E = +\cdot545$; $G = -\cdot224$, $H = +\cdot341$, $K = -\cdot913$.

	Δ	Az.	P.	O−C.	S.	O−C.	L.	M.
	°	°	m. s.	s.	m. s.	s.	m.	m.
Taihoku N.	1·7	308	0 24	− 2	(0 44)	− 4	0·7	1·0
Zi-ka-wei	7·3	349	3 22	?S	(3 22)	+ 4	(4·6)	5·5
Hong Kong	8·3	260	—	—	3 58	+13	—	5·5
Manila	9·6	192	—	—	e 4 22	+ 4	—	—
Pulkovo	70·8	328	—	—	—	—	e 27·4	—
De Bilt	86·7	327	—	—	—	—	e 47·6	—
Strasbourg	87·5	323	—	—	—	—	48·6	—
Uccle	87·8	326	—	—	—	—	e 47·6	—

Taihoku gives also $ME = +0\cdot9$m. Zi-ka-wei gives S as P and L as S.

June 21d. 15h. 4m. 43s. (I) } Epicentre 35°·7N. 134°·8E. (as on 1925 June 14d.)
18h. 21m. 16s. (II) }

$A = -\cdot572$, $B = +\cdot576$, $C = +\cdot584$.

	Δ	Az.	P.	O−C.	S.	O−C.	L.	ME.	MN.
	°	°	m. s.	s.	m. s.	s.	m.	m.	m.
I Kobe	1·1	163	0 15	− 2	(0 29)	− 2	0·5	0·6	0·5
II	1·1	163	0 15	− 2	(0 28)	− 3	0·5	0·5	0·5
I Osaka	1·2	154	0 18	0	(0 37)	+ 4	0·6	1·4	1·0
II	1·2	154	0 19	+ 1	(0 33)	0	0·6	1·0	1·6
I Sumoto	1·4	177	0 21	0	(0 38)	− 1	0·6	0·8	0·6
II	1·4	177	0 19	− 2	(0 37)	− 2	0·6	0·6	0·6
I Nagoya	1·8	107	0 54	+26	(0 54)	+ 3	1·3	1·4	—
II	1·8	107	0 55	+27	(0 55)	+ 4	—	—	—
I Hukuoka	4·3	240	1 7	0	(1 58)	0	2·0	—	1·9
I Nagasaki	5·1	235	1 17	− 2	(2 28)	+ 8	2·5	2·6	—
I Irkutsk	27·1	317	—	—	—	—	—	15·3	—

No additional readings.

June 21d. Readings also at 1h. (Phu-Lien), 3h. (near Zi-ka-wei and Taihoku), 4h. (Phu-Lien and Taihoku), 6h. (Kobe and Taihoku), 14h. (La Paz), 15h. (Tacubaya), 17h. (Nagasaki and near La Paz), 23h. (La Paz).

June 22d. Readings at 1h. (2) and 2h. (Taihoku), 4h. (Phu-Lien), 12h. (near Kobe and Sumoto), 13h. (Irkutsk, Ekaterinburg, and near Mizusawa), 15h. (Irkutsk), 18h. (Ottawa, Toronto, Balboa Heights, and La Paz), 22h. (Manila, Ekaterinburg, and Pulkovo), 23h. (Apia).

June 23d. 3h. 58m. 0s. Epicentre 35°·7N. 134°·8E. (as on 21d.).

$A = -\cdot572$, $B = +\cdot576$, $C = +\cdot584$; $D = +\cdot710$, $E = +\cdot705$; $G = -\cdot411$, $H = +\cdot414$, $K = -\cdot812$.

	Δ	Az.	P.	O−C.	S.	O−C.	L.	M.
	°	°	m. s.	s.	m. s.	s.	m.	m.
Kobe	1·1	163	0 15	− 2	(0 29)	− 2	0·5	0·8
Osaka	1·2	154	0 18	0	(0 39)	+ 6	0·6	1·5
Sumoto	1·4	177	0 19	− 2	(0 37)	− 2	0·6	0·7
Nagoya	1·8	107	0 23	− 5	(0 43)	− 8	0·7	1·0
Hukuoka	4·3	240	1 9	+ 2	(2 6)	+ 8	2·1	2·5
Nagasaki	5·1	235	1 23	+ 4	2 23	+ 3	2·6	3·5
Zi-ka-wei	12·0	252	e 5 25	?S	(e 5 25)	+ 6	(e 6·6)	8·4
Phu-Lien	28·8	246	—	—	—	—	15·3	16·2
Ekaterinburg	52·4	319	—	—	e 16 42	− 7	27·5	30·9
Baku	64·3	303	—	—	—	—	e 32·1	—
Pulkovo	66·2	328	—	—	—	—	e 36·8	41·4
De Bilt	81·8	331	—	—	—	—	e 45·0	—
Eskdalemuir	82·2	338	—	—	—	—	42·0	—
Uccle	83·1	331	—	—	—	—	e 44·0	—
Strasbourg	83·5	329	—	—	—	—	e 47·0	—

Additional readings and notes: Kobe $MZ = +0\cdot7$m. Osaka $MN = +1\cdot4$m. Hukuoka $MN = +2\cdot3$m. Zi-ka-wei gives S as P and L as S. Ekaterinburg $MZ = +36\cdot0$m. Baku $L = +34\cdot0$m. Pulkovo $MN = +44\cdot0$m., $MZ = +44\cdot8$m.

June 23d. 4h. 43m. 50s. Epicentre 42°·3N. 140°·0E. (as on 1920 Sept. 16d.).

A = −·567, B = +·475, C = +·673 ; D = +·643, E = +·766 ;
G = −·516, H = +·433, K = −·740.

		Δ	Az.	P.	O−C.	S.	O−C.	L.	M.
		°	°	m. s.	s.	m. s.	s.	m.	m.
Mizusawa	E.	3·3	166	1 0	+ 8	1 39	+ 8	—	—
	N.	3·3	166	0 59	+ 7	1 37	+ 6	—	—
Ootomari		4·8	23	1 11	− 3	(1 59)	−12	2·0	—
Nagoya		7·5	199	1 59	+ 5	—	—	3·9	4·5
Osaka		8·4	204	2 18	+11	—	—	4·6	5·0
Hukuoka		11·5	224	1 56	−56	—	—	e 4·4	—
Zi-ka-wei		18·5	237	e 4 20	− 3	—	—	—	—
Phu-Lien		35·3	243	e 7 2	−14	e 12 40	−20	19·2	—
Ekaterinburg		50·4	316	i 9 1	− 8	i 16 12	−12	25·2	34·8
Pulkovo		62·9	328	10 24	− 7	18 48	−12	33·2	44·3
Baku		64·3	302	e 10 44	+ 4	19 16	− 1	33·7	—
Upsala		67·5	333	—	—	e 19 40	−16	—	—
Konigsberg		70·1	328	e 11 14	− 4	—	—	37·2	—
Hamburg		75·0	333	11 39	−10	21 11	−15	e 39·2	43·2
Vienna		76·7	327	e 11 49	−10	e 21 52	+ 7	—	—
Edinburgh		77·0	339	—	—	—	—	—	53·2
De Bilt		77·8	334	e 12 26	+20	21 42	−16	e 38·2	—
Uccle		79·2	334	e 12 10?	− 4	e 21 53	−21	e 39·2	—
Innsbruck		79·6	328	e 11 58	−19	—	—	—	—
Strasbourg		79·9	330	e 12 34	+16	e 22 1	−21	41·2	—
Paris		81·5	334	—	—	—	—	8·2	58·2
Ann Arbor		86·7	30	—	—	e 24 28	+50	—	—
Toronto	E.	87·0	27	—	—	e 22 48	[−21]	—	—
Ottawa		87·2	24	e 10 55	−125	i 22 40	[−30]	e 35·2	—
Granada		93·9	332	e 10 32	−185	i 17 0	?PR$_1$	e 50·5	56·2

Additional readings: Ekaterinburg MN = +31·0m., MZ = +34·9m. Pulkovo MZ = +41·3m., MN = +41·4m. Konigsberg e = +36m.46s. Ottawa eN = +15m.55s.

June 23d. 16h. 46m. 48s. Epicentre 0°·0 75°·0W. (as on 1923 Sept. 9d.).

A = +·259, B = −·966, C = ·000 ; D = −·966, E = −·259 ;
G = ·000, H = ·000, K = −1·000.

A depth of focus 0·025 is assumed.

		Corr. for Focus	Δ	Az.	P.	O−C.	S.	O−C.	L.	M.
		°	°	°	m. s.	s.	m. s.	s.	m.	m.
Balboa Heights		−0·3	10·0	333	—	—	—	—	4·2	—
La Paz		−0·9	17·8	158	4 6	+ 2	i 7 13	− 3	9·5	11·2
Port au Prince		−0·9	18·7	8	e 8 23	?L	—	—	(e 8·4)	—
Georgetown		−2·1	39·0	357	i 7 27	− 2	e 13 21	− 1	—	—
Toronto		−2·2	43·8	355	8 2	− 6	e 14 22	− 7	19·7	—
Ottawa		−2·4	45·4	359	i 8 15	− 3	i 14 52	+ 4	e 20·2	—
Granada		−3·3	75·3	52	i 12 35	+65	i 22 30	[+63]	57·5	68·0
Edinburgh		−3·3	79·9	33	—	—	22 12?	[+12]	—	—
Paris		−3·4	81·6	41	i 12 18	+10	—	—	61·2	—
Uccle		−3·4	83·3	39	e 12 24	+ 6	e 22 32	+10	—	—
De Bilt		−3·4	84·0	37	i 13 17	+54	e 22 38	+ 8	e 40·2	—
Strasbourg		−3·4	85·2	41	e 11 42	−47	e 20 42	−122	28·2	—
Hamburg		−3·4	87·0	36	e 13 30	+50	i 22 58	− 7	44·2	—
Innsbruck	N.E.	−3·5	87·6	43	e 12 24	−19	—	—	—	—
Pulkovo		—	97·6	29	—	—	i 23 48	[−23]	—	—

Additional readings and notes: The evidence for deep focus is as follows :—

	No. of Stns.	Requisite correction to Δ Without deep focus	With deep focus	Az.
		°	°	°
S. America	1	−1·0	−0·2	158
N. America	3	−2·7	−0·4	357
Europe	4	−3·0	+0·4	37

Toronto iE = +15m.39s. Ottawa iSR$_1$E = +17m.48s., eSR$_2$ = +18m.42s. ; T$_0$ = 16h.46m.42s. Paris i = +13m.7s.

