The International Seismological Summary for 1929 October, November, December.

FORMERLY THE BULLETIN OF THE BRITISH ASSOCIATION SEISMOLOGY COMMITTEE.

The present quarter deals with 103 epicentres, 23 of which are new and 80 from old epicentres, making a total of 602 epicentres for the year.

Cases of abnormal focus are as follows :

Date, 1929.					Epicentre.		Focal Depth.
	d.	h.	m.	s.	°	°	
Oct.	19	10	12	48	23·2S.	69·0W.	+0·015
	19	20	20	38	23·2S.	69·0W.	+0·015
Nov.	15	18	50	25	8·0N.	143·0E.	+0·010
Dec.	10	17	55	3	36·5N.	70·5E.	+0·025
	31	4	43	30	5·5S.	147·0E.	+0·020

Observers are earnestly requested to send their readings, especially 1930, either MS. or in print, as soon as possible to the University Observatory, Oxford.

UNIVERSITY OBSERVATORY,
OXFORD.

1933 August 24.

1929 OCTOBER, NOVEMBER, DECEMBER.

Oct. 1d. Readings at 0h. (near Wellington), 3h. (near Ksara and near Tacubaya), 4h. (near Tacubaya), 7h. (near Algiers), 8h. (Entebbe and near Lick), 9h. (Lick), 11h. (Manila), 12h. (Ottawa and Toronto), 18h. (Bombay and Suva), 19h. (Mizusawa), 20h. (Andijan, Florissant, Ottawa, and Tucson), 21h. (Toronto), 22h. (Florissant, Ottawa, Toronto, and near Victoria).

Oct. 2d. 9h. 18m. 0s. Epicentre 54°·0S. 29°·6W. (as on 1929 July 2d.).

$A = +\cdot511$, $B = -\cdot290$, $C = -\cdot809$; $D = -\cdot494$, $E = -\cdot869$; $G = -\cdot704$, $H = +\cdot400$, $K = -\cdot588$.

		Δ	Az.	P.	O−C.	S.	O−C.	L.	M.
		°	°	m. s.	s.	m. s.	s.	m.	m.
La Plata		27·5	303	—	—	—	—	14·6	—
Rio de Janeiro	E.	32·7	335	e 9 0	?	13 24	+65	15·5	—
	N.	32·7	335	e 9 0	?	13 28	+69	15·2	18·4
Sucre		44·4	309	i 8 25	− 4	i 15 3	− 4	20·0	25·5
La Paz	E.	47·9	308	i 8 56	+ 3	i 16 0	+ 7	23·8	27·8
	N.	47·9	308	i 8 58	+ 5	i 16 1	+ 8	21·5	27·8
Tananarive		67·3	91	—	—	e 20 3	+ 9	e 30·7	35·8
Adelaide		90·5	170	—	—	e 22 45	[−46]	e 49·5	61·5
Almeria		93·9	22	—	—	—	—	51·4	52·4
Granada		93·9	21	i 26 1	?	e 33 52	?	45·0	49·3
Alicante		95·7	24	—	—	e 28 4	?	52·5	—
Toledo		96·4	20	e 25 57	?S	(e 25 57)	+37	e 43·7	56·7
Rocca di Papa		102·3	30	—	—	—	—	e 49·1	57·8
Paris		106·3	23	—	—	—	—	e 58·0	60·0
Florissant	E.	106·5	315	—	—	e 26 30	−27	e 48·0	63·5
Toronto		106·5	325	—	—	29 0?	?	—	—
Ottawa	N.	106·9	329	—	—	e 25 6	[+10]	59·0	—
Zagreb		107·1	31	—	—	—	—	—	60·0
Strasbourg		107·3	24	—	—	—	—	e 37·0	—
Uccle		108·6	21	—	—	—	—	e 53·0	—
De Bilt		110·0	21	—	—	e 29 0?	?PS	e 58·0	62·6
Bombay		112·5	86	—	—	—	—	e 55·0	—
Hyderabad	E.	114·6	91	—	—	—	—	—	62·7
Copenhagen		115·0	24	—	—	—	—	54·0	—
Baku		116·2	55	e 20 11	?PR_1	e 25 51	[+18]	52·0	66·6
Pulkovo		123·4	30	—	—	—	—	65·0	—
Scoresby Sund		124·6	3	—	—	30 0?	?	66·0	—
Andijan		128·2	70	e 22 42	?	—	—	—	—
Victoria	E.	129·1	300	—	—	—	—	69·3	89·2
Ekaterinburg		132·7	46	i 19 24	[0]	—	—	61·0	82·1

Additional readings: Sucre $SR_1 = +18$m.34s. Tananarive eE = +21m.14s. Adelaide MN = +60·7m. Toledo MNW = +56·0m. Florissant eSE = +33m.54s. $= SR_1 - 5$s., eE = +38m.0s. Ottawa eN = +29m.30s. De Bilt $eSR_1N = +35$m.10s., MZ = +62·7m. Hyderabad MN = +62·9m. Baku e = +30m.12s. = PS + 7s. and +36m.26s. $= SR_1 + 26$s. Ekaterinburg $iPR_1 = +21$m.24s., $ePcPcS = +22$m.53s., $eSR_1 = +39$m.30s., $eSR_2 = +44$m.30s.

Oct. 2d. 11h. 6m. 0s. Epicentre 31°·0S. 65°·5W. (as on 1928 June 30d.).

A = +·355, B = −·780, C = −·515.

	Δ	Az.	P.	O−C.	S.	O−C.	L.	M.
	°	°	m. s.	s.	m. s.	s.	m.	m.
Santiago	5·0	239	i 1 28	+11	2 21	+ 4	2·8	—
La Plata	7·5	123	3 21	?S	(3 21)	− 3	6·4	—
Sucre	12·0	1	2 54	− 5	5 22	+ 3	6·0	6·6
La Paz	14·7	350	i 3 31	− 4	i 6 16	− 9	7·2	8·3
Rio de Janeiro	21·5	73	—	—	—	—	e 11·3	—
Granada	89·4	45	—	—	—	—	49·0	—

Additional readings: La Paz MN = +8·9m. Rio de Janeiro eE = +1m.0s., eN = +1m.5s.

Oct. 2d. 11h. 51m. 54s. Epicentre 28°·7N. 51°·9E. (as on 1929 July 16d.).

A = +·541, B = +·690, C = +·480; D = +·787, E = −·617; G = +·296, H = +·378, K = −·877.

Very uncertain.

		Δ	Az.	P.	O−C.	S.	O−C.	L.	M.
		°	°	m. s.	s.	m. s.	s.	m.	m.
Baku		11·8	353	—	—	e 5 6	− 8	8·1	9·5
Ksara	E.	14·6	295	3 48	+14	8 34	?	11·1	—
Helwan		18·0	279	e 4 34	+17	8 15	+35	—	13·6
Andijan		20·3	50	e 4 43	− 2	—	—	—	—
Bombay		21·5	113	e 4 52	− 7	8 54	− 1	12·1	—
Simferopol		21·5	324	e 4 52	− 7	—	—	—	—
Ekaterinburg		28·8	8	e 5 49	−27	i 10 43	−30	13·1	—

Additional readings and note: Baku e = +4m.43s. and +7m.7s. Ekaterinburg e = +10m.26s., readings all given without phase.

Oct. 2d. Readings also at 0h. (Ksara, Ekaterinburg, Irkutsk, Ottawa, and Toronto), 1h. (Rocca di Papa and Rome), 2h. (Suva), 3h. (Ekaterinburg), 5h. (Mizusawa), 10h. (Florissant, Ottawa, Tucson, Honolulu T.H., and near Tacubaya), 11h. (Ottawa, Toronto, Wellington, Andijan, and (Florence), 12h. (Moncalieri, Florence, near Treviso, and Padova), 17h. (Baku, Ekaterinburg, Irkutsk, Tashkent, and Scoresby Sund), 18h. (Belgrade, La Paz, and Rio de Janeiro), 19h. (Baku, Ekaterinburg, Tashkent, Muroto, near Osaka, Kobe, and Sumoto), 20h. and 21h. (Florissant), 22h. (La Paz and Sucre).

Oct. 3d. Readings at 0h. (Taihoku), 1h. (La Paz), 3h. (Wellington), 5h. (Honolulu T.H. and near Manila), 6h. (near Tananarive), 13h. (Tananarive and near Sumoto), 15h. (Taihoku), 17h. (Taihoku, near Treviso, Padova, Belgrade, Laibach, and Zagreb), 18h. (Nagoya, near Akita, and Mizusawa), 19h. (Andijan), 20h. (near Honolulu T.H.), 22h. (Nagoya), 23h. (near Manila).

Oct. 4d. Readings at 1h. (Nagoya, near Akita, and Mizusawa), 2h. (Perth), 3h. (Florissant), 4h. (Georgetown, Ottawa, Toronto, Tucson, and near Victoria), 6h. (Florissant), 9h. (Florissant and near Victoria), 10h. (Ottawa, Toronto, and Georgetown), 14h. (near Taihoku, near La Paz, and Sucre (2)), 15h. (near Santiago and near Sucre), 17h. (near Santiago), 18h. (Wellington), 20h. (La Paz and near Tananarive), 21h. (near Taihoku), 23h. (Melbourne).

Oct. 5d. 2h. 34m. 35s. Epicentre 37°·0S. 77°·5E.

A = +·173, B = +·780, C = −·602; D = +·976, E = −·216; G = −·130, H = −·588, K = −·799.

		Δ	Az.	P.	O−C.	S.	O−C.	L.	M.
		°	°	m. s.	s.	m. s.	s.	m.	m.
Tananarive		31·9	298	e 7 50	?PR_1	(e 12 4)	− 3	13·9	14·3
Batavia		40·8	49	e 8 25?	+24	—	—	—	—
Colombo		44·0	3	14 44	?S	(14 44)	−18	—	38·5
Kodaikanal		47·3	0	e 26 37	?L	—	—	(e 26·6)	—
Cape Town		47·4	258	—	—	—	—	23·9	—
Adelaide		48·6	105	—	—	—	—	e 24·8?	—
Melbourne		52·4	113	—	—	i 16 49	0	i 24·5	26·6
Hyderabad		54·5	1	9 38	+ 2	17 8	− 7	26·8	30·4
Entebbe		55·7	301	—	—	—	—	24·4	—
Bombay		56·1	355	10 51	+64	17 39	+ 4	26·3	30·5
Riverview		58·6	111	—	—	e 22 13	?SR_1	e 27·2	29·6
Hong Kong		68·8	36	20 15	?S	(20 15)	+ 3	—	38·4
Zi-ka-wei	Z.	79·6	37	e 12 17	0	—	—	38·6	48·5
Ksara	E.	80·1	326	e 12 9	−11	e 22 35	+11	e 37·4	—
Ekaterinburg		94·9	351	e 13 38	− 5	e 24 43	−22	38·4	52·4
Rocca di Papa		98·4	319	e 18 22	?PR_1	—	—	—	25·6
Alicante		104·1	310	—	—	—	—	e 54·8	—
Pulkovo		104·2	339	—	—	—	—	63·4	—
Granada		105·4	305	—	—	—	—	e 53·4	59·9
Strasbourg		105·5	320	—	—	—	—	e 63·4	—
Toledo	N.E.	107·2	308	—	—	—	—	e 56·1	69·4
Copenhagen		107·9	328	—	—	—	—	49·4	—
Paris		108·4	318	—	—	—	—	e 61·4	71·4
De Bilt		109·0	321	—	—	—	—	e 45·4	74·5
Kew		111·4	319	—	—	—	—	e 45·4	—
La Paz		117·5	217	—	—	—	—	71·9	77·8
Scoresby Sund		127·6	335	—	—	—	—	55·4	—
Fordham	E.	157·5	289	—	—	—	—	81·4	86·4
Ottawa		158·3	301	—	—	e 44 25	?SR_1	e 76·4	—
Georgetown	Z.	159·9	283	—	—	—	—	e 77·6	85·6
Victoria	E.	161·0	46	—	—	—	—	100·0	104·5
Toronto	E.	161·3	298	—	—	—	—	79·8	—
Chicago	E.	167·6	297	—	—	—	—	e 87·8	—
Florissant		170·3	285	—	—	e 27 55	?	e 71·4	82·4

Additional readings and note: Tananarive eE = +13m.13s., eLN = +13·7m., ePR_1 is given as e and S as eP. Adelaide e = +21m.50s. Riverview MN = +29·3m. Ekaterinburg eS_eP_eS = +24m.10s. =[S]+14s. Toledo MNW = +65·9m. De Bilt MN = +72·0m., MZ = +75·6m. Scoresby Sund L = +79·4m. Fordham e = +76m.15s. Georgetown iZ = +68m.56s. Chicago eN = +88m.49s.