June 23d. 19h. 53m. 54s. Epicentre 54°·0N. 158°·5E.

A = −·547, B = +·215, C = +·809 ; D = +·367, E = +·930 ;
G = −·753, H = +·297, K = −·588.

	Δ	Az.	P.	O−C.	S.	O−C.	L.	M.
	°	°	m. s.	s.	m. s.	s.	m.	m.
Irkutsk	31·8	289	6 43	− 2	11 59	− 6	17·1	—
Ekaterinburg	50·7	316	9 12	+ 1	e 16 28	+ 1	25·1	31·2
Pulkovo	59·0	332	10 2	− 3	—	—	33·1	33·7
Kucino	60·0	326	—	—	—	—	31·1	36·9
Baku	67·7	310	e 11 9	+ 7	e 20 13	+15	38·8	—
Ottawa	70·5	37	—	—	—	—	36·1	—
Toronto E.	70·6	40	—	—	—	—	38·1	—
De Bilt	71·6	343	—	—	—	—	e 42·1	—
Uccle	73·0	344	—	—	—	—	41·1	—
Strasbourg	74·5	341	—	—	—	—	41·1	—
Paris	75·2	345	—	—	—	—	e 51·1	—
Granada	87·5	347	—	—	—	—	e 52·1	54·8

Additional readings: Ekaterinburg MN = +31·1m. Pulkovo MZ = +39·4m. Ottawa eLE = +28·1m., eLN = +30·8m.

June 23d. Readings also at 1h. (La Paz), 4h. (Kobe and Sumoto), 8h. (Ekaterinburg), 12h. (Ann Arbor), 13h. (near Zagreb), 15h. (near La Paz), 16h. (Sydney, Riverview (2), Adelaide, and Ekaterinburg), 17h. (Irkutsk and near Malabar), 18h. (Strasbourg), 19h. (Granada and Merida), 22h. (near Osaka, Kobe, and Sumoto).

June 24d. 0h. 0m. 24s. Epicentre 41°·0N. 31°·0E.

A = +·647, B = +·389, C = +·656 ; D = +·515, E = −·857 ;
G = +·562, H = +·338, K = −·755.

	Δ	Az.	P.	O−C.	S.	O−C.	L.	M.
	°	°	m. s.	s.	m. s.	s.	m.	m.
Athens	6·4	244	e 1 38	0	2 57	+ 2	3·2	4·0
Belgrade	8·6	300	e 2 10	0	e 4 10	+17	—	4·8
Zagreb	11·9	299	e 2 57	− 1	—	—	e 6·2	—
Vienna	12·7	310	e 3 7	− 2	6 35	?L	(6·6)	8·6
Rocca di Papa	13·8	279	e 4 24	+61	e 5 44	−19	e 6·4	8·1
Baku	14·3	86	e 3 45	+15	—	—	e 9·8	—
Venice	14·3	294	7 24	?L	—	—	(7·4)	—
Kucino	15·5	15	3 49	+ 3	e 6 34	−10	10·0	—
Konigsberg	15·5	337	—	—	e 6 16	−28	(i 10·4)	—
Moncalieri	17·4	291	e 4 27	+17	8 41	+74	11·0	—
Strasbourg	18·1	303	e 4 19	+ 1	e 9 24	?L	14·6	—
Pulkovo	18·8	359	i 4 30	+ 3	i 7 36	−22	10·1	15·3
Hamburg	18·9	319	—	—	—	—	e 10·6	—
Upsala	20·6	341	—	—	—	—	e 10·6	—
De Bilt	20·8	311	e 4 51	0	e 8 38	− 2	e 11·6	—
Uccle	20·8	307	e 4 49	− 2	e 8 37	− 3	e 11·3	—
Paris	21·5	301	i 4 56	− 3	e 8 53	− 2	12·6	16·6
Oxford	24·5	307	—	—	—	—	e 15·3	18·0
Ekaterinburg	24·8	40	5 38	+ 2	10 11	+12	14·6	—

Additional readings and notes: Athens MN = +3·6m. Zagreb i = +7m.5s., iS = +7m.55s. Vienna SR_1? = +7m.9s., SR_2? = +7m.21s. Rocca di Papa readings are given as eZ, eE, and eN respectively. Kucino eS = +8m.38s. Konigsberg L is given as S and S as e simply. Ekaterinburg i = +5m.44s.

June 24d. 1h. 37m. 15s. Epicentre 35°·3N. 3°·5E. (as on June 10d.).

A = +·815, B = +·050, C = +·578 ; D = +·061, E = −·998 ;
G = +·577, H = +·035, K = −·816.

	Δ	Az.	P.	O−C.	S.	O−C.	L.	M.
	°	°	m. s.	s.	m. s.	s.	m.	m.
Algiers	1·5	346	−0 6	−29	—	—	0·3	0·4
Granada	6·0	290	1 30	− 2	—	—	—	1·6
Moncalieri	10·3	17	—	—	(e 4 53)	+16	e 4·9	—
Paris	13·6	357	—	—	—	—	7·8	—
Strasbourg	13·7	12	—	—	5 45?	−16	—	—
Uccle	15·5	2	—	—	—	—	e 8·8	—

No additional readings.

June 24d. 16h. 11m. 24s. Epicentre 48°·0N. 105°·0E. (as on 1925 Feb. 7d.).

A = −·173, B = +·646, C = +·743 ; D = +·966, E = +·259 ;
G = −·192, H = +·718, K = −·669.

	Δ	Az.	P.	O−C.	S.	O−C.	L.	M.
	°	°	m. s.	s.	m. s.	s.	m.	m.
Irkutsk	4·3	355	1 13	+ 6	1 57	− 1	2·2	—
Ekaterinburg	27·9	305	6 5	− 2	e 11 1	+ 4	14·6	18·4
Pulkovo	43·0	315	—	—	—	—	e 19·4	26·8
De Bilt	59·0	315	—	—	—	—	e 36·6	—
Uccle	60·1	315	—	—	—	—	—	37·6
Toledo	72·0	310	—		—	—	e 34·0	43·8

Toledo readings have been diminished by 1h.

June 24d. Readings also at 1h. (Mazatlan and near Granada), 2h. (near Mizusawa), 3h. (Kobe and near Sumoto), 5h. (Apia, Honolulu, Riverview, Victoria, Ekaterinburg, Paris, De Bilt, and Strasbourg), 6h. (Pulkovo, Ekaterinburg, Uccle, Toronto, and Ottawa), 7h. (Manila), 10h. (Ekaterinburg), 15h. (Tacubaya), 16h. (Strasbourg and Amboina), 21h. (near Kobe and Sumoto), 23h. (Azores).

June 25d. Readings at 2h. (near Sumoto), 4h. (Tacubaya), 6h. and 8h. (La Paz), 9h. (Apia, La Paz, and La Plata), 16h. (Kobe (2), Taihoku, near Amboina, and near Sumoto (2)), 17h. (Irkutsk and Ekaterinburg), 18h. (Mizusawa), 21h. (Nagoya, Ekaterinburg, and near Osaka and Mizusawa), 22h. (Baku, Uccle, Kucino, and Pulkovo), 23h. (Ekaterinburg).

June 26d. 17h. 27m. 12s. Epicentre 30·°1N. 131°·6E. (as on 1914 Nov. 28d.).

A = −·574, B = +·647, C = +·502 ; D = +·748, E = +·664 ;
G = −·333, H = +·375, K = −·865.

	Δ	Az.	P.	O−C.	S.	O−C.	L.	M.
	°	°	m. s.	s.	m. s.	s.	m.	m.
Nagasaki	3·0	332	0 38	− 9	1 3	−20	1·1	1·2
Hukuoka N.	3·6	344	0 46	−10	(1 14)	−25	1·2	1·3
Sumoto	5·1	33	1 24	+ 5	—	—	1·7	1·7
Kobe	5·5	32	1 34	+ 9	(2 20)	−11	2·3	2·4
Osaka	5·6	34	1 26	− 1	—	—	2·1	2·4

Osaka gives also MN = +2·6m.

June 26d. Readings also at 7h. (near Kobe and Sumoto), 10h. (Baku), 12h. (near Kobe and Sumoto), 19h. (Tacubaya), 20h. (near Amboina).

June 27d. 8h. 22m. 5s. Epicentre 46°·0N. 17°·5E.

A = +·663, B = +·209, C = +·719 ; D = +·301, E = −·954 ;
G = +·686, H = +·216, K = −·695.

Rough.

	Δ	Az.	P.	O−C.	S.	O−C.	L.	M.
	°	°	m. s.	s.	m. s.	s.	m.	m.
Zagreb	1·1	260	e 0 21	+ 4	i 0 38	+ 7	—	—
Budapest	1·9	36	0 36	+ 7	—	—	—	—
Laibach	2·1	271	i 0 34	+ 1	i 1 1	+ 3	—	2·0
Vienna	2·4	341	0 33	+ 4	1 1	− 5	—	1·1
Venice	3·7	262	e 1 11	+13	e 2 55	?L	(e 2·9)	3·2
Rocca di Papa	5·4	221	—	—	e 2 21	− 7	e 3·1	—
Strasbourg	7·2	295	e 2 52	+63	(e 3 7)	− 8	(e 3·8)	4·7
Athens	9·3	147	—	—	—	—	i 15·0	—

Additional readings: Zagreb i = +29s. Vienna iZ = +34s., P = +37s., S? = +24s., iE = +52s., i = +56s., iZ = +57s., iE = +59s., iN = +1m.3s. Venice PN = +2m.1s. Strasbourg gives L as eS and S as eP?, also eS = +4m.12s.

June 27d. Readings also at 2h. (Batavia and Taihoku), 12h. (Manila), 15h. (near La Paz), 18h. (Ekaterinburg).

June 28d. 1h. 20m. 59s. Epicentre 46°·4N. 111°·2W.

(given by Seis. Soc. Amer. and quoted by De Bilt).

A = −·249, B = −·643, C = +·724 ; D = −·932, E = +·362 ;
G = −·262, H = −·675, K = −·690.

This epicentre agrees well with observations in the American continent, but those of Europe consistently require an origin 1°·1 further away. We may perhaps regard this as an indication of *height* of focus.

		Δ	Az.	P.	O−C.	S.	O−C.	L.	M.
		°	°	m. s.	s.	m. s.	s.	m.	m.
Victoria	E.	8·5	288	2 9	0	(3 43)	− 7	3·7	4·4
	N.	8·5	288	2 10	+ 1	(4 1)	+11	4·0	5·0
	Z.	8·5	288	2 10	+ 1	(3 46)	− 4	3·8	5·6
Berkeley	E.	11·8	228	e 2 57	+ 1	i 5 11	− 3	i 6·5	8·0
	N.	11·8	228	e 2 56	0	i 5 14	0	i 6·5	7·6
	Z.	11·8	228	e 2 56	0	i 5 17	+ 3	i 6·8	8·0
Lick	E.	11·9	224	i 2 59	+ 1	i 5 15	− 2	—	6·7
	N.	11·9	224	i 3 0	+ 2	i 5 15	− 2	—	6·3
	Z.	11·9	224	i 3 2	+ 4	i 5 16	− 1	i 5·8	6·5
Santa Clara		12·0	225	i 3 1	+ 2	—	—	6·0	7·8
Tucson	E.	14·1	179	3 47	+20	6 12	+ 2	7·0	8·2
St. Louis		17·2	109	e 4 13	+ 6	—	—	i 7·9	8·8
Chicago		17·5	97	i 4 12	+ 1	e 7 38	+ 9	8·9	—
Sitka	E.	18·2	315	4 29	+10	8 4	+20	9·8	10·4
	N.	18·2	315	—	—	8 1	+17	10·0	10·6
Ann Arbor		20·0	92	i 4 43	+ 2	i 8 37	+14	10·5	11·3
Toronto	E.	22·5	86	5 14	+ 3	i 9 24	+ 9	i 11·8	14·5
Loyola	E., N.	23·2	128	7 1	+102	10 41	+72	12·0	15·0
	Z.	23·2	128	7 21	+122	11 1	+92	13·0	15·0
Mazatlan		23·5	169	6 13	+50	10 35	+60	—	15·6
Ottawa		24·5	79	i 5 34	+ 1	i 9 54	0	i 12·4	15·5
Ithaca		24·9	86	5 41	+ 4	10 15	+14	12·4	15·7
Georgetown		25·9	94	5 48	+ 1	i 10 15	− 5	11·2	14·4
Cheltenham	E.	26·2	94	5 49	− 1	10 22	− 4	13·4	16·6
	N.	26·2	94	5 49	− 1	10 18	− 8	12·8	14·7
Guadalajara		26·5	164	—	—	—	—	—	15·8
Fordham		27·3	88	e 6 0	− 1	i 10 41	− 5	13·2	16·8
Harvard	E.	28·6	83	6 13	− 1	11 16	+ 6	14·3	18·0
	N.	28·6	83	—	—	11 23	+13	14·4	18·0
Tacubaya		28·7	156	6 11	− 4	11 46	+34	14·8	17·0
Vera Cruz		29·9	150	4 53	−94	10 23	−69	13·1	18·4
Merida		30·9	138	6 57	+20	12 16	+26	14·6	15·8
Halifax	E.	32·9	76	e 6 45	−11	i 12 13	− 9	i 15·9	18·0
Port au Prince		42·4	118	e 8 7	− 7	12 22	−138	19·5	24·8
Honolulu	E.	45·4	252	i 8 27	− 9	i 15 11	− 9	22·3	26·8
Balboa Heights		46·1	135	10 1?	+80	—	—	—	—
Azores		60·9	64	6 37	?	25 31	?L	(25·5)	32·8
Dyce		60·9	36	10 27	+ 9	18 46	+11	22·8	37·8
Edinburgh		61·3	38	10 28	+ 7	18 52	+12	31·0	35·5
Bergen		61·5	30	10 1	−21	18 1?	−41	29·0	—
Eskdalemuir		61·6	38	10 31	+ 8	18 53	+10	28·0	36·0
Stonyhurst		63·0	40	i 10 42	+10	i 19 14	+13	33·0	36·5
West Bromwich		64·1	40	i 10 48	+ 9	i 19 25	+11	—	—
Oxford		64·9	40	i 10 55	+11	i 19 40	+16	i 27·0	40·4
Upsala		65·9	25	11 0	+10	19 48	+12	30·5	39·8
Ootomari		66·7	315	11 7	+11	—	—	—	—
De Bilt		67·4	36	i 11 12	+12	20 14	+19	e 34·0	38·1
Uccle		68·1	39	i 11 13	+ 8	i 20 17	+14	33·0	40·0
Hamburg		68·3	33	i 11 15	+ 9	i 20 22	+16	e 31·0	37·0
Paris		68·8	40	i 11 19	+ 9	i 20 20	+ 8	28·0	42·0
Pulkovo		69·3	20	i 11 22	+ 9	i 20 30	+12	33·0	42·0
Lisbon		70·0	53	i 11 11	− 6	20 21	− 5	32·0	36·4
Konigsberg		70·9	27	11 34	+12	20 51	+14	e 32·7	34·0
Strasbourg		71·2	38	i 11 32	+ 8	i 20 57	+17	39·0	45·0
Besançon		71·5	40	i 11 35	+ 8	i 20 59	+15	33·0	42·0
Toledo		71·8	50	i 11 38	+10	i 21 9	+21	e 34·7	41·2
Cheb		71·9	34	e 17 23	?PR_2	e 27 48	?SR_1	e 44·0	48·0

Continued on next page.

		△	Az.	P.	O−C.	S.	O−C.	L.	M.
		°	°	m. s.	s.	m. s.	s.	m.	m.
Rio Tinto		72·2	53	9 1	?	—	—	—	43·5
Zurich		72·5	39	e 11 41	+ 8	e 21 10	+14	—	—
San Fernando		73·4	54	i 11 44	+ 6	i 21 19	+12	32·0	40·0
Tortosa	E.	73·8	47	e 11 48	+ 7	21 24	+12	—	44·5
La Paz		73·9	137	i 11 43	+ 2	i 21 17	+ 4	40·3	45·4
Moncalieri		73·9	40	i 11 48	+ 7	i 21 25	+12	31·7	45·2
Barcelona		74·0	45	i 11 48	+ 6	21 26	+12	e 37·7	44·2
Malaga		74·1	53	11 50	+ 7	i 21 26	+11	37·6	47·1
Granada		74·2	52	i 11 48	+ 5	i 21 27	+11	e 34·8	43·6
Kucino		74·6	17	i 11 54	+ 8	i 21 34	+13	36·0	45·4
Vienna		75·0	32	e 11 54	+ 5	21 39	+13	e 34·5	42·5
Alicante		75·0	49	i 11 45	− 4	21 27	+ 1	e 37·0	42·4
Almeria		75·1	51	i 11 59	+ 9	i 21 39	+12	i 41·6	50·2
Venice		75·6	38	12 3	+10	e 21 57	+24	34·4	49·1
Laibach		76·0	35	e 12 1	+ 6	e 21 47	+10	e 39·0	46·8
Ekaterinburg		76·5	4	i 12 6	+ 8	i 21 55	+12	33·0	41·6
Florence		76·5	39	12 1	+ 3	22 1	+18	36·0	44·0
Budapest		76·6	31	12 6	+ 7	21 57	+13	e 31·5	—
Irkutsk		76·8	339	—	—	—	—	e 41·0	—
Zagreb		76·8	35	e 12 6	+ 6	i 21 59	+12	e 33·7	44·0
Algiers		78·1	48	12 12	+ 4	22 9	+ 8	38·0	45·0
Rocca di Papa		78·7	39	12 17	+ 6	e 22 2	− 6	e 39·4	50·8
Osaka		79·2	310	11 34	−40	21 53	−21	44·0	50·7
Belgrade		79·3	32	e 11 11	−64	e 22 26	+11	e 40·4	50·6
Naples		80·1	38	e 12 32	+12	e 22 52	+28	44·0	49·0
Pompeii		80·3	38	e 12 52	+31	e 22 31	+ 4	36·0	48·0
Apia		81·0	238	—	—	—	—	e 41·0	45·0
Piatigorsk		86·7	18	i 11 55	−62	i 22 12	[−55]	—	52·0
Zi-ka-wei		89·0	318	13 18	+ 8	24 15	+12	—	51·7
Baku		91·6	14	i 13 24	− 1	i 24 0	−31	46·0	56·0
Taihoku		94·1	315	—	—	—	—	e 49·2	—
La Plata	E.	94·3	139	—	—	—	—	49·2?	51·9
Helwan		96·5	33	e 13 48	− 4	24 21	[+16]	—	—
Hong Kong		100·0	319	17 58	?PR_1	—	—	—	55·4
Simla	E.	102·1	354	—	—	—	—	e 56·9	69·4?
	N.	102·1	354	—	—	—	—	e 53·4	67·6
Manila		103·1	308	e 14 39	+13	—	—	57·8	63·5
Phu-Lien		104·6	323	e 17 50	[−10]	28 1	+83	52·0	—
Wellington		109·6	229	i 15 8	+13	i 28 40	+76	e 54·4	61·0
Hyderabad		115·6	350	—	—	—	—	—	66·7
Riverview		118·7	249	—	—	e 29 43	+63	e 55·6	70·7
Sydney		118·7	249	29 19	?S	(29 19)	+39	60·1	64·0
Kodaikanal		122·9	350	63 43	?L	—	—	72·3	74·7
Melbourne		125·1	249	e 22 7	?PR_1	—	—	—	70·0
Batavia		128·2	309	e 22 29	?PR_1	—	—	75·0	—
Cape Town		140·3	88	23 17	?PR_1	—	—	—	80·7