Oct. 5d. 16h. 59m. 51s. Epicentre **53°·5N. 158°·5E.**

(as on 1929 March 5d.).

A = −·553, B = +·218, C = +·804; D = +·367, E = +·930; G = −·748, H = +·295, K = −·595.

	Δ	Az.	P.	O−C.	S.	O−C.	L.	M.
	°	°	m. s.	s.	m. s.	s.	m.	m.
Ootomari	12·2	242	3 6	+ 4	5 22	− 2	—	—
Akita	18·6	230	e 4 34	+10	—	—	e 12·7	—
Mizusawa	18·6	226	4 25	+ 1	7 36	−17	—	—
Hukusima	20·1	226	4 43	+ 1	8 37	+12	—	—
Tokyo	22·1	224	5 11	+ 5	6 32?	?	—	—
Nagoya	23·8	228	e 5 22	− 4	—	—	—	—

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		Δ	Az.	P.	O−C.	S.	O−C.	L.	M.
		°	°	m. s.	s.	m. s.	s.	m.	m.
Toyooka		24·4	232	i 5 28	− 4	—	—	—	—
Osaka		24·9	230	5 28	− 9	(9 9)	−52	9·2	—
Kobe		25·0	231	5 33	− 5	—	—	e 13·2	14·4
Sumoto		25·4	230	5 38	− 4	e 10 42	+31	—	13·5
Koti		26·6	232	e 5 50	− 4	e 10 27	− 6	—	—
Nagasaki		29·1	236	5 12	−67	—	—	e 12·2	—
Irkutsk		31·9	290	i 6 40	− 6	11 57	−10	14·0	14·8
Zi-ka-wei	Z.	34·7	244	i 6 59	−12	12 13	−38	19·4	21·5
Hong Kong		45·7	243	8 28	−10	15 9	−15	—	29·3
Honolulu T.H.	E.	46·2	118	—	—	14 56	−35	20·0	—
	N.	46·2	118	—	—	i 14 59	−32	21·0	—
Victoria	E.	47·0	63	—	—	—	—	22·5	23·4
Manila		48·8	231	e 8 54	− 5	e 17 15	+71	28·2	33·2
Ekaterinburg		51·0	317	i 9 13	0	i 16 31	0	25·2	34·0
Phu-Lien		51·1	252	e 9 11	− 3	(16 39)	+ 7	16·6	—
Berkeley	E.	54·4	75	e 9 50	+15	e 17 10	− 4	e 25·8	—
	N.	54·4	75	e 9 42	+ 7	e 17 12	− 2	e 25·6	—
	Z.	54·4	75	e 9 49	+14	e 17 12	− 2	e 25·2	—
Lick		55·2	75	e 9 42	+ 2	e 17 2	−22	e 26·6	—
Scoresby Sund		56·0	0	9 45	− 1	i 17 36	+ 2	30·2	—
Andijan		56·7	295	e 9 49	− 1	e 17 43	+ 1	—	—
Pulkovo		59·4	333	10 11	+ 3	18 19	+ 3	27·2	35·2
Samarkand		59·9	298	e 10 16	+ 5	e 18 28	+ 6	—	—
Helsingfors		60·4	335	e 10 22	+ 7	e 18 37	+ 9	e 29·2	—
Dehra Dun		60·6	282	(9 59)	−17	(21 29)	?	(44·2)	(58·2)
Upsala		62·4	340	e 10 31	+ 3	i 18 58	+ 5	e 32·2	37·5
Agra	E.	62·9	280	10 19	−12	18 50	−10	35·1	45·2
Bergen		64·1	346	—	—	—	—	e 47·2	—
Tucson	E.	65·0	70	e 10 42	− 3	19 20	− 5	e 31·2	—
	N.	65·0	70	e 10 41	− 4	19 17	− 8	e 26·2	—
Konigsberg	E.	66·1	335	e 11 1	+ 9	e 19 51	+13	e 26·2	38·2
	N.	66·1	335	e 11 0	+ 8	i 19 52	+14	e 26·2	41·2
Copenhagen		67·3	340	i 11 3	+ 3	20 1	+ 7	30·2	—
Baku		67·9	310	e 11 11	+ 8	i 20 11	+10	35·2	46·6
Dyce		68·1	350	i 10 59	− 6	i 19 59	− 4	—	—
Chicago	E.	69·1	47	12 4	+52	i 21 1	+46	e 36·0	—
	N.	69·1	47	12 3	+51	e 21 7	+52	e 25·6	—
Edinburgh		69·5	350	—	—	i 20 45	+25	34·2	52·4
Hamburg		69·8	340	i 11 20	+ 4	i 20 32	+ 8	e 37·2	46·2
Theodosia		70·1	322	11 22	+ 4	20 33	+ 6	32·2	45·9
Hyderabad		70·2	275	11 46	+28	21 2	+34	37·0	46·8
Potsdam		70·2	339	—	—	i 20 35	+ 7	e 37·0	48·2
Ann Arbor	E.	70·3	44	—	—	e 20 33	+ 3	e 40·2	—
	N.	70·3	44	e 11 21	+ 2	e 20 51	+21	e 37·8	—
Florissant		70·3	51	e 11 14	− 5	20 22	− 8	e 32·6	38·6
Simferopol		70·7	322	11 26	+ 5	—	—	36·6	—
Ottawa		70·8	38	e 11 18	− 4	i 20 29	− 7	e 32·6	45·2
Toronto		70·9	40	e 11 17	− 5	e 20 24	−13	37·2	38·8
Yalta		71·1	322	11 27	+ 3	—	—	35·2	—
Stonyhurst		71·5	349	—	—	21 7	+23	38·2	46·7
Gottingen	N.	71·7	340	—	—	—	—	e 36·2	47·2
Jena	E.	71·9	340	e 11 33	+ 4	e 20 55	+ 6	—	—
	N.	71·9	340	i 11 31	+ 2	e 20 52	+ 3	e 36·2	41·6
De Bilt		72·1	344	i 11 33	+ 2	20 56	+ 5	36·2	42·0
Bombay		72·3	278	11 39	+ 7	21 1	+ 7	38·5	47·2
Cheb		72·5	338	(e 11 57)	+24	(e 20 39)	−17	e 37·2	43·2
Feldberg	N.	73·2	343	i 11 31	− 6	i 21 4	0	e 37·4	46·2
Vienna		73·3	335	i 11 40	+ 2	21 8	+ 2	35·2	49·2
Budapest		73·4	333	11 43	+ 5	21 15	+ 8	e 39·2	49·2
Uccle		73·4	344	i 11 40	+ 2	21 11	+ 4	e 42·2	—
Kew	Z.	73·5	348	i 11 40	+ 1	—	—	44·2	—
Hohenheim		74·5	340	e 11 47	+ 1	e 21 23	+ 3	—	—

Continued on next page.

	Δ	Az.	P.	O−C.	S.	O−C.	L.	M.
	°	°	m. s.	s.	m. s.	s.	m.	m.
Graz	74·6	335	—	—	—	—	e 36·2	51·7
Strasbourg	75·0	341	i 11 51	+ 2	i 21 31	+ 5	e 30·2	—
Ravensburg	75·3	340	e 11 52	+ 1	i 21 34	+ 5	e 40·2	45·7
Fordham	75·4	39	i 11 42	− 9	i 21 21	− 9	29·9	41·6
Belgrade	75·4	330	e 11 51	0	e 21 32	+ 2	e 39·7	52·8
Zagreb	75·6	334	e 11 54	+ 1	e 21 39	+ 6	e 40·2	—
Paris	75·7	345	i 11 54	+ 1	e 21 35	+ 1	40·2	45·2
Georgetown z.	75·9	41	11 48	− 6	e 21 21	−15	e 35·2	47·4
Zurich	75·9	340	i 11 55	+ 1	i 21 39	+ 3	—	—
Chur	76·1	339	e 11 58	+ 2	i 21 41	+ 3	—	—
Kodaikanal	76·5	271	e 36 57	?L	—	—	(e 37·0)	—
Besançon	76·6	341	11 57	− 2	21 44	0	40·2	—
Neuchatel	76·6	340	i 11 59	0	e 21 46	+ 2	—	—
Treviso	76·7	336	i 12 1	+ 2	21 47	+ 2	43·2	52·6
Venice	76·9	336	11 9?	−51	—	—	—	—
Colombo	77·7	267	11 58	− 7	—	—	—	50·7
Piacenza	77·9	339	11 37	−29	22 3	+ 4	32·4	49·2
Moncalieri	78·5	340	i 11 58	−12	21 39	−27	31·2	48·5
	78·5	340	e 12 1	− 9	21 47	−19	31·2	—
Florence	78·7	336	i 12 9	− 2	—	—	—	—
Ksara	79·5	315	12 14	− 2	22 19	+ 1	38·3	—
Rocca di Papa	80·3	335	i 12 16	− 5	i 22 24	− 3	e 43·6	55·0
Casamicciola	80·8	334	11 17	−67	—	—	—	—
Trenta	81·6	331	e 12 9	−19	—	—	—	—
Tortosa	83·8	345	e 12 9?	−32	23 7	0	e 39·2	48·6
Helwan	84·9	316	e 12 40	− 7	e 23 2	−16	—	59·1
Toledo	85·4	347	i 12 45	− 5	i 23 10	−13	e 37·0	58·3
Alicante	86·4	345	e 12 33	−22	e 23 25	− 9	e 35·2	—
Algiers	87·2	340	e 11 4	?	e 20 34	?	—	—
Riverview	87·6	186	e 15 3	?	e 23 15	[+ 2]	e 41·4	54·4
Granada	88·0	347	i 12 56	− 9	i 23 39	−13	45·2	49·8
Almeria	88·1	346	13 12	+ 6	i 23 47	− 6	45·2	54·3
Malaga	88·5	348	e 13 55	+47	23 45	−13	33·2	—
San Fernando	89·1	349	—	—	23 48	−16	—	55·8
Adelaide	90·2	196	—	—	e 23 41	[+12]	42·3?	47·6
Melbourne	92·1	190	—	—	i 24 9	−27	—	47·6
Wellington	95·8	168	i 19 40	?	i 24 32	−42	38·2	—
La Paz	128·3	62	e 19 24	[+ 9]	—	—	—	—
Rio de Janeiro N.	145·3	37	—	—	—	—	e 81·2	—

Additional readings and notes: Mizusawa PE = +4m.30s. Kobe MZ = +14·6m. Sumoto MZ = +12·2m., MN = +14·9m. Zi-ka-wei LZ = +13m.27s. Victoria LN = +20·6m., MN = +23·2m. Scoresby Sund SR_1 = +19m.9s. Dehra Dun readings have been *increased* by 20m. Upsala PS = +19m.18s, MN = +35·3m. Tucson ePR_1N = +13m.16s., eSR_1E = +23m.35s. Konigsberg eEN = +20m.11s. =PS − 1s., eN = +21m.10s. = Σ − 9s. Copenhagen +20m.48s. =[S] − 3s., +24m.39s. Dyce PR_1 = +13m.55s. Hamburg iPSE = +20m.53s. Potsdam iE = +20m.36s., iEN = +20m.55s. and +21m.15s. =[S] + 2s. Ann Arbor eE = +29m.3s. and +33m.3s., eN = +34m.27s., eE = +34m.45s. Florissant iSN = +20m.23s., eN = +20m.39s., iE = +21m.34s., eE = +24m.33s., MN = +41·2m. Ottawa eN = +15m.39s., ePSN = +20m.42s., eN = +25m.21s., eE = +25m.57s. =SR_1 − 5s., eN = +28m.45s. =SR_1 − 3s., MN = +52·8m. Toronto iPSN = +20m.41s.; T_s = 17h.0m.0s. Jena eEN = +21m.9s. De Bilt PR_1 = +14m.15s., eSR_1 = +25m.35s., MNZ = +48·9m. Cheb P and S have been *diminished* by 9m., MN = +50·6m. Feldberg eN = +16m.33s. =PR_2 − 3s. Vienna PS = +21m.48s., PPS = +22m.14s. Budapest MN = +48·6m. Kew LE = +33·2m. Graz e? = 16h.58m.7s. Strasbourg ePR_1 = +14m.39s. Fordham i = +26m.12s., LN = +41·2m., LZ = +46·4m. MZ = +54·2m. Zagreb ePNW = +11m.56s., eNW = +36m.9s.?, eNE = +46m.39s. Paris MN = +52·2m. Georgetown PR_2Z = +15m.25s., PR_2Z = +17m.14s., PSZ = +22m.1s., iZ = +25m.34s., eSR_2Z = +26m.36s. Piacenza MN = +54·6m. Tortosa SN = +23m.4s., MN = +54·8m. Toledo MNW = +59·3m. Riverview MN = +45·5m. San Fernando MN = +55·2m. Adelaide ePR_1 = +16m.35s. Wellington LN = +44·2m.