Additional readings and notes: Berkeley iSR_1N? = +5m.31s. and several other i readings. Lick gives several i readings. Santa Clara LN = +6·5m., MN = +8·0m. Tucson e = +5m.32s., +5m.54s., and +6m.27s.; T_o = 1h.21m.40s. St. Louis gives very many i readings and MN = +8·4m. Chicago iP = +4m.19s., SN = +7m.31s., and several e and i readings. Sitka eE = +9m.7s. and +9m.35s., SR_1E = +8m.40s., eN = +8m.58s.; T_o = 1h.21m.4s. Toronto iE = +9m.29s., iN = +9m.41s., MN = +14·0m.; T_o = 1h.21m.0s. Mazatlan readings are given for 24d. Ottawa MN = +16·0m.; T_o = 1h.21m.6s. Ithaca MN = +15·0m. Georgetown PR_1E = +6m.26s., SR_1N = +10m.49s., MN = +14·1m. Cheltenham P = +5m.55s., PR_1 = +6m.21s., PSE? = +10m.38s., PSN = +10m.41s., +11m.33s. and +11m.50s.; T_o = 1h.21m.10s. Fordham i = +6m.28s., SR_1 = +11m.12s. Harvard PR_1 = +7m.20s., SR_1N = +12m.40s., SR_2N = +13m.18s.; T_o = 1h.20m.48s., also several e readings. Merida readings have been increased by 8m. Halifax SR_2E = +14m.33s.; T_o = 1h.20m.50s. Honolulu eN = +9m.17s., +14m.7s., iE = +9m.31s., and +16m.11s., ePR_1E = +10m.16s., ePR_1N = +10m.23s., eE = +13m.9s., and +16m.28s., SR_1E = +18m.38s., SR_1N = +18m.44s., SR_2E = +20m.3s., SR_2N = +20m.42s.?, eLN = +22·6m., MN = +23·7m.; T_o = 1h.20m.55s. Dyce ? = +20m.16s. Edinburgh PR_2 = +14m.21s. Eksdalemuir PR_1 = +12m.43s., PR_2 = +14m.25s., SR_1 = +23m.1s., MN = +33·2m. Oxford PR_1 = +13m.26s., SR_1 = +24m.41s. Upsala MN = +40·1m. De Bilt iPR_1Z = +13m.43s., eSR_1Z = +25m.5s., MNZ = +40·3m.; T_o = 1h.21m.5s. Uccle SR_1 = +25m.8s., SR_2 = +28m.6s., MN = +39·0m. Hamburg PR_1 = +14m.1s., MZ = +40·0m., MN = +43·6m. Pulkovo PR_1 = +13m.56s., PR_2 = +15m.42s., SR_1 = +26m.7s., SR_2 = +28m.31s., MZ = +42·1m., MN = +42·2m. Konigsberg PS = +21m.43s = [S] +25s.,

Continued on next page.

SR_2 = +29m.17s., eLN = +33·2m., MN = +36·0m., eLZ = +38·0m., MZ = +40·0m. Strasbourg PR_1 = +14m.16s., SR_1 = +26m.16s., iSR_2 = +29m.28s., MN = +44·0m., MZ = +49·7m. Toledo PR_1NW = +14m.53s., PR_1NE = +15m.6s., SR_1NW = +26m.2s., SR_1NE = +26m.7s., SR_2NE = +29m.26s., SR_2NW = +29m.30s., SR_2NE = +30m.59s., SR_2NW = +31m.10s. MNW = +40·8m., MZ = +41·0m. San Fernando MN = +44·0m. Tortosa MN = +49·7m. La Paz PR_2 = +15m.27s. = PR_1 +28s., and +18m.2s. = PR_2 +31s., PS = +22m.23s. = [S] +42s., SR_1 = +27m.22s. and SR_2 = +30m.2s., MN = +45·0m.; T_e = 1h.20m.58s. Moncalieri MN = +45·4m. Barcelona eP = +11m.9s., MN = +44·9m. Malaga MN = +42·5m. Granada PR_1 = +14m.43s., PR_2 = +16m.49s., PS = +22m.14s. = [S] +31s., SR_1 = +26m.55s., SR_2 = +30m.11s. Kucino i = +12m.35s., e = +23m.42s., iPR_1 = +14m.31s., iPR_2 = +16m.26s., iPR_3 = +17m.43s., i = +18m.37s., and +22m.4s. = [S] +18s., iSR_1 = +26m.48s. Vienna iPZ = +12m.1s., PR_1? = +14m.46s., PS = +22m.14s. = [S] +35s., i = +26m.24s., SR_1 = +27m.14s., iE = +32m.10s. = SR_3 +24s., MNZ = +47·0m. Alicante PE = +11m.47s., L = +41·1m., MN = +50·5m. Almeria MN = +46·1m. Venice gives another set of readings. Ekaterinburg MN = +55·0m. Florence P = +12m.6s., MN = +41·5m. Zagreb i = +12m.13s., e = +15m.3s. = PR_1 −19s. Rocca di Papa ePN = +12m.22s., ePE = +12m.24s., SE = +22m.18s. Osaka MN = +50·6m. Belgrade PR_1 = +15m.22s. Piatigorsk PR_1 = +15m.21s., PR_2 = +17m.9s. Baku MZ = +57·9m. Hong Kong MN = +66·0m. Manila eP = +17m.52s. = [P] −6s. Riverview MN = +65·3m. Sydney S = +41m.13s. = SR_2 −46s.

June 28d. 2h. 5m. 35s. Epicentre 46°·4N. 111°·2W. (as at 1h.).

		Δ	Az.	P.	O−C.	S.	O−C.	L.	M.
		°	°	m. s.	s.	m. s.	s.	m.	m.
Victoria	E.	8·5	288	—	—	—	—	4·4	5·1
	Z.	8·5	288	4 9	?S	(4 9)	+19	5·0	5·1
Berkeley	E.	11·8	228	i 3 9	+13	—	—	—	6·8
	N.	11·8	228	i 3 34	+38	i 5 15	+ 1	—	7·3
	Z.	11·8	228	i 3 2	+ 6	—	—	i 5·7	6·3
Lick	N.	11·9	224	i 2 56	− 2	i 5 12	− 5	—	6·5
St. Louis		17·2	109	i 4 6	− 1	—	—	e 8·4	9·2
Chicago	E.	17·5	97	e 4 1?	−10	7 21	− 8	7·0	10·9
Ann Arbor		20·0	92	i 4 43	+ 2	i 9 13	+50	11·2	12·4
Toronto		22·5	86	—	—	—	—	i 12·0	13·9
Loyola	Z.	23·2	128	5 55	+36	9 25	− 4	12·4	16·4
Ottawa		24·5	79	i 5 31	− 2	i 9 59	+ 5	i 12·6	15·4
Ithaca		24·9	86	—	—	10 5	+ 4	12·8	15·4
Georgetown		25·9	94	5 13	−34	i 10 23	+ 3	—	14·0
Cheltenham		26·2	94	—	—	e 10 10	−16	e 13·5	15·2
Fordham		27·3	88	—	—	i 10 19	−27	i 13·5	15·4
Tacubaya	E.	28·7	156	5 59	−16	—	—	—	16·2
Hamburg		68·3	33	e 11 11	+ 5	—	—	e 31·9	36·4
Strasbourg		71·2	38	e 11 28	+ 4	—	—	—	—
Toledo		71·8	50	11 29	+ 1	21 11	+23	—	—
La Paz		73·9	137	i 11 46	+ 5	—	—	41·2	47·9
Malaga	Z.	74·1	53	11 42	− 1	21 26	+11	—	—
Granada		74·2	52	i 11 40	− 3	e 21 21	+ 5	e 34·4	36·4
Vienna	Z.	75·0	32	11 45	− 4	—	—	—	—
Almeria		75·1	51	11 46	− 4	e 21 27	0	—	—
Rocca di Papa		78·7	39	e 12 11	0	—	—	—	—

Additional readings: Victoria MN = +4·8m. Berkeley gives several i readings. Lick ME = +6·2m., MZ = +6·3m. St. Louis eP = +4m.7s., e = +5m.5s. Chicago MN = +9·4m.; T_e = 2h.5m.27s. Toronto LN = +11·8m., iLE = +13·4m., MN = +12·2m. Loyola PEN = +7m.25s., SEN = +11m.25s., LEN = +12·4m. Ottawa SR_1 = +11m.1s., MN = +13·2m.; T_e = 2h.5m.28s. Ithaca MN = +30·4m. Georgetown SR_1E = +11m.36s. Cheltenham eN = +10m.16s., eN = +13m.28s., MN = +14·5m. Fordham i = +11m.28s. Rocca di Papa ePN = +12m.13s.

June 28d. 3h. 40m. 45s. Epicentre 46°·4N. 111°·2W. (as at 2h.).

The assumption that the epicentre is as at 2h. seems very doubtful, as the observations themselves do not accord, especially those of Canada and the Eastern States.

		Δ	Az.	P.	O−C.	S.	O−C.	L.	M.
		°	°	m. s.	s.	m. s.	s.	m.	m.
Victoria	N.	8·5	288	2 3	− 6	—	—	—	2·2
Berkeley	E.	11·8	228	e 3 42	+46	i 5 54	+40	—	—
	N.	11·8	228	e 3 39	+43	i 5 44	+30	—	—
	Z.	11·8	228	e 3 50	+54	i 5 57	+43	—	—
Lick	E.	11·9	224	i 3 54	+56	—	—	—	—
Chicago		17·5	97	—	—	i 6 46	−43	8·4	8·7
Ann Arbor		20·0	92	—	—	e 7 45	−38	9·4	11·2
Toronto	E.	22·5	86	—	—	e 9 25	+10	11·4	12·8
	N.	22·5	86	—	—	i 9 32	+17	10·4	11·1
Ottawa		24·5	79	—	—	i 10 11	+17	i 11·8	13·2
Ithaca		24·9	86	—	—	e 10 27	+26	12·8	—

Additional readings: Victoria ME = +2·8m. Lick iPN = +3m.57s. Chicago MN = +9·2m. Ottawa eN? = +8m.3s. Berkeley The S readings are given as iE and iLN respectively. Also iSN = +4m.6s., iSE = +4m.7s., which perhaps refer to P; iZ = +5m.29s.