Oct. 5d. 19h. 0m. 45s. Epicentre 45°·7N. 142°·0E.

A = −·550, B = +·430, C = +·716; D = +·616, E = +·788; G = −·564, H = +·441, K = −·698.

		Δ	Az.	P.	O−C.	S.	O−C.	L.	M.
		°	°	m. s.	s.	m. s.	s.	m.	m.
Nemuro		3·5	133	0 59	+ 4	1 18	−19	—	—
Hakodate		4·1	193	1 30	+26	2 26	+33	—	—
Akita		6·2	194	1 41	+ 6	(2 46)	− 3	2·8	2·9
Mizusawa		6·6	186	1 40	− 1	2 47	−13	—	—
Tokyo		10·2	190	2 27	− 6	4 12	−23	—	—
Nagoya		11·2	202	e 2 45	− 2	5 14	+15	—	5·6
Toyooka		11·5	210	i 2 58	+ 6	5 13	+ 6	—	—
Osaka		12·1	206	3 3	+ 3	(5 25)	+ 4	5·4	6·5
Kobe	z.	12·2	208	i 3 4	+ 2	i 5 21	− 3	—	—
Sumoto		12·6	208	3 5	− 2	5 44	+10	—	6·2
Koti		13·8	211	e 3 26	+ 3	—	—	—	—
Nagasaki		16·0	220	4 1	+ 9	e 7 15	+20	—	—
Titizima		18·6	180	4 8	−16	7 21	−32	—	—
Irkutsk		25·3	299	e 5 51	+10	e 10 27	+18	12·0	19·0
Manila		35·8	219	e 7 5	−15	12 22	−45	—	—
Phu-Lien		38·2	241	e 7 32	− 8	e 13 29	−12	18·8	—
Ekaterinburg		48·9	316	9 2	+ 3	16 14	+ 9	—	—
Andijan		49·6	290	e 9 9	+ 5	e 16 26	+12	—	—
Samarkand		53·4	294	e 9 39	+10	(17 20)	+19	17·3	—
Pulkovo		60·8	329	10 21	+ 3	18 41	+ 8	26·2	29·4
Bombay		62·2	272	19 9	?S	(19 9)	+18	—	—
Baku		63·6	304	e 10 49	+13	e 19 32	+24	34·8	—
Theodosia		68·5	315	11 15	+ 7	20 24	+16	—	—
Simferopol		69·3	315	11 19	+ 6	20 32	+14	—	—
Yalta		69·5	315	11 21	+ 7	20 36	+16	—	—
Copenhagen		70·0	333	i 11 18	+ 1	20 33	+ 7	35·2	—
Hamburg	z.	72·6	333	e 11 34	0	—	—	—	—
Jena		74·3	331	11 45	+ 1	—	—	—	—
Cheb		74·7	330	—	—	—	—	e 39·2	42·2
Vienna	z.	74·8	326	i 11 47	− 1	—	—	—	—
De Bilt		75·4	336	i 11 51	0	21 34	+ 4	e 38·2	—
Feldberg	N.	76·0	335	i 11 46	− 9	—	—	—	45·2
Uccle		76·7	336	i 11 57	− 2	—	—	—	—
Zagreb		76·8	325	e 11 59	− 1	—	—	—	—
Strasbourg		77·6	332	i 12 5	0	—	—	—	—
Zurich		78·4	331	i 12 7	− 2	—	—	—	—
Chur		78·5	330	e 12 7	− 3	—	—	—	—
Paris		79·1	336	i 12 10	− 4	—	—	—	—
Neuchatel		79·2	331	i 12 11	− 3	—	—	—	—
Rocca di Papa		81·6	325	i 12 22	− 6	—	—	—	—
Casamicciola		81·9	325	12 42	+12	—	—	—	—
Trenta		82·0	321	12 15	−15	—	—	—	—
Almeria		91·4	334	e 13 45	+22	e 24 11	−17	—	51·7

Additional readings: Mizusawa PN = +1m.38s. Toyooka SN = +4m.52s. Osaka MN = +6·4m. Kobe eSN = +5m.31s. Sumoto MZ = +5·8m., MN = +6·4m.

Oct. 5d. Readings also at 2h. (near Wellington), 5h. (Riverview and Melbourne), 9h. (Andijan), 10h. (Yalta and near Taihoku), 11h. (Taihoku, near Granada, and near Suva), 12h. (near Santiago), 13h. (Taihoku (3)), 14h. (Andijan), 15h. (Baku, Ksara, Catania, Messina, Granada, and near Trenta), 17h. (Granada), 19h. (Irkutsk and Ekaterinburg (2)).

Oct. 6d. 5h. 49m. 40s. Epicentre 5°·0S. 108°·0W. (as on 1928 June 3d.).

A = −·308, B = −·947, C = −·087; D = −·951, E = +·309; G = +·027, H = +·083, K = −·996.

		Δ	Az.	P.	O−C.	S.	O−C.	L.	M.
		°	°	m. s.	s.	m. s.	s.	m.	m.
Tacubaya		25·9	19	6 11	+24	10 1	−19	11·7	13·4
Tucson	N.	37·4	356	e 9 9	?PR_1	—	—	e 17·8	—
La Paz		40·7	110	e 8 24	+23	15 7	+50	21·3	—
Sucre		44·0	113	e 8 21	− 5	i 14 48	−14	i 18·1	20·9
Lick		44·2	345	e 8 40	+13	—	—	e 21·0	—
Georgetown	Z.	52·4	30	10 15	+53	e 16 20?	−29	e 25·0	34·4
La Plata		55·0	130	—	—	—	—	26·6	—
Victoria		55·0	349	17 49	?S	(17 49)	+28	27·8	28·6
Toronto		55·0	25	—	—	e 17 28	+ 7	23·6	—
Honolulu T.H.	N.	55·4	302	—	—	—	—	e 28·4	30·0
Fordham		55·5	31	—	—	—	—	29·8	—
Ottawa	N.	58·0	27	—	—	e 18 9	+10	e 30·7	—
Rio de Janeiro	N.	64·9	114	—	—	e 20 20	+56	e 34·2	—
Scoresby Sund		93·4	20	—	—	38 14	?SR_3	52·3	—
De Bilt	E.	108·0	36	—	—	—	—	e 51·3	—
Strasbourg		110·6	40	—	—	—	—	e 53·3	—
Copenhagen		110·9	30	—	—	—	—	52·3	—
Ekaterinburg		128·4	7	e 21 45	?PR_1	e 38 39	?SR_1	51·3	71·3
Baku		139·4	25	22 35	?PR_1	e 40 49	?SR_1	59·8	—

Additional readings: La Paz iSE? = +16m.52s. = SR_1 − 8s. Lick eN = +23m.2s. and +25m.37s. Georgetown PR_1Z = +11m.53s. Honolulu T.H. eLE = +27·1m. Toronto LN = +31·3m. Ottawa eN = +21m.58s. and +24m.50s. De Bilt eLN = +54·3m.

Oct. 6d. 7h. 51m. 23s. Epicentre 19°·5N. 154°·8W. (as on 1929 Sept. 26d.).

A = −·853, B = −·401, C = +·334; D = −·426, E = +·905; G = −·302, H = −·142, K = −·943.

		Δ	Az.	P.	O−C.	S.	O−C.	L.	M.
		°	°	m. s.	s.	m. s.	s.	m.	m.
Honolulu T.H.	E.	3·3	304	i 0 49	− 3	—	—	—	—
Berkeley	E.	33·6	50	e 6 59	− 2	e 12 20	−14	e 16·4	—
	N.	33·6	50	e 7 0	− 1	e 12 28	− 6	e 16·4	—
Lick		33·9	51	e 6 56	− 8	e 12 27	−12	16·4	19·1
Apia		37·3	209	7 40	+ 8	13 17	−11	17·6	21·4
Victoria	E.	38·4	35	7 6	−35	13 36	− 8	19·1	22·3
	N.	38·4	35	7 36	− 5	13 6	−38	16·6	21·0
Sitka		40·2	18	i 7 48	− 9	i 14 1	− 9	19·8	—
Tucson	N.	41·2	63	8 5	0	e 14 28	+ 4	e 20·1	—
Suva		45·9	218	(i 7 13)	−86	i 13 37	−110	19·5	22·6
Mizusawa	E.	58·0	307	9 49	−10	18 7	+ 8	—	—
Florissant		58·3	56	10 9	+ 8	18 16	+13	e 26·1	30·8
Akita		58·8	307	e 11 8	+64	(e 18 8)	− 1	e 18·1	—
Tokyo		59·1	301	10 10	+ 4	—	—	—	—
Chicago	E.	60·3	52	11 18	+64	19 30	+63	32·1	—
	N.	60·3	52	11 20	+66	19 39	+72	29·8	—
Nagoya		61·4	300	e 10 25	+ 4	—	—	—	—
Osaka		62·6	300	10 32	+ 3	(19 0)	+ 4	19·0	19·5
Kobe		63·1	300	10 33	0	i 19 0	− 2	—	39·6
Sumoto		63·2	300	10 34	+ 1	19 4	+ 1	e 28·6	38·7
Ann Arbor	E.	63·2	51	e 10 31	− 2	e 19 19	+16	e 33·9	37·7
	N.	63·2	51	e 10 43	+10	e 19 19	+16	e 30·8	35·9
Koti		64·4	300	10 40	− 1	19 16	− 2	—	—
Toronto		66·3	50	e 10 58	+ 4	i 19 51	+10	32·9	38·0
Hukuoka		67·0	300	(e 11 6)	+ 8	(e 19 52)	+ 2	(e 35·8)	—
Wellington		67·0	206	i 10 59	+ 1	i 19 55	+ 5	i 32·6	36·2
Charlottesville	E.	67·6	56	e 11 13	+11	20 15	+18	e 33·6	—
	N.	67·6	56	e 11 29	+27	20 15	+18	e 31·6	—

Continued on next page.