June 28d. 6h. 13m. 50s. Epicentre 29°·0N. 130°·0E. (as on 1924 Oct. 18d.).

A = −·562, B = +·670, C = +·485; D = +·766, E = +·643; G = −·312, H = +·371, K = −·875.

		Δ	Az.	P.	O−C.	S.	O−C.	L.	M.
		°	°	m. s.	s.	m. s.	s.	m.	m.
Nagasaki		3·7	358	1 13	+15	—	—	2·1	2·6
Hukuoka		4·6	4	1 30	+19	—	—	2·7	3·3
Kobe		7·2	36	2 2	+13	3 39	+24	4·9	4·9
Osaka		7·3	38	1 43	− 8	—	—	3·6	6·9
Zi-ka-wei		7·7	289	i 1 23	−34	e 3 2	−27	—	—
Nagoya		8·5	42	2 21	+12	—	—	5·2	5·7
Taihoku		8·5	244	2 17	+ 8	—	—	4·3	—
Hong Kong		15·7	249	3 50	+ 2	6 59	+11	—	11·2
Manila		16·7	212	e 4 5	+ 4	—	—	i 9·4	—
Ootomari		20·3	26	4 48	+ 3	—	—	—	—
Phu-Lien		22·7	254	e 5 14	+ 1	e 9 23	+ 4	11·6	14·2
Batavia		41·7	217	—	—	i 14 16	−15	—	—
Simla	N.	45·3	286	—	—	—	—	e 24·6	31·0
Hyderabad		48·4	270	—	—	—	—	—	33·2
Colombo		52·1	256	21 10	?SR_1	35 10	?L	—	—
Kodaikanal		52·5	261	33 34	?L	—	—	(33·6)	—
Bombay		52·7	273	e 25 10	?L	—	—	(e 25·2)	—
Ekaterinburg		54·9	322	i 9 43	+ 5	17 25	+ 5	28·2	34·1
Baku		64·7	305	10 50	+ 7	20 34	+73	36·2	46·2
Riverview		66·0	161	—	—	e 20 52	+75	—	37·3
Sydney		66·0	161	—	—	—	—	35·5	37·7
Kucino		67·5	323	e 11 7	+ 6	20 9	+13	33·5	38·8
Piatigorsk		68·2	310	—	—	—	—	38·2	—
Pulkovo		69·9	330	11 23	+ 7	20 37	+12	34·2	45·9
Upsala		75·4	332	—	—	—	—	e 40·2	50·4
Konigsberg		76·7	327	e 12 4	+ 5	—	—	e 41·2	50·2
Bergen		79·9	336	—	—	—	—	e 46·2	—
Budapest		81·9	321	—	—	—	—	e 38·7	—
Belgrade		82·3	318	e 11 57	−35	e 22 31	−18	e 47·8	—
Hamburg		82·5	329	e 12 38	+ 5	—	—	e 43·2	53·2
Vienna		82·6	323	12 36	+ 2	e 23 4	+11	e 43·7	54·2
Zagreb		84·3	320	e 12 45	+ 1	—	—	—	—
Dyce		84·8	337	—	—	—	—	—	56·3
De Bilt		85·6	329	12 51	0	23 18	− 8	e 45·2	56·5
Edinburgh		86·2	336	—	—	e 23 10?	[+ 6]	43·2	54·2
Eskdalemuir		86·7	336	e 12 56	− 1	e 23 23	−15	42·2	—
Uccle		86·9	329	e 12 52	− 6	e 23 25	−15	e 42·2	56·8
Strasbourg		86·9	325	e 12 56	− 2	e 23 23	−17	e 31·2	56·4
Stonyhurst		87·5	333	—	—	—	—	e 45·2	54·7
Florence		88·2	321	45 10	?L	—	—	(45·2)	56·2
Rocca di Papa		88·6	319	—	—	—	—	e 41·5	57·4
Oxford		88·6	331	—	—	e 23 32	[+13]	e 44·2	56·0
Besançon		88·7	325	—	—	—	—	49·2	—

Continued on next page.

		△	Az.	P.	O−C.	S.	O−C.	L.	M.
		°	°	m. s.	s.	m. s.	s.	m.	m.
Paris		89·2	329	e 12 49	−22	e 23 38	−27	48·2	58·2
Moncalieri		89·3	324	6 10	?	24 8	+ 2	43·2	58·0
Puy de Dôme		91·1	326	—	—	—	—	50·2	—
Barcelona		94·7	324	—	—	—	—	e 52·9	62·3
Tortosa	E.	95·9	324	—	—	—	—	e 56·2	63·6
Toledo		99·0	326	e 12 15	−110	—	—	—	64·4
Granada		100·9	325	e 13 39	−36	e 25 10	[+42]	e 53·5	66·9
Rio Tinto		101·9	326	54 10	?L	—	—	(54·2)	66·2
Ottawa		102·0	18	—	—	24 50	[+16]	e 46·2	—
Toronto	E.	102·5	21	—	—	e 25 55	−25	46·6	68·4
San Fernando		102·7	325	—	—	—	—	57·2	68·2
Rio de Janeiro		171·3	313	e 47 40	?SR_1	—	—	e 89·7	—

Additional readings: Nagasaki MN = +3·3m. Hukuoka MN = +3·8m. Kobe SR_1 = +4m.7s., SR_2 = +4m.21s. Osaka MN = +6·0m. Hong Kong MN = +10·6m. Phu-Lien MN = +15·2m. Simla eE = +28m.58s. Ekaterinburg SR_1 = +21m.39s., MN = +32·2m., MZ = +36·3m. Baku MN = +43·6m., MZ = +51·3m. Riverview MN = +36·4m. Pulkovo MN = +43·2m., MZ = +45·8m. Konigsberg eLN = +34·2m., MN = +49·2m. De Bilt PR_1 = +16m.14s., SR_1 = +29m.17s., eLN = +44·2m., MN = +56·2m., MZ = +56·7m. Eskdalemuir e = +16m.10s.? = PR_1 −31s. Uccle SR_1 = +29m.40s. Rocca di Papa iL = +56·8m. Barcelona MN = +61·6m. Tortosa MN = +63·2m. Toledo MNW = +58·6m. Granada PR_1 = +18m.4s., PR_2 = +20m.26s., PS = +26m.49s. = S +45s., SR_1 = +28m.20s. (?). Ottawa eE = +25m.48s. = S −27s., e = +38m.10s. = SR_2 +10s. Toronto LN = +57·7m.

June 28d. 13h. 41m. 35s. Epicentre 10°·2N. 92°·8E.

A = −·048, B = +·983, C = +·177; D = +·999, E = +·049; G = −·009, H = +·177, K = −·984.

		△	Az.	P.	O−C.	S.	O−C.	L.	M.
		°	°	m. s.	s.	m. s.	s.	m.	m.
Colombo		13·2	257	7 0	?L	—	—	8·0	9·8
Kodaikanal		15·1	272	—	—	—	—	8·0	11·3
Hyderabad		15·7	299	3 56	+ 8	7 9	+21	8·5	11·9
Phu-Lien		17·0	50	i 4 10	+ 5	i 7 22	+ 4	8·4	—
Bombay		21·1	296	4 9	−45	8 9	−37	—	—
Batavia		21·6	139	i 5 25?	+25	—	—	—	—
Hong Kong		23·8	57	5 22	− 4	9 28	−12	—	13·9
Simla		25·5	328	—	—	e 9 55	−18	—	16·0
Manila		27·8	77	e 0 5	?	—	—	15·2	—
Zi-ka-wei		33·8	49	e 7 3	0	14 49	+131	—	21·7
Irkutsk		43·1	10	i 8 7	−12	14 25	−24	24·4	—
Baku		48·4	317	e 8 52	− 4	15 54	− 5	25·4	—
Ekaterinburg		52·8	339	i 9 23	− 2	16 44	−10	24·4	29·6
Kucino		62·3	330	e 10 37	+10	i 18 47	− 5	31·1	39·5
Pulkovo		67·6	332	11 5	+ 3	19 52	− 5	34·4	42·8
Vienna		73·4	319	e 11 40	+ 2	e 21 19	+12	—	—
Zagreb		73·5	315	e 11 43	+ 4	—	—	—	—
Hamburg		77·6	324	—	—	e 21 25?	−31	e 40·4	—
Zurich	Z.	78·6	317	e 12 23	+12	—	—	—	—
Strasbourg		79·1	318	e 12 13	− 1	e 22 25?	+12	e 32·4	—
Besançon		80·4	317	i 12 20	− 1	—	—	—	—
De Bilt		80·5	322	12 19	− 3	e 22 26	− 3	e 44·4	53·4
Uccle		81·1	321	e 12 25?	− 1	e 22 42	+ 6	e 42·4	—
Paris		82·5	318	e 12 32	− 1	e 23 5	+13	e 34·4	—
Oxford		84·5	322	—	—	—	—	e 46·5	56·8
Stonyhurst		84·8	323	—	—	—	—	e 36·4	38·9
Edinburgh		84·9	326	—	—	e 23 25?	+ 7	—	54·4
Eskdalemuir		85·0	326	—	—	23 25?	+ 6	39·4	—
Granada		88·8	309	i 12 55	−14	e 24 0	− 1	e 50·4	57·2
San Fernando		91·1	309	—	—	—	—	50·4	55·4
Ottawa		123·7	350	—	—	37 40	?SR_1	e 57·4	74·4
Toronto		125·7	354	—	—	—	—	70·7	—
Rio de Janeiro		136·1	248	—	—	—	—	e 67·9	—

Additional readings: Simla eE = +10m.13s. = S +0s. Irkutsk PR_2 = +9m.57s. = PR_1 −2s., SR_2 = +17m.57s. = SR_1 +5s. Ekaterinburg MN = +33·1m., MZ = +33·2m. Kucino i = +19m.10s. Pulkovo PS = +20m.21s., MN = +41·7m., MZ = +45·3m. Vienna iPZ = +11m.41s. De Bilt MN = +47·1m. Stonyhurst readings are given for 29d. Eskdalemuir e = +28m.25s.?. Ottawa e = +44m.35s. Toronto LN = +73·7m.