		Δ	Az.	P.	O−C.	S.	O−C.	L.	M.
		°	°	m. s.	s.	m. s.	s.	m.	m.
Georgetown	Z.	68·5	55	11 8	0	20 39	+31	e 32·7	41·6
Ottawa		68·7	48	e 11 16	+ 7	i 20 22	+12	e 33·3	37·6
Christchurch		69·8	206	e 11 17	+ 1	i 20 35	+11	—	68·2
Fordham		70·7	53	e 10 54	−27	i 20 54	+20	33·5	39·6
Harvard	E.	72·4	50	i 11 27	− 5	i 20 53	− 2	—	—
Riverview		74·1	225	e 11 45	+ 2	i 21 17	+ 2	e 33·9	37·6
Zi-ka-wei	E.	74·9	299	11 47	− 1	21 21	− 4	—	45·0
Taihoku	E.	76·4	293	e 12 43	+46	—	—	—	—
Manila		79·9	283	e 12 19	+ 1	i 22 17	− 5	37·1	—
Melbourne		80·5	225	i 12 20	− 2	e 22 24	− 5	40·7	43·8
Adelaide		83·4	230	e 13 8	+30	i 22 51	−10	e 37·8	57·1
Hong Kong		83·6	291	12 40	0	22 57	− 8	40·4	51·1
Scoresby Sund		84·1	15	12 43	0	23 9	0	38·6	—
Phu-Lien		90·7	293	e 12 46	−34	e 23 43	[+11]	41·1	—
La Paz		92·5	107	13 28	− 2	i 24 7	[+24]	43·6	49·5
Sucre		95·8	109	e 13 36	−12	24 28	[+27]	46·6	55·3
Ekaterinburg		98·1	341	i 13 46	−15	i 25 9	−28	39·6	59·1
Batavia	E.	99·9	269	—	—	i 24 35	[+12]	—	—
Dyce		100·0	15	—	—	—	—	e 43·2	59·7
Helsingfors		100·4	359	e 13 30	−43	24 51	[+25]	e 47·6	—
Upsala	N.	100·4	4	e 18 4	?PR$_1$	—	—	e 52·6	56·7
Pulkovo		100·6	357	13 57	−16	i 24 37	[+10]	47·6	63·2
Edinburgh		100·8	16	—	—	—	—	—	81·6
Stonyhurst		102·8	17	e 18 57	?PR$_1$	—	—	e 43·6	58·6
Copenhagen		104·0	7	14 16	−14	24 58	[+15]	—	—
Oxford		105·0	18	—	—	i 44 16	?	e 55·6	62·3
Kew		105·6	17	—	—	—	—	44·6	—
Konigsberg	N.	105·6	3	e 21 56	?PR$_2$	e 25 5	[+15]	—	—
Hamburg		105·7	10	e 18 45	?PR$_1$	—	—	e 52·6	—
De Bilt		106·3	13	e 18 58	?PR$_1$	e 25 11	[+18]	e 55·6	59·8
La Plata		106·5	122	—	—	—	—	52·4	—
Uccle		107·3	15	—	—	e 28 20	?PS	e 56·6	—
Gottingen	N.	107·7	10	—	—	e 28 31	?PS	—	70·1
Paris		108·7	16	e 19 6	?PR$_1$	i 28 44	?PS	56·6	64·6
Feldberg	N.	108·8	13	e 18 56	?PR$_1$	—	—	—	61·6
Dehra Dun		108·8	314	20 17	?	28 37	?PS	39·0	67·6
Cheb		109·5	8	e 25 23	?[S]	(e 25 23)	[+15]	e 57·6	63·6
Strasbourg		110·2	13	e 18 37?	[+14]	28 37?	?PS	e 37·6	—
Ravensburg	E.	111·2	11	—	—	—	—	e 63·6	—
Vienna		111·8	6	e 19 1	?PR$_1$	29 17	?PS	—	74·1
Budapest		112·8	4	19 42	?PR$_1$	27 23	−29	e 64·6	69·9
Moncalieri		113·6	14	e 19 31	?PR$_1$	28 37?	+38	39·0	66·7
Piacenza		113·9	11	19 57	?PR$_1$	29 37	?PS	36·6	71·3
Zagreb		114·1	7	e 19 47	?PR$_1$	e 29 23	?PS	e 61·6	—
Toledo	N.E.	114·7	25	e 19 48	?PR$_1$	—	—	e 58·0	65·4
Theodosia		114·8	353	e 19 59	?PR$_1$	—	—	—	—
Simferopol		115·1	353	e 19 25	?PR$_1$	—	—	—	—
Tortosa	N.	115·4	20	—	—	—	—	e 59·6	74·8
Belgrade		115·5	4	e 18 39	[0]	e 30 30	?PS	e 66·0	—
Baku		115·8	340	18 56	[+16]	—	—	52·1	74·5
San Fernando		116·7	29	—	—	20 16	?PR$_1$	—	70·2
Rio de Janeiro	N.	116·8	105	e 21 8	?PR$_1$	30 57	?PS	—	69·6
Granada		117·2	26	i 20 7	?PR$_1$	—	—	56·6	64·6
Malaga		117·2	27	20 7	?PR$_1$	33 5	?	45·3	—
Alicante		117·4	22	e 20 2	?PR$_1$	—	—	e 52·3	—
Rocca di Papa		117·6	10	e 19 55	?PR$_1$	e 33 9	?	e 70·1	73·1
Almeria		117·9	25	20 20	?PR$_1$	31 30	?	61·0	69·3
Bombay		119·5	308	20 18	?PR$_1$	30 3	?PS	48·5	72·1
Colombo		120·1	291	12 27	?	—	—	—	69·2
Kodaikanal		120·5	296	e 29 49	?	—	—	—	—
Ksara		125·7	350	e 16 7	?	—	—	e 59·8	—
Tananarive	E.	158·9	272	—	—	—	—	—	89·2
Entebbe		159·2	339	44 37?	?SR$_1$	—	—	—	—

For Notes see next page.

NOTES TO OCT. 6d. 7h. 51m. 23s.

Additional readings and notes: Honolulu T.H. iPN = +50s. Berkeley eN = +9m.33s., eZ = +9m.35s., eE = +9m.37s., eEN = +14m.32s. = SR_1 +6s., eZ = +16m.32s. Lick ePE = +7m.0s., ePN = +7m.1s., eN = +7m.7s., eE = +7m.10s., ePR_2E = +8m.18s., eSE = +12m.30s., eSN = +12m.33s., eE = +12m.47s., eSR_1E = +14m.31s., eSR_1N = +14m.32s., MN = +19·2m. Apia e = +16m.42s.; T_0 = 7h.52m.12s. Sitka iPR_1E = +9m.27s., eSN = +14m.4s., SR_1E = +16m.59s., eSR_1N = +17m.0s. Tucson PR_1N = +10m.0s., eSR_1N = +17m.49s. Suva gives P as S and S as i. Florissant iE = +10m.10s., iPN = +10m.11s., iP_cPZ = +11m.1s., eE = +11m.56s. and +22m.7s., eLN = +27·6m. Chicago eN = +20m.59s., eSR_1E = +23m.37s., SR_2N = +26m.32s., SR_2E = +26m.46s. Sumoto MN = +38·5m., MZ = +39·4m. Ann Arbor e = +20m.43s., eE = +28m.7s., eN = +28m.31s. Toronto LN = +31·6m., MN = +37·9m. Hukuoka eSR_1? = (+24m.51s.); all readings have been *increased* by 5m. Wellington SR_2E = +27m.25s., LN = +31·6m., MN = +38·2m.; T_0 = 7h.51m.20s. Charlottesville eSR_1N = +24m.37s. Georgetown PR_1Z = +14m.10s., PR_2Z = +15m.58s., SR_1Z = +25m.2s. Ottawa e = +29m.1s. = SR_2 −25s., MN = +39·1m.; T_0 = 7h.51m.32s. Fordham iZ = +14m.14s. = PR_1 −19s., e = +21m.44s. = Σ −8s., LZ = +35·1m. Riverview iPPPS = +22m.0s., eSR_1 = +25m.59s., MN = +43·1m. Manila PNW = +22m.51s., iNE = +24m.41s.; T_0 = 7h.51m.49s. Melbourne iSR_1? = +27m.47s. Hong Kong PR_1 = +15m.46s. Scoresby Sund +28m.37s. = SR_1 −34s. and +32m.31s. = SR_2 −32s. Sucre iPZ = +13m.41s. Ekaterinburg iPR_1 = +17m.29s., S_cP_cS = +24m.22s., iPS = +26m.38s., SR_1 = +32m.7s. Helsingfors PR_1 = +17m.24s., S_cP_cS = +24m.6s., $S_cP_cP_cSN$ = +24m.36s., $S_cP_cP_cSE$ = +24m.38s., eSN = +24m.49s., eS_cSN = +25m.8s., PS = +26m.2s., SR_1 = +31m.27s. Pulkovo PR_1 = +18m.11s., PS = +27m.5s., SR_1 = +32m.37s. Copenhagen +18m.36s. = PR_1 −4s. Kew PR_1 = +18m.53s., PS = +28m.7s., SR_1 = +34m.1s., LZ = +53·6m. Konigsberg eN = +25m.49s. = Σ +3s. and +28m.4s. = PS −4s. De Bilt eE = +44m.39s., MN = +63·8m., MZ = +70·9m. Gottingen eE = +34m.0s. = SR_1 −14s., ME = +78·0m. Paris MN = +80·6m. Feldberg eN = +19m.8s. = PR_1 −2s., +28m.41s. = PS −4s. and +34m.34s. = SR_1 +6s. Cheb eS = +34m.33s. = SR_1 −3s., MN = +75·6m. Strasbourg e = +34m.37s.? = SR_1 −7s. Toledo MNW = +66·5m. Belgrade ePR_2E = +25m.47s. = [S] +17s. Baku iPR_1 = +20m.0s., iPS = +29m.37s., SR_1 = +36m.7s. San Fernando MN = +71·7m. Rocca di Papa e? = +19m.43s., i = +20m.6s. = PR_1 −2s. Ksara eE = +18m.47s. = [P] −20s., +21m.13s. = PR_1 +11s., +30m.23s., and +33m.54s. Tananarive ePR_1 = +23m.33s., eE = +33m.36s., P_cSS_cP = +35m.21s., PPSN = +38m.24s. eE = +42m.42s. and +43m.22s., SR_1N = +43m.54s., E = +44m.24s. and +45m.27s.

Oct. 6d. 13h. 12m. 27s. Epicentre 18°·0S. 179°·5W. (as on 1928 June 21d.).

A = −·951, B = −·008, C = −·309; D = −·009, E = +1·000; G = +·309, H = +·003, K = −·951.

Very uncertain.

		Δ	Az.	P.	O−C.	S.	O−C.	L.	M.
		°	°	m. s.	s.	m. s.	s.	m.	m.
Suva	E.	2·0	266	0 27	−4	i 3 33	?	4·2	7·0
	N.	2·0	266	0 15	−16	i 3 9	?	i 4·0	4·2
Apia		8·5	62	1 56	−13	3 50	0	4·4	5·4
Wellington	E.	23·8	191	e 8 51	?S	(e 8 51)	−49	i 11·7	13·4
	N.	23·8	191	i 9 0	?S	(i 9 0)	−40	i 11·6	17·0
Riverview		30·6	233	e 8 9	?PR_1	e 11 51	+ 7	e 15·2	19·2
Sydney	E.	30·6	233	—	—	—	—	18·8	22·0
Melbourne		36·8	230	—	—	e 13 28	+ 7	21·6	24·6
Adelaide		40·8	238	—	—	—	—	18·3	24·6
Zi-ka-wei	Z.	75·0	310	e 12 33	+44	22 57	+91	—	—
Tucson	N.	82·7	53	—	—	—	—	e 62·8	—
Victoria	E.	83·1	34	—	—	—	—	42·7	44·4
Irkutsk		96·0	324	e 17 39	?PR_1	e 24 55	−21	47·8	76·0
Chicago	E.	103·3	50	—	—	—	—	e 72·5	—
Toronto	E.	109·5	49	—	—	—	—	57·6	—
Georgetown	Z.	110·7	53	i 44 22	?	e 50 30	?	e 55·0	78·9
Ottawa	N.	112·3	47	—	—	—	—	e 59·6	—
Fordham		113·4	51	—	—	—	—	e 59·6	62·2
Ekaterinburg		121·2	325	i 19 24	[+28]	—	—	57·6	75·4

Continued on next page.