June 28d. 16h. 44m. 50s. Epicentre 43°·4N. 19°·2E. (as on 1923 Mar. 30d.).

A = +·686, B = +·239, C = +·687 ; D = +·329, E = −·944 ;
G = +·649, H = +·226, K = −·727.

	Δ	Az.	P.	O−C.	S.	O−C.	L.	M.
	°	°	m. s.	s.	m. s.	s.	m.	m.
Sarajevo	0·7	310	0 10	− 1	0 22	+ 2	—	0·6
Mostar	1·0	267	0 11	− 4	0 25	− 3	—	0·5
Belgrade	1·7	32	i 0 26	0	i 0 49	+ 1	—	0·8
Zagreb	3·3	317	e 0 56	+ 4	(i 1 23)	− 8	—	—
Budapest	4·1	0	e 1 40	?S	(e 1 40)	−13	—	—
Laibach	4·3	310	i 1 15	+ 8	i 2 22	?L	(i 2·4)	5·2
Pompeii	4·4	235	e 2 10	?L	—	—	(e 2·2)	—
Naples	4·5	238	e 2 0	?S	(e 2 0)	− 4	—	—
Rocca di Papa	5·1	253	e 1 47	+28	2 12	− 8	—	3·2
Vienna	5·2	339	e 1 21	+ 1	2 54	?L	i 3·2	3·9
Venice	5·3	295	3 8	?L	5 6	?	(3·1)	—
Florence	5·8	277	e 4 10	?	—	—	—	—
Innsbruck	6·7	309	—	—	—	—	e 3·6	—
Uccle	12·5	312	—	—	—	—	e 7·1	—
De Bilt	12·8	318	—	—	—	—	e 7·2	—
Paris	12·8	301	—	—	—	—	e 7·2	8·2
Pulkovo	17·7	18	e 5 35	+82	—	—	—	—
Granada	18·4	258	—	—	—	—	e 10·3	11·5
Ekaterinburg	29·2	48	—	—	—	—	9·7	—

Additional readings and notes : Zagreb gives S as i, also iP = +1m.44s., iS = +1m.53s. and +2m.24s. Rocca di Papa eE = +2m.4s., PR_1N = +2m.29s., SN = +2m.54s., SE = +2m.58s. Vienna iZ = +2m.10s., MZ = +3·5m. Innsbruck iNW = +4m.10s. Strasbourg (Δ = 9°·5) gives 16h.43m. and 16h.43m.50s. Hamburg (Δ = 11°·8) gives e = 16h.41m. Eskdalemuir (Δ = 18°·7) gives simply 16h.

June 28d. 22h. 31m. 50s. Epicentre 46°·4N. 111°·2W. (as at 3h.).

		Δ	Az.	P.	O−C.	S.	O−C.	L.	M.
		°	°	m. s.	s.	m. s.	s.	m.	m.
Victoria	E.	8·5	288	4 44	?L	—	—	5·0	5·0
Chicago	E.	17·5	97	—	—	e 7 35	+ 6	e 9·3	—
	N.	17·5	97	—	—	e 7 20	− 9	e 9·0	—
Ann Arbor	N.	20·0	92	—	—	e 8 34	+11	12·2	—
Toronto	E.	22·5	86	e 5 10	− 1	i 9 30	+15	12·0	14·2
Ottawa		24·5	79	i 5 27	− 6	e 9 55	+ 1	e 12·2	15·2
Georgetown		25·9	94	—	—	—	—	e 12·8	—
Eskdalemuir		61·6	38	—	—	—	—	32·2	—
De Bilt		67·4	36	—	—	—	—	e 38·2	—
Uccle		68·1	39	—	—	—	—	35·2	—
Paris		68·8	40	—	—	—	—	e 7·2	—
Granada		74·2	52	—	—	—	—	e 40·0	43·9
Ekaterinburg		76·5	4	—	—	—	—	36·2	—

Additional readings : Chicago eE = +10m.42s. Are the times perhaps 3 min. too large ? Toronto eE = +5m.27s., LN = +12·5m. ; T_o = 22h.31m.33s. Ottawa MN = +13·7m. ; T_o = 22h.31m.39s.

June 28d. Readings also at 2h. (Apia), 3h. (Budapest, Sydney, and near Mostar), 4h. (Accra), 7h. and 8h. (2) (near Manila), 9h. (Apia), 10h. (Rio Tinto (2)), 14h. (near Manila). 15h. (Ekaterinburg), 16h. (near Tacubaya), 18h. (Ekaterinburg), 19h. (Apia).

June 29d. 14h. 42m. 10s. Epicentre 34°·0N. 119°·0W.

A = −·402, B = −·725, C = +·559 ; D = −·875, E = +·485 ;
G = −·271, H = −·489, K = −·829.

		Δ	Az.	P.	O−C.	S.	O−C.	L.	M.
		°	°	m. s.	s.	m. s.	s.	m.	m.
Lick		4·0	329	i 1 2	0	—	—	—	—
Santa Clara		4·2	327	i 0 48	−17	(1 50)	− 5	1·8	1·8
Berkeley	E.	4·7	327	e 1 10	− 3	i 2 11	+ 2	—	2·6
	N.	4·7	327	i 1 11	− 2	i 2 16	+ 7	—	3·0
	Z.	4·7	327	i 1 10	− 3	i 2 6	− 3	—	3·1
Tucson	E.	7·0	102	e 2 28	+42	3 45	+35	4·2	5·7
Victoria		14·8	349	3 37	+ 1	(6 45)	+18	6·8	10·6
Mazatlan		15·4	131	5 4	+80	8 22	+101	8·8	12·0
Tacubaya		22·8	125	5 27	+12	9 54	+33	11·9	16·9
St. Louis	E.	23·5	70	e 5 35	+12	e 10 4	+29	13·0	15·5
	N.	23·5	70	—	—	e 10 6	+31	12·8	15·7
Loyola	E.	24·8	91	9 50	?S	(9 50)	− 9	16·8	27·8
	N.	24·8	91	7 50	+134	13 0	?	15·3	18·8
Vera Cruz		25·1	120	4 14	−85	9 2	−63	11·1	16·2
Sitka	E.	25·6	339	—	—	(10 27)	+13	12·1	18·9
	N.	25·6	339	—	—	—	—	15·2	17·8
Chicago	N.	25·8	63	e 6 30	?PR_1	10 27	+ 9	i 14·2	—
Ann Arbor	N.	28·7	63	e 8 50	?	i 12 2	+50	i 15·9	17·8
Toronto		32·0	60	i 6 44	− 3	e 12 4	− 4	e 15·2	20·6
Georgetown		33·8	69	e 7 2	− 1	e 12 44	+ 6	—	23·6
Cheltenham	E.	33·9	70	e 7 11	+ 7	12 29	−10	e 17·4	21·4
Ithaca		34·1	62	e 7 4	− 2	12 41	− 1	e 16 6	19·3
Ottawa	E.	34·7	58	i 7 5	− 6	i 12 46	− 5	e 16·4	21·8
Fordham		36·1	65	e 7 30	+ 7	e 13 8	− 3	17·6	20·2
Honolulu		36·6	263	6 55	−32	13 3	−15	e 17·3	18·6
Harvard		38·0	62	7 36	− 2	13 47	+ 9	e 19·1	23·9
Apia		69·3	236	—	—	—	—	e 31·8	—
La Paz		69·9	128	11 39	+23	20 45	+20	47·7	50·0
Dyce		74·5	30	11 55	+ 9	21 38	+18	37·1	44·4
Edinburgh		74·9	31	e 12 4	+16	i 22 20	+55	39·8	46·7
Eskdalemuir		75·2	32	12 2	+12	e 21 40	+12	35·8	41·8
Bergen		75·2	25	e 16 50?	?PR_1	—	—	e 32·8	41·8
Stonyhurst		76·5	35	e 12 5	+ 7	—	—	—	46·8
Oxford		78·5	35	e 12 20	+10	—	—	e 38·4	47·2
Upsala	N.	79·6	20	e 12 18	+ 1	e 22 32	+13	e 37·8	50·3
De Bilt		81·0	31	—	—	—	—	e 39·8	48·0
Uccle		81·6	33	e 12 32	+ 4	e 23 0	+18	38·8	49·4
Hamburg		82·0	29	e 12 34	+ 4	e 22 56	+10	e 38·8	44·8
Paris		82·2	35	i 12 36	+ 5	e 23 2	+14	35·8	47·8
Pulkovo		82·9	15	i 12 39	+ 4	23 12	+16	38 8	50·5
Puy de Dôme		84·6	37	(e 13 15)	+29	(e 22 19)	−34	(31·8)	—
Konigsberg		84·6	23	—	—	e 21 22	−113	e 39·5	47·8
Rio Tinto		84·7	47	20 50?	?	—	—	—	57·3
Strasbourg		84·8	33	12 48	+ 1	e 22 4	−73	e 29·8	55·4
Toledo		84·9	45	12 50?	+ 3	e 23 24	+ 6	e 39·6	49·6
Besançon		85·0	35	e 12 56	+ 8	—	—	40·8	—
Cheb		85·6	29	—	—	—	—	e 49·8	59·8
Irkutsk		85·8	336	12 51	− 1	23 23	− 5	43·8	50·8
San Fernando		85·8	48	13 1	+ 9	23 44	+16	41·3	50·3
Malaga		86·7	47	12 59	+ 2	23 47	+ 9	32·8	—
Tortosa	E.	86·8	42	e 12 50?	− 8	e 23 55	+16	e 39·8	—
	N.	86·8	42	e 13 3	+ 5	23 39	0	e 39·8	58·6
Granada		86·9	47	i 12 59	− 1	23 37	− 3	39·8	51·0
Barcelona		87·2	40	—	—	e 23 48	+ 5	e 44·6	53·0
Innsbruck		87·4	30	e 13 2	+ 1	—	—	e 42·8	56·6
Moncalieri		87·4	35	e 11 38	−83	24 31	+46	46·8	52·4
Almeria		87·8	46	12 45	−19	e 23 15	[+ 1]	—	—
Alicante		87·9	44	—	—	—	—	e 43·7	—
Kucino		88·1	13	13 2	− 4	e 24 0	+ 7	44·3	50·3
Vienna	Z.	88·6	28	e 13 6	− 2	—	—	e 45·3	54·8
Ekaterinburg		89·2	0	i 13 7	− 4	23 48	−17	41·3	49·5
Venice		89·2	32	e 13 36?	+25	e 22 50	[−33]	—	26·8
Laibach		89·6	30	e 13 21	+ 7	e 23 25	[− 1]	e 48·6	55·8
Florence		90·0	34	24 50	?S	(24 50)	+36	37·8	44·8
Budapest		90·3	27	e 16 20	?PR_1	—	—	e 45·3	—
Zagreb		90·4	30	e 13 21	+ 3	—	—	—	—
Algiers		91·1	43	e 13 10	−12	—	—	e 42·8	47·8

Continued on next page.

		Δ	Az.	P.	O−C.	S.	O−C.	L.	M.
		°	°	m. s.	s.	m. s.	s.	m.	m.
Rio de Janeiro		91·8	117	e 17 5	?PR$_1$	—	—	e 41·2	60·2
Rocca di Papa	E.	92·3	35	e 12 54	−35	e 23 3	[−39]	e 46·4	57·0
	Z.	92·3	35	e 13 23	− 6	e 23 33	[− 9]	—	—
Belgrade		93·1	27	e 13 30	− 3	e 24 24	−22	e 53·9	58·3
Zi-ka-wei		93·5	313	13 43	+ 8	e 26 4	+73	—	—
Piatigorsk		100·3	14	—	—	—	—	44·8	—
Baku		104·9	10	e 14 27	− 7	e 27 58	+77	54·8	66·4
Manila		105·1	300	e 17 50?	[−15]	—	—	58·8	—
Riverview		108·0	241	—	—	—	—	—	60·2
Phu-Lien		110·1	315	—	—	—	—	53·8	—
Simla	E.	113·1	347	—	—	—	—	e 62·2	—
Adelaide		117·8	246	—	—	—	—	e 61·3?	69·3
Hyderabad		125·9	340	—	—	—	—	—	71·0
Kodaikanal		133·1	339	76 32	? L	—	—	(76·5)	—
Colombo		135·4	334	34 20	?	—	—	—	—

Additional readings: Lick iPE = +1m.4s., iPN = +1m.5s., and many i readings. Berkeley gives many other i readings. Tucson LE = +4·5m., iL = +5·5m. Victoria LN = +7·7m., MN = +10·3m., MZ = +10·5m.; T$_0$ = 14h.41m.55s. St. Louis i = +10m.14s. = SR$_1$ − 12s., eN = +10m.58s. = SR$_3$ + 16s., eE = +10m.59s. = SR$_3$ + 17s. Sitka SR$_1$? = +10m.27s. = S + 13s. Chicago eN = +7m.34s. and +12m.3s. Ann Arbor iSR$_1$N = +13m.50s. Toronto iS = +12m.6s., iN = +14m.28s. = SR$_2$ + 7s., MN = +18·0m.; T$_0$ = 14h.42m.10s. Georgetown eSN = +12m.42s., MN = +18·8m. Cheltenham eLN = +17·5m., MN = +19·6m.; T$_0$ = 14h.42m.40s. Ottawa PR$_1$E = +8m.18s. = PR$_1$ − 1s., SR$_1$E = +14m.20s., SR$_2$ = +14m.58s., MN = +19·6m.; T$_0$ = 14h.42m.4s. Fordham SR$_1$ = +15m.22s. Honolulu iP$_4$E? = +8m.50s. = PR$_1$ + 8s., iP$_4$N? = +8m.58s. = PR$_1$ + 16s., eE = +12m.30s., SR$_1$N = +15m.3s., SR$_1$E = +15m.12s., iSR$_2$E = +15m.34s., MN = +17·9m.; T$_0$ = 14h.41m.20s. Harvard iPR$_1$E = +9m.5s., eE = +13m.18s., and +17m.50s., SR$_1$E = +16m.17s., SR$_2$ = +16m.40s., MN = +21·3m.; T$_0$ = 14h.41m.58s. La Paz S? = +22m.4s. Dyce ? = +26m.30s. = SR$_1$ − 25s. Eskdalemuir SR$_1$ = +26m.20s. Upsala ME = +48·4m. De Bilt eSR$_1$ = +28m.8s., eSR$_2$ = +32m.14s., MN = +44·3m., MZ = +53·0m. Uccle PR$_1$ = +15m.42s., SR$_1$ = +28m.28s., MN = +45·7m. Hamburg PR$_2$ = +18m.15s., SR$_1$ = +28m.13s., SR$_2$ = +32m.50s., MNZ = +50·8m. Paris MN = +43·8m. Pulkovo PR$_1$ = +15m.50s., SR$_1$ = +28m.2s., MN = +47·4m., MZ = +50·6m. Puy de Dôme; the readings have been decreased by 4 min. Strasbourg MZ = +51·3m. Toledo MNW = +49·1m. Irkutsk iP = +12m.57s. and +13m.3s., PR$_1$ = +16m.13s., SR$_1$ = +29m.9s., MN = +51·2m., MZ = +51·3m. San Fernando MN = +53·3m. Granada PR$_1$ = +16m.27s., PR$_2$ = +18m.32s., SR$_1$ = +28m.22s. Barcelona MN = +57·4m. Alicante eLN = +43·2m. Kucino e = +16m.21s. = PR$_1$ − 32s., SR$_1$ = +30m.20s., SR$_2$ = +34m.8s. Vienna iZ = +15m.46s. Ekaterinburg ePR$_1$ = +16m.26s., SR$_1$ = +30m.6s., SR$_2$ = +33m.43s., MZ = +48·9m., MN = +49·1m. Rocca di Papa ePR$_1$Z = +26m.19s. Zi-ka-wei PR$_1$Z = +17m.15s. Baku PR$_1$ = +18m.46s., MZ = +66·2m. Simla eN = +69m.26s.

June 29d. 16h. 3m. 12s. (I)
16h. 6m. 5s. (II)
16h. 34m. 30s. (III)
18h. 56m. 0s. (IV)
} Epicentre 34°·0N. 119°·0W. (as at 14h.).

		Δ	Az.	P.	O−C.	S.	O−C.	L.	M.
		°	°	m. s.	s.	m. s.	s.	m.	m.
I	Lick	4·0	329	i 1 6	+ 4	i 1 51	+ 1	—	—
II		4·0	329	i 1 8	+ 6	1 45	− 5	2·0	—
III	E.	4·0	329	i 1 0	− 2	i 1 52	+ 2	i 3·4	—
III	N.	4·0	329	i 0 55	− 7	i 1 56	+ 6	i 2·4	—
IV		4·0	329	i 0 54	− 8	i 1 51	+ 1	i 3·0	—
I	Santa Clara	4·2	327	e 1 18	+13	—	—	1·5	1·5
II	E.	4·2	327	e 0 55	−10	—	—	1·4	2·2
II	N.	4·2	327	e 1 13	+ 8	—	—	1·6	2·0
III	E.	4·2	327	0 48	−17	—	—	1·6	2·0
III	N.	4·2	327	0 24	−41	—	—	1·1	1·5
IV	E.	4·2	327	e 1 18	+13	1 48	− 7	2·5	3·2
IV	N.	4·2	327	e 1 18	+13	1 50	− 5	2·5	3·5
IV	Z.	4·2	327	0 48	−17	(1 46)	− 9	1·8	2·2

Continued on next page.

		Δ	Az.	P.	O−C.	S.	O−C.	L.	M.
		°	°	m. s.	s.	m. s.	s.	m.	m.
I Berkeley		4·7	327	—	—	i 1 56	−13	i 2·2	—
II		4·7	327	i 1 6	− 7	i 2 3	− 6	i 2·6	2·7
III	E.	4·7	327	e 1 28	+15	i 2 19	+10	—	—
III	N.	4·7	327	i 1 21	+ 8	i 2 12	+ 3	i 2·8	—
III	Z.	4·7	327	i 1 14	+ 1	i 2 11	+ 2	i 2·9	—
IV		4·7	327	e 1 10	− 3	i 2 16	+ 7	i 2·9	—
IV Victoria	N.	14·8	349	—	—	—	—	8·5	10·2
III Chicago	N.	25·8	63	—	—	—	—	e 14·8	—
IV	N.	25·8	63	—	—	—	—	e 13·9	—
IV Ann Arbor		28·7	63	—	—	—	—	e 15·5	—
IV Toronto	E.	32·0	60	—	—	e 17 35	?L	20·2	20·3
IV	N.	32·0	60	—	—	e 12 23	+15	16·9	18·0
IV Georgetown		33·8	69	—	—	—	—	e 17·9	—
IV Ottawa		34·7	58	—	—	e 15 8	?SR_1	e 18·1	—
IV Granada		86·9	47	—	—	—	—	i 44·2	49·6
IV Ekaterinburg		89·2	0	—	—	—	—	43·0	—

Additional readings and notes: Lick I iE = +1m.19s., iN = +1m.26s., II iN = +1m.27s., iSN = +1m.50s., and several i readings, III iPN = +1m.11s., iPE = +1m.20s., iSZ = +1m.57s., and several i readings, IV iPENZ = +1m.2s., iPR_1NZ = +1m.12s., iPRE = +1m.13s., iE = +1m.42s., iSE = +1m.52s. Santa Clara IV readings for E. and N. have been increased by 2m. Berkeley gives several other e and i readings for each of the above shocks. Victoria IV ME = +9·7m. Chicago IV eN = +14m.33s. Ann Arbor IV i = +16m.36s., eL = +18·4m.