		Δ	Az.	P.	O−C.	S.	O−C.	L.	M.
		°	°	m. s.	s.	m. s.	s.	m.	m.
Scoresby Sund		125·8	9	—	—	—	—	83·6	—
Baku		132·2	309	e 19 48	[+25]	—	—	e 66·6	—
Pulkovo		133·0	340	—	—	—	—	79·6	—
Theodosia		139·8	320	e 20 1	[+22]	—	—	—	—
Simferopol		141·2	320	e 20 4	[+23]	—	—	—	—
Copenhagen		141·2	349	19 58	[+17]	—	—	77·6	—
Ksara	E.	144·7	301	e 20 15	[+27]	—	—	—	—
De Bilt		145·7	353	—	—	—	—	e 87·6	—
Kew		146·5	1	—	—	—	—	e 67·6	—
Cheb		146·5	345	—	—	—	—	e 92·6	96·6
Uccle		147·0	355	—	—	—	—	e 107·6	—
Vienna		147·1	340	e 20 7	[+16]	—	—	—	—
Strasbourg		148·9	350	—	—	—	—	e 91·6	—
Paris		149·1	357	—	—	—	—	—	92·6
Granada		160·5	10	—	—	—	—	87·6	—

Additional readings: Wellington iSE = +10m.59s., iSN = +11m.10s. Riverview MN = +17·9m. Melbourne i = +17m.13s. Adelaide e = 13h.10m.0s. Tucson eN = +63m.39s. Irkutsk e = +20m.47s. and +26m.51s. Chicago eE = +73m.35s., eN = +74m.31s. Toronto eN = +51m.33s.? Georgetown PR_1Z = +45m.41s. Ottawa eN = +51m.9s. Ekaterinburg i = +21m.20s., +22m.42s., e = +31m.22s., +38m.28s. Baku e = +22m.36s., +31m.22s., +33m.42s. De Bilt eLN = +81·6m.

Oct. 6d. Readings also at 0h. (La Paz and Sucre), 5h. (Nagoya and near Taihoku), 7h. (near Tananarive), 8h. (Ottawa and Toronto), 9h. (La Paz, Sucre, near Andijan, and Samarkand), 11h. (near Wellington), 12h. (near Sucre, near Akita, and Mizusawa), 14h. (Nagoya and Sucre), 17h. (near Tacubaya), 18h. (Andijan), 19h. (Rocca di Papa), 21h. (Akita and Mizusawa).

Oct. 7d. 15h. 7m. 39s. Epicentre 21°·5S. 170°·5W.

A = −·918, B = −·154, C = −·367; D = −·165, E = +·986; G = +·361, H = +·060, K = −·930.

Very uncertain.

		Δ	Az.	P.	O−C.	S.	O−C.	L.	M.
		°	°	m. s.	s.	m. s.	s.	m.	m.
Apia		7·8	351	1 59	+ 1	3 37	+ 6	5·1	5·8
Suva	E.	11·0	286	i 2 45	+ 1	i 4 57	+ 3	6·4	7·6
	N.	11·0	286	i 2 45	+ 1	i 4 45	− 9	i 5·2	6·8
Wellington	E.	23·4	209	6 15	+54	i 9 48	+15	i 10·6	10·9
	N.	23·4	209	—	—	10 3	+30	11·5	13·0
Riverview		35·9	243	—	—	e 11 39	?	e 14·6	19·8
Melbourne		41·6	238	—	—	e 13 9	?	18·4	20·0
Honolulu T.H.	E.	44·6	19	—	—	—	—	e 18·2	—
Adelaide		46·3	243	—	—	(e 15 49?)	+17	e 15·8?	23·4
Victoria		81·9	30	23 2	?S	(23 2)	+17	39·9	47·5
Hong Kong		85·6	298	18 1	?	—	—	e 35·4	41·8
La Paz		94·9	110	e 13 55	+12	—	—	—	—
Chicago	E.	99·1	48	—	—	—	—	e 54·8	—
Irkutsk		104·0	321	e 17 58	[− 3]	24 39	[− 4]	27·0	67·8
Georgetown	Z.	105·9	52	—	—	i 37 54	?SR_1	e 53·9	62·8
Ottawa		108·3	47	—	—	e 27 9	− 4	57·4	—
Fordham		108·7	51	—	—	—	—	e 57·5	62·4
Bombay		120·9	280	—	—	—	—	e 62·4	—
Scoresby Sund		127·6	12	—	—	—	—	70·4	—
Ekaterinburg		128·8	327	e 19 9	[− 7]	e 26 44	[+35]	55·4	75·0
Pulkovo		139·0	344	—	—	—	—	69·4	82·6
Copenhagen		145·7	357	19 44	[− 5]	—	—	70·4	—
Theodosia		148·3	324	i 19 47	[− 6]	—	—	—	—
Simferopol		149·1	324	e 19 50	[− 4]	—	—	—	—
Kew		149·1	12	e 19 57	[+ 3]	—	—	76·4	—

Continued on next page.

		Δ	Az.	P.	O−C.	S.	O−C.	L.	M.
		°	°	m. s.	s.	m. s.	s.	m.	m.
De Bilt		149·2	5	e 20 5	[+11]	—	—	e 80·4	95·4
Yalta		149·3	324	e 19 52	[− 3]	—	—	—	—
Uccle		150·4	7	e 19 58	[+ 2]	—	—	e 82·4	—
Feldberg	N.	151·3	1	i 19 54	[− 4]	—	—	—	81·4
Cheb		151·3	356	—	—	—	—	e 80·4	94·4
Paris		152·1	10	i 20 15	[+16]	—	—	80·4	87·4
Vienna		152·7	350	e 19 54	[− 6]	—	—	—	—
Budapest		152·9	346	e 20 21?	[+21]	—	—	e 73·4	—
Strasbourg		152·9	3	e 19 57	[− 3]	—	—	e 72·4	—
Ksara		153·7	304	e 19 59	[− 2]	—	—	—	—
Neuchatel		154·4	4	e 19 59	[− 2]	—	—	—	—
Zagreb		155·1	349	e 20 1	[− 1]	—	—	—	—
Rocca di Papa		159·6	353	e 19 17	[−51]	—	—	—	—
Granada		160·7	33	i 20 13	[+ 4]	—	—	82·4	86·4

Additional readings: Apia MN = +12·4m.; T_0 = 15h.7m.36s. Wellington $iPR_1N?$ = +8m.45s. Riverview MN = +18·2m. Honolulu T.H. eN = +22m.21s. Hong Kong i = +24m.46s. Irkutsk e = +22m.27s. Ottawa eE = +28m.51s. = PS + 12s., eN = +34m.57s. = SR_1 + 36s. Ekaterinburg e = +20m.59s. = PR_1 + 23s., i = +22m.28s. De Bilt eLN = +75·4m., MN = +89·6m., MZ = +95·0m. Granada i = +21m.40s., +24m.58s. = PR_1 + 16s., and +29m.21s.?.

Oct. 7d. Readings also at 2h. (Perth), 4h. (near Irkutsk), 7h. (near Lick), 8h. (near Taihoku), 13h. (near Andijan), 14h. (Florissant), 16h. (Taihoku and Toledo), 17h. (Andijan and Taihoku), 21h. (near Nagasaki), 22h. (near Manila).

Oct. 8d. 17h. 15m. 50s. Epicentre 27°·0S. 176°·0W.

(as on 1925 March 16d.).

A = −·889, B = −·062, C = −·454; D = −·070, E = +·998; G = +·453, H = +·032, K = −·891.

		Δ	Az.	P.	O−C.	S.	O−C.	L.	M.
		°	°	m. s.	s.	m. s.	s.	m.	m.
Suva	E.	10·3	329	1 58	−36	i 4 10	−27	4·9	9·2
	N.	10·3	329	2 4	−30	i 4 22	−15	i 4·7	—
Apia		13·7	18	3 26	+ 4	—	—	6·6	7·2
Wellington		16·2	206	i 3 53	− 2	i 7 38	+38	i 9·2	22·5
Christchurch		18·9	206	4 28	0	8 34	+34	9·8	13·2
Riverview		29·0	248	6 33	+15	e 11 31	+14	e 14·4	15·8
Sydney	E.	29·0	248	5 52	−26	11 34	+17	17·7	18·6
Melbourne		34·4	242	e 6 50	−18	i 12 0	−46	16·7	18·1
Adelaide		39·4	247	e 8 40?	+50	e 13 44	−13	i 16·4	22·8
Honolulu T.H.	E.	51·2	23	i 9 20	+ 6	i 17 2	+28	21·3	24·1
	N.	51·2	23	i 9 2	−12	i 16 46	+12	23·8	24·0
Perth		58·6	248	11 0	+57	19 45	+99	29·9	36·2
Manila		74·0	295	e 12 6	+24	i 21 59	+45	36·3	—
Batavia		75·7	272	i 11 51	− 2	i 21 30	− 4	44·6	—
Osaka		76·8	320	11 46	−14	(21 52)	+ 5	21·9	23·1
Sumoto		77·0	320	12 1	0	e 21 58	+ 9	—	—
Kobe		77·1	320	e 12 5	+ 3	20 49	−61	—	—
Mizusawa	E.	77·3	328	11 58	− 5	21 52	0	—	—
Berkeley	E.	82·1	40	e 12 28	− 3	e 22 52	+ 5	e 39·7	—
	N.	82·1	40	e 13 0	+29	—	—	e 45·3	—
	Z.	82·1	40	e 12 30	− 1	—	—	e 40·1	—
Lick		82·2	40	e 12 28	− 3	e 22 46	− 2	e 39·9	—
Zi-ka-wei	Z.	83·3	310	e 12 34	− 4	22 58	− 2	—	—
Hong Kong		83·6	300	12 30	−10	22 50	−15	e 40·2	44·8
Tucson		85·7	50	12 50	− 2	23 19	− 8	40·4	49·5
Phu-Lien		88·8	294	19 10	?PR_2	e 23 31	[+10]	—	—
Victoria		88·9	32	13 8	− 2	23 38	[+17]	41·3	44·8
La Plata		94·8	133	—	—	—	—	48·2	—
La Paz		97·7	114	e 12 54	−64	20 45	?PR_2	39·2	48·0
Sucre		98·6	117	e 13 44	−19	e 24 28	[+11]	41·7	50·6
Florissant		103·4	52	e 18 20	?PR_1	e 24 43	[+ 3]	—	46·2

Continued on next page.