June 29d. Readings also at 13h. (Balboa Heights), 15h. (La Paz, Malaga, and Granada), 16h. (Granada and Lick), 17h. (near Manila (2)), 18h. (Lick), 19h. (near Sumoto), 20h. (La Paz and Lick), 23h. (Granada and Johannesburg).

June 30d. 3h. 44m. 12s. Epicentre 15°·0S. 172°·0W. (given by Apia and as on 1925 June 19d.).

A = −·956, B = −·134, C = −·259; D = −·139, E = +·990; G = +·256, H = +·036, K = −·966.

	Δ	Az.	P.	O−C.	S.	O−C.	L.	M.
	°	°	m. s.	s.	m. s.	s.	m.	m.
Apia	1·2	11	0 30	+12	—	—	0·8	1·4
Riverview	38·1	233	—	—	e 13 12	−27	e 17·4	20·3
Sydney	38·1	233	13 0	?S	(13 0)	−39	18·6	19·3
Honolulu	38·8	21	—	—	—	—	e 16·5	—
Adelaide	48·4	237	—	—	—	—	e 19·0	27·5
Victoria	76·7	31	20 50	?S	(20 50)	−55	37·8	—
Toronto	102·2	48	—	—	—	—	51·8	—
Ottawa	105·0	45	—	—	e 24 56	[+ 9]	55·8	—
Ekaterinburg	122·5	329	e 18 58	[− 1]	—	—	48·8	74·5
Pulkovo	132·4	345	—	—	—	—	e 67·8	75·0
Kucino	133·3	338	e 21 40	?PR_1	—	—	e 69·0	—
Baku	135·7	313	—	—	—	—	e 72·8	—
Eskdalemuir	138·8	10	—	—	—	—	64·8	—
De Bilt	142·9	3	19 34	[−11]	e 41 38	?SR_1	e 73·8	—
Uccle	144·1	5	e 19 36	[−11]	e 41 48	?SR_1	e 74·8	—
Vienna	146·1	350	e 19 42	[− 8]	—	—	—	50·8
Paris	146·2	6	i 19 45	[− 5]	—	—	75·8	—
Strasbourg	146·5	0	e 19 34	[−16]	—	—	85·8	—
Zagreb	148·5	349	e 19 48?	[− 5]	—	—	—	—
Rocca di Papa	153·0	352	e 19 51	[− 9]	—	—	—	—
Granada	155·6	22	i 19 50	[−13]	29 28	?	e 77·6	81·0

Additional readings and notes: Riverview MN = +20·1m. Honolulu eN = +16m.39s. =SR_1 +19s. Victoria LN = +36·8m. Ottawa e = +33m.0s., eLN = +44·2m. Ekaterinburg i = +20m.34s. =[P] +57s., e = +30m.21s., MN = +70·9m., MZ = +76·3m. Kucino i = +22m.45s. Granada e = +14m.48s., i = +20m.26s., +24m.4s. =PR_1 −8s., and +26m.30s.

June 30d. 6h. 6m. 15s. Epicentre 41°·5N. 40°·5E.

$A = +·570$, $B = +·486$, $C = +·663$; $D = +·649$, $E = -·760$; $G = +·504$, $H = +·430$, $K = -·749$.

		Δ	Az.	P.	O−C.	S.	O−C.	L.	M.
		°	°	m. s.	s.	m. s.	s.	m.	m.
Baku		7·2	96	1 47	− 2	3 16	+ 1	—	5·8
Kucino		14·4	354	—	—	—	—	e 8·4	—
Ekaterinburg		20·1	33	4 44	+ 2	e 8 26	+ 1	11·8	—
Manila		73·4	85	e 30 2	?L	—	—	(e 30·0)	—
Ottawa		76·2	320	—	—	—	—	e 37·2	—
Toronto		79·2	321	—	—	e 36 23?	?L	40·6	—
Georgetown	N.	81·6	316	—	—	—	—	e 35·3	—
Victoria		89·0	350	—	—	—	—	30·2	30·9

Additional readings: Piatigorsk ($\Delta = 3·°2$) gives e = 6h.2m.5s. Baku MN = +5·9m.

June 30d. 9h. 18m. 45s. Epicentre 34°·0N. 119°·0W. (as on 29d.).

$A = -·402$, $B = -·725$, $C = +·559$; $D = -·875$, $E = +·485$; $G = -·271$, $H = -·489$, $K = -·829$.

		Δ	Az.	P.	O−C.	S.	O−C.	L.	M.
		°	°	m. s.	s.	m. s.	s.	m.	m.
Lick	E.	4·0	329	1 7	+ 5	i 2 1	+11	—	—
	N.	4·0	329	0 53	− 9	i 1 56	+ 6	i 2·1	—
	Z.	4·0	329	1 14	+12	i 1 58	+ 8	—	—
Santa Clara	E.	4·2	327	e 1 0	− 5	—	—	2·1	2·5
	N.	4·2	327	e 1 12	+ 7	(1 57)	+ 2	2·0	2·2
Berkeley	E.	4·7	327	i 1 24	+11	i 2 25	+16	i 3·0	—
	N.	4·7	327	e 1 17	+ 4	i 2 25	+16	i 2·8	—
	Z.	4·7	327	e 1 23	+10	i 2 8	+ 1	—	—
Victoria	E.	14·8	349	—	—	—	—	7·6	10·4
	N.	14·8	349	—	—	—	—	8·4	10·2
Chicago	E.	25·8	63	—	—	—	—	e 15·8	—
Toronto	E.	32·0	60	—	—	—	—	e 17·4	20·6
Georgetown	N.	33·8	69	—	—	—	—	e 18·0	—
Ottawa	N.	34·7	58	—	—	e 15 45	?SR$_3$	e 18·2	—

Additional readings: Lick iPN, = +1m.6s., iE = +1m.24s., iZ = +1m.30s., iN = +1m.32s. Berkeley iSZ = +2m.28s., iE = +2m.43s. Toronto LN = +17·9m. Ottawa eLE = +20·2m.

June 30d. Readings also at 0h. (Ekaterinburg, Apia, Kucino, De Bilt, and near Athens), 1h. (Nagasaki), 2h. (Lick, near La Paz, and near Manila), 3h. (Toronto), 4h. (Manila), 5h. (Apia), 6h. (Piatigorsk), 7h. (near Sumoto), 10h. (Ekaterinburg), 21h. (Ekaterinburg and Malabar), 22h. (Ottawa, Uccle, and De Bilt).

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TABLE.

Degrees.	P sec.	S sec.	S – P sec.	Degrees.	P sec.	S sec.	S – P sec.	Degrees.	P sec.	S sec.	S – P sec.
1	15	28	13	51	553	991	438	101	855	1565	710
2	31	55	24	52	560	1004	444	102	860	1575	715
3	47	83	36	53	566	1016	450	103	865	1584	719
4	62	110	48	54	573	1029	456	104	870	1593	723
5	77	137	60	55	579	1041	462	105	874	1602	728
6	92	164	72	56	586	1054	468	106	879	1612	733
7	106	190	84	57	592	1066	474	107	884	1621	737
8	121	217	96	58	599	1079	480	108	888	1630	742
9	136	243	107	59	605	1091	486	109	893	1639	746
10	150	269	119	60	612	1103	491	110	897	1648	751
11	164	294	130	61	619	1116	497	111	902	1657	755
12	179	319	140	62	625	1128	503	112	907	1666	759
13	193	344	151	63	632	1141	509	113	911	1674	763
14	206	368	162	64	638	1153	515	114	916	1682	766
15	219	392	173	65	645	1165	520	115	920	1690	770
16	232	415	183	66	651	1177	526	116	925	1698	773
17	245	438	193	67	658	1190	532	117	929	1706	777
18	257	460	203	68	664	1202	538	118	934	1714	780
19	269	482	213	69	671	1214	543	119	938	1722	784
20	281	503	222	70	677	1226	549	120	942	1729	787
21	293	524	231	71	683	1238	555	121	947	1737	790
22	305	545	240	72	690	1250	560	122	952	1744	792
23	317	565	248	73	696	1262	566	123	957	1752	795
24	328	584	256	74	702	1274	572	124	961	1759	798
25	338	603	265	75	709	1286	577	125	966	1766	800
26	348	622	274	76	715	1297	582	126	970	1773	803
27	358	641	283	77	721	1309	588	127	974	1780	806
28	368	659	291	78	727	1320	593	128	978	1787	809
29	378	677	299	79	733	1332	599	129	983	1794	811
30	388	694	306	80	739	1343	604	130	988	1801	813
31	398	711	313	81	745	1355	610	131	992	1807	815
32	407	728	321	82	750	1366	616	132	996	1814	818
33	416	744	328	83	756	1377	621	133	1001	1821	820
34	425	760	335	84	762	1388	626	134	1005	1827	822
35	433	775	342	85	768	1399	631	135	1009	1833	824
36	442	790	348	86	773	1410	637	136	1014	1840	826
37	450	804	354	87	779	1421	642	137	1018	1846	828
38	458	818	360	88	785	1432	647	138	1023	1852	829
39	466	832	366	89	790	1443	653	139	1027	1858	831
40	475	847	372	90	796	1454	658	140	1031	1864	833
41	483	861	378	91	801	1464	663	141	1035	1869	834
42	491	875	384	92	807	1475	668	142	1039	1875	836
43	498	888	390	93	812	1485	673	143	1043	1881	838
44	506	902	396	94	818	1496	678	144	1047	1886	839
45	513	915	402	95	823	1506	683	145	1051	1892	841
46	520	928	408	96	829	1516	687	146	1055	1897	842
47	527	941	414	97	834	1526	692	147	1059	1902	843
48	534	954	420	98	840	1536	696	148	1063	1907	844
49	540	966	426	99	845	1546	701	149	1067	1912	845
50	547	979	432	100	851	1556	705	150	1071	1917	846

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