		Δ	Az.	P.	O−C.	S.	O−C.	L.	M.
		°	°	m. s.	s.	m. s.	s.	m.	m.
Irkutsk		105·1	321	18 0	[− 5]	24 54	[+ 6]	44·7	64·7
Colombo		105·7	270	e 18 40	[+33]	(i 25 0)	[+ 9]	—	73·8
Chicago	E.	106·5	51	—	—	e 49 28	?	e 58·1	62·0
	N.	106·5	51	—	—	e 45 10	?	e 55·0	59·7
Kodaikanal		109·3	272	e 51 28	?L	—	—	(e 51·5)	—
Ann Arbor	N.	109·4	52	—	—	—	—	e 56·4	—
Hyderabad		111·3	278	—	—	26 21	? Σ	55·8	72·1
Charlottesville	N.	111·8	55	—	—	e 30 15	?	49·0	63·7
Rio de Janeiro	N.	112·5	133	—	—	e 30 10	?	e 59·2	—
Toronto	E.	112·8	51	—	—	i 29 6	?PS	57·4	68·6
Georgetown	Z.	113·1	55	i 19 36	?PR_1	i 29 32	?PS	e 50·9	64·7
Ottawa	E.	115·8	50	e 19 58	?PR_1	e 25 40	[+ 9]	e 55·2	66·2
Fordham		116·0	54	e 19 51	?PR_1	e 25 33	[+ 1]	51·8	67·2
Bombay		116·8	278	11 4	?	25 42	[+ 7]	62·7	74·0
Tananarive	N.	117·6	227	—	—	—	—	60·1	—
Andijan		123·0	302	e 19 4	[+ 3]	—	—	—	—
Tashkent		126·7	304	e 16 10?	− 3	e 29 10?	−28	e 51·2	68·6
Ekaterinburg		130·4	323	e 19 17	[− 2]	—	—	61·2	76·0
Scoresby Sund	N.	134·1	11	21 58	?PR_1	—	—	—	—
Baku		140·1	301	19 38	[− 1]	—	—	63·2	91·4
Entebbe		141·6	230	—	—	—	—	70·2	—
Pulkovo		142·6	339	19 36	[− 8]	—	—	75·2	86·7
Upsala		145·8	349	e 19 46	[− 4]	—	—	e 73·2	77·8
Theodosia		149·2	314	e 19 52	[− 2]	—	—	—	—
Dyce		149·5	7	—	—	—	—	e 75·4	89·7
Konigsberg	N.	149·7	341	—	—	—	—	e 78·6	—
Simferopol		150·0	315	e 19 58	[+ 2]	—	—	—	—
Yalta		150·2	314	e 19 59	[+ 3]	—	—	—	—
Sebastopol		150·5	315	e 20 1	[+ 4]	—	—	—	—
Copenhagen		150·6	350	19 54	[− 3]	23 28	?PR_1	68·2	—
Edinburgh		150·7	8	—	—	—	—	e 83·2	—
Ksara	N.	151·7	292	20 11	[+13]	—	—	80·4	—
Stonyhurst		152·7	8	—	—	—	—	e 82·2	88·7
Hamburg		153·1	352	e 19 58	[− 2]	—	—	e 77·2	93·2
De Bilt		154·9	358	i 20 3	[+ 1]	—	—	e 74·2	89·0
Oxford		154·9	8	—	—	—	—	e 77·2	93·9
Gottingen	N.	155·1	351	—	—	—	—	e 79·2	93·2
Kew		155·3	6	e 20 3	[+ 1]	—	—	76·2	—
Cheb		156·0	347	—	—	e 24 10?	?PR_1	e 79·2	99·2
Uccle		156·2	359	e 20 34	[+31]	—	—	e 75·2	95·9
Budapest		156·4	334	e 19 55	[− 9]	—	—	e 83·2	90·2
Feldberg	N.	156·6	353	e 20 25	[+21]	—	—	—	81·2
Vienna		156·7	339	e 20 2	[− 2]	—	—	—	100·7
Belgrade	E.	157·8	328	e 25 10?	?	—	—	—	—
Graz		158·0	339	—	—	—	—	e 89·2	—
Paris		158·1	3	e 20 8	[+ 2]	e 24 18	?PR_1	84·2	91·2
Strasbourg		158·2	353	e 20 10?	[+ 4]	—	—	e 34·2	—
Ravensburg	E.	158·7	350	—	—	—	—	89·2	—
Zagreb		158·9	336	e 19 58	[− 9]	—	—	e 80·2	—
Neuchatel		159·9	354	e 20 6	[− 2]	—	—	—	97·2
Piacenza		161·4	347	21 14	[+ 5]	33 50	?	45·2	99·2
Moncalieri		161·8	352	e 21 49	?	—	—	e 23·2	—
Florence		162·2	343	i 20 0	[− 9]	—	—	—	—
Rocca di Papa		163·6	337	e 20 6	[− 5]	—	—	—	—
Rome		163·6	337	e 21 10	[+59]	—	—	—	—
Toledo		165·5	26	e 20 12	[0]	e 35 23	?	e 69·0	101·2
Tortosa	N.	165·9	11	e 21 10?	[+58]	36 47	?	e 84·2	103·4
San Fernando	N.	167·2	40	—	—	—	—	—	103·2
Malaga		167·9	34	e 20 14	[0]	e 30 18	?	e 38·1	—
Alicante		168·0	17	e 20 49	[+35]	(e 47 3)	?	e 47·0	—
Granada		168·0	31	i 20 14	[0]	—	—	81·2	84·5
Almeria		168·8	27	20 7	[− 7]	—	—	—	92·1
Algiers		170·2	5	21 35	[+80]	32 13	? Σ	102·2	110·2

For Notes see next page.

NOTES TO OCT. 8d. 17h. 15m. 50s.

Additional readings and note: Apia MZ = +7·8m., MN = +9·2m. Wellington iPN = +3m.54s., i = +6m.24s., iSR_1N = +8m.22s., SR_2E = +8m.23s., MN = +10·2m., T_0E = 17h.14m.58s., T_0N = 17h.15m.1s. Riverview iP = +6m.57s., and +7m.10s., iPR_1 = +7m.27s., iSR_2 = +12m.59s., MN = +16·1m. Melbourne i = +8m.10s. = PR_1 −4s., iSR_1? = +15m.10s. Adelaide ePR_1 = +9m.27s., MN = +21·4m. Honolulu T.H. ePR_2N? = +14m.0s., iN = +20m.47s. = SR_1 +19s. Perth SR_2 = +25m.40s. Batavia iP = +11m.56s., i = +22m.31s. = PS +19s. Osaka MN = +22·0m. Sumoto eSN = +22m.24s. Berkeley eE = +35m.24s., eN = +35m.27s., eZ = +45m.25s., eE = +45m.45s. Lick e = +12m.30s., eE = +13m.28s., eE = +35m.32s., e = +36m.40s. Hong Kong MN = +39·7m. Tucson SR_2 = +35m.18s., LN = +40·5m., MN = +49·9m. Victoria LN = +36·8m., MN = +45·3m.; T_0 = 17h.16m.26s. La Paz LN = +42·2m., MN = +51·0m. Florissant eEN = +5m.40s., eE = +17m.10s., eN = +25m.40s. = Σ +8s. Irkutsk PS = +28m.6s., PPS = +29m.26s. Colombo readings are both given as P. Chicago eN = +48m.31s. Ann Arbor e?N = +53m.40s., e?E = +58m.22s. Hyderabad MN = +70·0m. Charlottesville eLE = +62·7m., ME = +69·2m. Toronto MN = +64·6m. Georgetown iZ = +39m.12s. Ottawa eN = +27m.46s., i = +29m.34s. and +36m.16s., eLN = +47·2m., MN = +69·2m. Fordham e = +36m.13s. = SR_1 +15s., LZ = +56·6m., MZ = +65·2m. Tananarive N = +61m.29s. and +64m.3s., E = +62m.13s. Tashkent e = +22m.10s.? and +37m.10s.? Ekaterinburg iPR_1 = +21m.30s., iP_cP_cS = +22m.43s., PS = +31m.37s., eSR_1 = +38m.52s. Scoresby Sund N = +22m.59s. Baku PR_1 = +22m.48s., P_cP_cS = +23m.10s., SR_1 = +42m.58s. Pulkovo P_cP_cS = +23m.20s., $S_cP_cP_cS$ = +29m.46s., SR_1 = +41m.22s. Copenhagen N = +26m.34s., +33m.52s., and +38m.52s., SR_1 = +43m.4s. Hamburg MZ = +89·2m. De Bilt MZ = +89·3m., MN = +98·5m. Kew PR_1 = +23m.59s., LZ = +82·2m. Cheb e = +31m.10s.? = PR_2 +6s. and +44m.10s.? = SR_1 +10s. Uccle MN = +90·8m. Budapest MN = +85·4m. Neuchatel ePR_1 = +24m.36s. Florence eP = +19m.10s. Rocca di Papa i = +20m.20s. Toledo MNW = +98·0m. Granada i = +25m.13s. = PR_1 −11s. and +31m.56s. = Σ +1s. Almeria PR_1 = +25m.20s.

Oct. 8d. Readings also at 7h. (Andijan), 10h. (Mizusawa), 11h. (Honolulu T.H. and near La Paz), 12h. (near Taihoku), 17h. (Apia, La Paz, and Sucre), 18h. (Taihoku), 19h. (Sucre), 23h. (near Wellington).

Oct. 9d. 19h. 45m. 32s. Epicentre 33°·5N. 131°·9E. (as on 1928 Sept. 25d.).

A = −·557, B = +·621, C = +·552; D = +·744, E = +·668; G = −·369, H = +·411, K = −·834.

	Δ	Az.	P.	O−C.	S.	O−C.	L.	M.
	°	°	m. s.	s.	m. s.	s.	m.	m.
Matuyama	0·8	65	—	—	i 0 21	− 1	(i 0·4)	0·7
Kumanoto	1·2	236	0 18	0	0 33	0	—	—
Hukuoka	1·2	274	0 19	+ 1	—	—	0·6	0·6
Koti	1·4	88	0 26	+ 5	0 50	+11	—	0·9
Miyazaki	1·7	194	0 19	− 7	0 40	− 8	—	—
Muroto	1·9	97	e 0 36	+ 7	1 0	+ 7	—	—
Nagasaki	1·9	245	e 0 21	− 8	0 39	−14	—	0·7
Kagosima	2·2	210	0 31	− 3	0 54	− 6	—	—
Sumoto	2·6	71	0 45	+ 4	e 1 21	+ 9	—	1·4
Kobe	2·9	66	—	—	e 1 25	+ 5	1·6	1·8
Toyooka	3·2	50	e 1 6	+16	e 1 38	+10	i 1·8	1·9

Additional readings: Matuyama MZ = +0·8m. Toyooka iSE = +1m.39s.

Oct. 9d. Readings also at 2h. (Taihoku), 3h. (Hong Kong, Bombay, Calcutta, Hyderabad, Kodaikanal, Irkutsk, Ekaterinburg, Pulkovo, and Copenhagen), 5h. (Entebbe), 8h. (La Paz), 10h. (Andijan), 13h. (near Algiers), 15h. (near Kobe and Sumoto), 18h. (Wellington), 19h. (Suva and near Santiago), 20h. (La Paz and near Lick), 22h. (Trenta).

Oct. 10d. 23h. 1m. 6s. Epicentre 41°·2N. 28°·6E. (as on 1923 Oct. 26d.).

A = +·661, B = +·360, C = +·659; D = +·479, E = −·878; G = +·578, H = +·316, K = −·752.

		△	Az.	P.	O−C.	S.	O−C.	L.	M.
		°	°	m. s.	s.	m. s.	s.	m.	m.
Sebastopol		5·0	45	e 1 18	+ 1	—	—	i 2·4	—
Yalta		5·3	49	e 2 28	?S	(e 2 28)	+ 3	—	—
Simferopol		5·5	45	e 1 19	− 6	—	—	—	—
Theodosia		6·2	51	e 1 54	+19	—	—	—	—
Ksara	E.	9·4	140	—	—	e 4 6	− 7	5·4	—
Zagreb		10·2	301	—	—	—	—	e 5·1	—
Rocca di Papa		11·9	278	—	—	—	—	e 6·3	—
Rome		12·1	279	e 8 36	?L	—	—	(e 8·6)	—
Piacenza		14·3	292	7 54	?L	—	—	(7·9)	10·9
Cheb		14·3	314	—	—	—	—	e 7·9	8·4
Moncalieri		15·6	291	e 8 51	?L	—	—	(e 8·8)	—
Baku		16·1	86	—	—	—	—	e 9·6	—
Copenhagen		17·9	329	—	—	—	—	10·9	—
Pulkovo		18·6	3	e 4 10	−14	e 7 59	+ 6	10·9	12·8
De Bilt		19·3	312	—	—	—	—	e 9·9	—
Ekaterinburg		25·4	42	—	—	—	—	13·9	—

Rocca di Papa gives also eP? = +7m.55s.

Oct. 10d. Readings also at 2h. (Ksara and near Tacubaya), 3h. (Ksara), 4h. (near Tacubaya and near La Paz), 6h. (Andijan), 7h. (Samarkand), 8h. (near Andijan (2) and Samarkand (2)), 9h. (Samarkand), 10h. (Riverview, Sydney, and Wellington), 11h. (Adelaide, Melbourne, Perth, Ekaterinburg, Irkutsk, Ottawa, and Florissant), 12h. (Baku, Irkutsk, Ekaterinburg, and La Paz), 13h. (Apia), 14h. (Ekaterinburg, Vienna, and Wellington and near Apia), 15h. (Baku, Taihoku, Florissant, and near Andijan), 16h. (near Taihoku), 18h. (Ksara, Taihoku, and near Baku), 20h. (near Taihoku (2)).

Oct. 11d. Readings at 4h. (near Granada), 7h. (Theodosia and near Yalta), 10h. (near Manila), 17h. (Taihoku, near Oaxaca, and Vera Cruz), 18h. (near Tacubaya), 20h. (near Taihoku), 22h. (near Lick and near Nagoya), 23h. (Budapest).

Oct. 12d. 5h. 34m. 22s. (I)
6h. 3m. 9s. (II)
6h. 8m. 24s. (III)
6h. 50m. 8s. (IV)
8h. 33m. 41s. (V)
8h. 34m. 12s. (VI)
8h. 58m. 8s. (VII)
9h. 57m. 36s. (VIII)

Epicentre 46°·4N. 10°·0E. (as on 1927 Aug. 25d.).

A = +·679, B = +·120, C = +·724; D = +·174, E = −·985; G = +·713, H = +·126, K = −·690.

v and vi may not be distinct but it is not possible to get agreement as for one quake.

		△	Az.	P.	O−C.	S.	O−C.	L.	M.
		°	°	m. s.	s.	m. s.	s.	m.	m.
I	Chur	0·5	325	i 0 4	− 4	—	—	—	—
II		0·5	325	i 0 13	?S	(i 0 13)	− 1	—	—
III		0·5	325	i 0 3	− 5	i 0 12	− 2	—	—
IV		0·5	325	e 0 4	− 4	i 0 12	− 2	—	—
V		0·5	325	i 0 6	− 2	—	—	—	—
VII		0·5	325	i 0 5	− 3	i 0 14	0	—	—
VIII		0·5	325	i 0 0	− 8	i 0 9	− 5	—	—
II	Innsbruck	1·3	48	e 0 15	− 5	e 0 27	− 9	—	—
III		1·3	48	i 0 6	−14	—	—	i 0·3	—
V		1·3	48	e 0 7	−13	—	—	i 0·3	—
VIII		1·3	48	e 0 2	−18	—	—	0·2	—

Continued on next page.

		Δ	Az.	P.	O−C.	S.	O−C.	L.	M.
		°	°	m. s.	s.	m. s.	s.	m.	m.
I	Ravensburg	1·4	349	—	—	e 0 33	− 6	i 0·7	—
II		1·4	349	—	—	e 0 28	−11	i 0·8	—
III		1·4	349	e 0 19	− 2	i 0 35	− 4	—	0·7
V		1·4	349	e 0 22	+ 1	i 0 37	− 2	i 0·7	—
VIII		1·4	349	e 0 17	− 4	i 0 31	− 8	i 0·7	—
I	Zurich	1·4	314	e 0 21	0	i 0 42	+ 3	—	—
III		1·4	314	e 0 21	0	i 0 42	+ 3	—	—
IV		1·4	314	e 0 24	+ 3	e 0 42	+ 3	—	—
V		1·4	314	e 0 23	+ 2	—	—	—	—
VI		1·4	314	(i 0 22)	+ 1	—	—	—	—
VII		1·4	314	e 0 23	+ 2	—	—	—	—
VIII		1·4	314	i 0 17	− 4	i 0 39	0	—	—
III	Padova	1·6	128	e 0 29	+ 5	e 0 50	+ 5	—	—
VI		1·6	128	i 0 23	− 1	i 0 43	− 2	—	—
VIII		1·6	128	i 0 29	+ 5	i 0 50	+ 5	—	—
III	Treviso	1·6	116	e 0 23	− 1	0 45	0	—	0·8
V		1·6	116	e 0 23	− 1	0 48	+ 3	—	0·9
VIII		1·6	116	0 19	− 5	0 42	− 3	—	0·7
III	Venice	1·9	121	0 26	− 3	0 50	− 3	—	—
VI		1·9	121	0 25	− 4	—	—	—	—
VIII		1·9	121	0 31	+ 2	—	—	—	—
I	Neuchatel	2·2	286	e 0 33	− 1	e 1 1	+ 1	—	—
II		2·2	286	e 0 42	+ 8	—	—	—	—
III		2·2	286	i 0 33	− 1	i 1 1	+ 1	—	—
IV		2·2	286	e 0 33	− 1	e 1 0	0	—	—
V		2·2	286	i 0 35	+ 1	—	—	—	—
VI		2·2	286	(i 0 32)	− 2	—	—	—	—
VIII		2·2	286	0 30	− 4	1 6	+ 6	—	—
I	Hohenheim	2·4	347	—	—	e 1 5	− 1	—	—
II		2·4	347	—	—	e 0 51?	−15	—	—
III		2·4	347	e 0 35	− 2	i 1 3	− 3	i 1·2	—
V		2·4	347	e 0 37	0	i 1 4	− 2	—	—
VI		2·4	347	i 0 33	− 4	—	—	—	—
VIII		2·4	347	e 0 32	− 5	i 0 59	− 7	—	—
II	Strasbourg	2·7	325	e 0 51?	+ 9	—	—	—	—
III		2·7	325	—	—	1 17	+ 3	—	—
V		2·7	325	—	—	1 21	+ 7	—	—
VIII		2·7	325	—	—	1 13	− 1	—	—
III	Karlsruhe	2·8	338	—	—	1 18	+ 1	—	—
VI		2·8	338	0 46	+ 2	—	—	—	—
VIII		2·8	338	—	—	1 12	− 5	—	—
III	Florence	2·8	161	—	—	e 1 31	+14	—	—
VIII		2·8	161	e 0 40	− 4	1 19	+ 2	—	—
III	Besançon	2·9	287	0 49	+ 4	i 1 36	+16	—	—
V		2·9	287	e 1 14	?S	(e 1 14)	− 6	i 1·6	—
VI		2·9	287	i 0 43	− 2	—	—	—	—
VIII		2·9	287	e 1 7	+22	i 1 34	+14	—	—
III	Graz	3·8	78	e 0 54	− 5	e 1 46	+ 2	—	2·4
VIII		3·8	78	e 1 21	+22	—	—	—	2·1
III	Zagreb	4·2	96	—	—	e 1 55	0	e 2·1	—
V		4·2	96	e 1 19?	+14	—	—	—	—
VIII		4·2	96	e 1 11	+ 6	e 1 43	−12	—	—
III	Jena E.	4·6	13	e 1 6	− 5	—	—	e 2·2	2·3
III	Vienna	4·7	64	e 1 54	+41	e 2 15	+ 6	i 2·3	2·6
VIII	Gottingen	5·1	0	0 54	−25	e 1 54	−26	—	—

Additional readings: Innsbruck VIII iP = +3s. Ravensburg III iP = +21s., i = +23s., iN = +25s., iS = +38s., i = +50s., V iS = +40s., VIII iS = +33s. Neuchatel I eP = +38s., II eP = +47s., III iS = +38s., iS = +1m.9s., IV eP = +38s., V iP = +39s., VIII iP = +34s. Hohenheim III iP = +40s., iSE = +57s., iE = +1m.0s., iS = +1m.7s., VIII iE = +38s., iS = +1m.3s. Strasbourg III PR_1 = +45s., SR_1 = +1m.26s., SR_2 = +1m.39s., V e = +19s.?, SR_2 = +43s., VIII e = +24s.?, SR_1 = +1m.28s.

Oct. 12d. Readings also at 1h. (Mizusawa), 3h. (near Taihoku), 5h. (Kobe, Strasbourg, and near Tananarive), 6h. and 8h. (near Algiers), 10h. (Andijan and near Samarkand), 11h. (near Algiers), 12h. (near Sucre), 14h. and 15h. (2) (Sucre), 18h. (Sydney), 19h. (Andijan), 20h. (Bombay and Wellington), 21h. (near Sucre), 22h. (near Algiers and near Ksara).

Oct. 13d. Readings at 9h. (Sucre and La Paz), 10h. (La Paz), 13h. (near Batavia), 16h. (near Taihoku), 17h. (Baku, Ekaterinburg, Irkutsk, Bombay, Calcutta, and Hyderabad), 19h. (Chur), 21h. (Phu-Lien), 22h. (Taihoku).

Oct. 14d. 10h. 9m. 48s. Epicentre 53°·2N. 162°·6W.

A = −·572, B = −·179, C = +·801; D = −·299, E = +·954;
G = −·764, H = −·239, K = −·599.

		△	Az.	P.	O−C.	S.	O−C.	L.	M.
		°	°	m. s.	s.	m. s.	s.	m.	m.
Sitka	E.	15·9	65	(e 3 49)	− 2	(i 7 8)	+15	10·8	13·6
Victoria	E.	25·0	85	6 4	+26	(9 54)	− 9	9·9	17·4
Honolulu T.H.	E.	32·1	172	—	—	—	—	i 15·7	16·2
Tucson	N.	42·2	99	—	—	—	—	—	20·1
Chicago	E.	49·5	71	—	—	i 16 20	+ 7	e 24·3	28·6
Florissant		49·9	77	e 9 5	− 1	e 16 16	− 2	i 24·9	—
Ann Arbor	E.	51·4	69	—	—	—	—	e 26·7	—
Irkutsk		52·2	310	e 9 2	−19	16 36	−10	25·2	32·5
Toronto		52·9	65	—	—	i 17 2	+ 7	34·0	—
Scoresby Sund	N.	53·2	16	9 28	+ .1	17 12	+13	26·2	—
Ottawa		53·7	60	—	—	e 17 5	0	e 28·2	34·7
Charlottesville	E.	57·2	70	—	—	—	—	e 27·5	35·2
Georgetown	Z.	57·4	68	i 10 15	+20	—	—	e 30·7	37·3
Zi-ka-wei	Z.	57·4	280	e 10 22	+27	17 54	+ 3	29·7	37·7
Fordham		58·1	64	—	—	e 17 57	− 3	30·9	36·2
Ekaterinburg		64·4	335	i 10 42	+ 1	19 16	− 2	31·2	43·6
Pulkovo		66·6	354	10 58	+ 3	19 45	0	35·2	43·3
Upsala	N.	67·0	0	—	—	—	—	e 36·2	—
Hong Kong		68·3	279	19 58	?S	(19 58)	− 8	e 30·2	43·4
Dyce		68·5	11	—	—	i 20 12	+ 4	e 35·4	42·2
Edinburgh		69·6	12	e 9 48	−87	e 20 32	+11	—	47·5
Copenhagen		71·0	3	11 24	+ 1	20 54	+16	32·2	—
Stonyhurst		71·7	12	—	—	—	—	e 40·2	—
Hamburg		73·1	5	i 11 41	+ 4	i 20 29	−34	e 40·7	—
Oxford		73·9	12	e 11 39	− 2	21 21	+ 8	e 33·2	48·2
Phu-Lien		74·0	284	—	—	20 12?	−62	38·7	—
De Bilt		74·2	8	11 46	+ 3	21 22	+ 6	e 39·2	53·6
Kew		74·3	11	e 11 49	+ 5	—	—	36·2	—
Gottingen	N.	75·1	5	—	—	e 20 48	−39	—	—
Andijan		75·3	320	e 11 37	−14	—	—	e 45·2	—
Uccle		75·5	9	e 11 54	+ 2	—	—	e 34·2	—
Feldberg		76·4	7	i 11 50	− 7	e 21 36	− 6	—	51·8
Cheb		76·7	3	—	—	e 21 12?	−33	e 42·2	57·2
Paris		77·2	10	e 13 2	+60	—	—	43·2	52·2
Samarkand		77·8	323	e 11 59	− 7	—	—	42·2	—
Strasbourg		78·0	7	12 13	+ 6	e 22 12?	+12	e 32·2	—
Neuchatel		79·4	7	i 12 14	− 1	—	—	—	—
Moncalieri		81·4	7	12 32	+ 5	22 35	− 4	41·2	—
Piacenza		81·6	6	12 34	+ 6	22 42	0	—	59·2
Baku		82·4	336	e 12 31	− 1	e 22 49	− 1	43·2	54·0
Florence		82·9	5	i 12 36	+ 1	22 24	[−18]	51·2	56·2
Tortosa	N.	84·9	13	—	—	—	—	e 42·2	52·7
Rocca di Papa		85·0	4	e 12 35	−13	e 22 52	[− 4]	e 52·9	72·8

Continued on next page.

		Δ	Az.	P.	O−C.	S.	O−C.	L.	M.
		°	°	m. s.	s.	m. s.	s.	m.	m.
Toledo		85·2	16	e 12 45	− 4	e 23 12	− 9	—	55·3
Alicante		87·2	14	—	—	e 21 40	?	e 52·1	—
Granada		87·8	17	i 12 57	− 7	—	—	31·7	65·2
Malaga		88·1	18	e 12 33	−33	e 23 35	−18	e 33·0	—
San Fernando		88·1	20	—	—	23 16	[0]	—	56·5
Almeria		88·3	15	e 12 52	−15	23 6	[−11]	48·9	53·7
Hyderabad		92·1	305	13 15	−13	24 28	− 8	46·7	58·4
Bombay		93·5	310	13 24	−11	23 55	[+ 6]	44·8	57·9
Wellington	N.	96·5	197	—	—	—	—	—	60·2

Additional readings and note: Sitka PR_4 = 10h.8m.41s., eSR_4N = +7m.19s., MN = +13·7m., P is given as SE and S as SR_4E. Honolulu T.H. iLN = +17·0m., MN = +17·7m. Florissant iPEN = +9m.6s., iPZ = +9m.7s., iE? = +15m.19s., eSE = iSN = +16m.17s., iN = +18m.56s., iSR_4N = +17m.58s., iN = +20m.21s., and +20m.42s. Ann Arbor e?E = +28m.36s., eLN = +28·9m. Toronto iN = +19m.54s. Scoresby Sund N = +20m.42s. Ottawa e = +21m.12s. = SR_4 − 4s., eN = +26m.31s., MN = +30·7m. Charlottesville eN? = +24m.12s., eN = +28m.32s. and +32m.4s., MN = +37·8m. Fordham e = +28m.4s. De Bilt MNZ = +46·9m. Cheb MN = +58·2m. Rocca di Papa e = +12m.33s. Granada PR_4 = +16m.27s. San Fernando MN = +55·7m.

Oct. 14d. Readings also at 0h. (Wellington), 1h. (Sydney), 3h. (Adelaide, Melbourne, Riverview, Sydney, Perth, Wellington, Amboina, Batavia, Hong Kong, Baku, Bombay, Ekaterinburg, Irkutsk, and La Paz), 4h. (De Bilt, Uccle, Granada, and Tashkent), 8h. (Kobe, Mizusawa, Nagoya, Osaka, and Sumoto), 12h. (near Akita and Mizusawa, near Andijan, and Samarkand), 15h. (Ekaterinburg), 16h. (Irkutsk), 19h. (Andijan), 20h. (Samarkand and Scoresby Sund), 21h. (near Andijan and Samarkand), 22h. (near La Paz).

Oct. 15d. 4h. 45m. 22s. Epicentre 38°·0N. 42°·0E. (as on 1926 Oct. 9d.).

A = +·586, B = +·527, C = +·616; D = +·669, E = −·743; G = +·458, H = +·412, K = −·788.

	Δ	Az.	P.	O−C.	S.	O−C.	L.	M.
	°	°	m. s.	s.	m. s.	s.	m.	m.
Ksara	6·4	232	2 57	?S	(2 57)	+ 2	5·7	—
Baku	6·6	66	e 1 42	+ 1	i 2 54	− 6	4·1	—
Samarkand	19·5	77	e 4 30	− 5	—	—	—	—
Ekaterinburg	22·6	27	e 5 14	+ 2	e 8 59	−18	10·6	—
Rocca di Papa	22·7	289	—	—	—	—	e 15·6	17·8
Andijan	23·5	75	e 5 30	+ 7	—	—	—	—
Strasbourg	26·8	304	—	—	—	—	e 16·6	—
De Bilt	29·2	311	—	—	—	—	e 14·6	—
Uccle	29·3	308	—	—	—	—	e 15·6	—
Paris	30·2	304	—	—	—	—	e 21·6	—
Granada	35·7	283	—	—	—	—	22·6	27·1
Irkutsk	44·7	50	—	—	—	—	23·7	—

Additional readings: Ksara iS = +5m.16s. Baku e = +2m.4s. Ekaterinburg i = +5m.17s. and +5m.24s.

Oct. 15d. Readings also at 6h. (Baku, Ekaterinburg, and Ksara (2)), 7h. (Wellington, near Suva, and near Andijan), 8h. (Adelaide, Melbourne, Riverview, Suva, and Wellington), 9h. (Baku, Ekaterinburg, Ksara, and Suva), 10h. (Wellington, Ottawa, near Honolulu T.H., near Nagoya, and near Samarkand), 18h. (Andijan (2)), 19h. (Kew, Paris, De Bilt (2), Uccle (2), Strasbourg, Rocca di Papa, and Granada), 21h. (Andijan and near Samarkand), 22h. (near Berkeley and Lick).

Oct. 16d. 1h. 5m. 18s. Epicentre 39°·7N. 14°·5E.

A = +·745, B = +·193, C = +·639; D = +·250, E = −·968;
G = +·618, H = +·160, K = −·769.

	Δ	Az.	P.	O−C.	S.	O−C.	L.	M.
	°	°	m. s.	s.	m. s.	s.	m.	m.
Casamicciola	1·2	336	0 11	− 7	0 25	− 8	—	0·6
Naples	1·2	351	e 0 16	− 2	e 0 30	− 3	—	—
Trenta	1·5	107	i 0 42	+19	(i 0 42)	0	—	—
Messina	1·7	151	0 47	+21	(0 47)	− 1	—	—
Catania	2·2	168	e 0 50	+16	(e 0 50)	−10	e 3·6	4·8
Rocca di Papa	2·5	327	e 0 39	0	1 9	0	—	1·7
Rome	2·7	325	e 0 44	+ 2	1 17	+ 3	—	1·8
Zagreb	6·2	10	—	—	e 2 6	−43	e 3·2	—
Piacenza	6·4	328	—	—	—	—	—	3·8
Moncalieri	7·3	319	—	—	—	—	e 4·6	—
Strasbourg	10·1	334	—	—	e 4 42?	+10	—	—
Uccle	13·2	331	—	—	—	—	e 6·7	—
De Bilt	14·0	336	—	—	—	—	e 7·7	—
Granada	14·4	266	—	—	—	—	e 6·4	8·5
Kew	15·6	324	—	—	—	—	e 8·7	—

Additional reading: Trenta S = +1m.7s.

Oct. 16d. 20h. 27m. 24s. Epicentre 25°·5N. 98°·5E.

(as on 1929 Sept. 9d.).

A = −·133, B = +·893, C = +·431; D = +·989, E = +·148;
G = −·064, H = +·426, K = −·903.

		Δ	Az.	P.	O−C.	S.	O−C.	L.	M.
		°	°	m. s.	s.	m. s.	s.	m.	m.
Phu-Lien		8·9	120	e 2 15	0	e 4 15	+14	e 4·6	6·3
Calcutta	E.	9·7	254	1 36	−50	3 49	−32	4·8	6·7
	N.	9·7	254	1 42	−44	4 18	− 3	5·6	7·4
Hong Kong		14·7	99	3 35	0	6 33	+ 8	7·5	8·4
Agra	E.	18·4	280	3 59	−23	7 31	−18	9·9	12·6
	N.	18·4	280	e 4 3	−19	7 27	−22	9·9	10·6
Dehra Dun		18·7	290	3 46	−39	7 26	−29	9·9	10·6
Hyderabad		20·3	251	5 51	+66	9 56	+87	12·4	15·3
Taihoku	E.	20·9	86	—	—	—	—	11·3	13·2
Zi-ka-wei		21·0	69	4 48	− 5	8 50	+ 6	—	12·4
Manila		23·7	113	e 5 34	+ 9	i 9 52	+14	12·3	14·8
Bombay		24·6	260	5 30	− 4	10 1	+ 6	13·3	13·9
Kodaikanal		25·1	236	—	—	—	—	i 10·4	12·2
Colombo		25·8	227	5 41	− 5	10 11	− 7	18·5	19·4
Andijan		26·3	311	e 5 43	− 8	10 30	+ 2	—	—
Irkutsk		27·1	8	5 51	− 8	i 10 29	−14	13·0	15·2
Nagasaki		28·2	68	—	—	e 11 1	− 2	e 15·5	19·3
Hukuoka		28·8	66	—	—	12 6	+53	16·5	—
Samarkand		29·8	306	e 5 13	−73	10 7	−84	—	—
Koti		31·4	65	—	—	e 11 59	+ 1	e 16·0	19·8
Sumoto		32·6	65	e 12 8	?S	(e 12 8)	−10	(e 17·8)	19·6
Toyooka	N.	32·7	63	—	—	—	—	i 16·8	19·4
Batavia		32·8	165	6 46	− 9	17 59	?	—	—
Kobe		32·8	64	—	—	—	—	e 16·9	19·3
Osaka		33·2	64	(6 59)	+ 1	(12 3)	−24	(15·1)	(19·8)
Akita		37·4	57	—	—	—	—	20·3	21·1
Ekaterinburg		41·4	330	i 7 50	−16	i 14 6	−21	20·1	26·5
Baku		42·8	304	e 8 8	− 9	i 14 29	−16	23·9	25·6

Continued on next page.

		Δ	Az.	P.	O−C.	S.	O−C.	L.	M.
		°	°	m. s.	s.	m. s.	s.	m.	m.
Theodosia		53·6	310	9 29	− 1	17 1	− 3	—	—
Ksara		54·2	295	9 35	+ 1	17 15	+ 4	29·6	—
Simferopol		54·5	310	9 37	+ 1	17 16	+ 1	—	—
Yalta		54·5	310	9 35	− 1	—	—	—	—
Sebastopol		54·9	310	e 9 40	+ 2	—	—	—	—
Pulkovo		57·3	327	9 55	+ 1	17 49	− 1	30·6	35·6
Perth		59·8	163	25 36	?L	—	—	(25·6)	—
Konigsberg		62·5	320	e 10 32	+ 3	—	—	e 26·6	34·6
Upsala		63·6	327	—	—	e 19 14	+ 6	e 32·6	35·8
Budapest		64·6	314	e 14 6	?PR_1	—	—	e 36·6	43·6
Vienna		66·2	315	i 10 56	+ 3	19 37	− 3	37·1	43·1
Tananarive	E.	66·5	234	—	—	—	—	—	34·6
Copenhagen		67·0	323	—	—	19 55	+ 5	32·6	—
Graz		67·0	315	—	—	e 19 59	+ 9	e 37·6	—
Zagreb		67·0	312	e 11 3	+ 5	e 19 50	0	e 37·6	—
Potsdam		67·4	320	—	—	—	—	e 33·3	39·0
Cheb		68·3	317	e 20 9	?S	(e 20 9)	+ 3	37·6	43·6
Entebbe		68·5	261	—	—	22 36?	?	—	—
Jena	E.	68·6	318	—	—	—	—	e 33·0	41·1
Hamburg		68·9	320	—	—	e 28 36?	?SR_2	—	39·5
Gottingen		69·4	319	—	—	e 28 54	?SR_2	e 37·3	39·1
Rocca di Papa		70·4	308	e 11 20	+ 1	20 38	+ 7	41·8	48·3
Rome		70·5	308	e 13 54	?PR_1	—	—	—	17·3
Hohenheim		70·6	316	—	—	—	—	38·6	47·6
Feldberg	N.	70·7	318	e 15 50	?PR_2	—	—	—	40·5
Ravensburg		70·7	315	—	—	—	—	35·6	62·6
Florence		70·8	310	e 11 21	− 1	—	—	—	—
Chur		71·0	314	e 11 25	+ 2	e 20 36	− 2	—	—
Piacenza		71·5	314	—	—	20 48	+ 4	38·6	55·6
Zurich		71·5	315	e 11 29	+ 2	e 20 46	+ 2	—	—
Strasbourg		71·6	317	e 13 36?	?	20 36?	− 9	e 32·6	—
De Bilt		72·1	320	e 11 23	− 8	20 55	+ 4	e 37·6	40·6
Neuchatel		72·7	315	e 11 34	0	e 20 57	− 1	—	—
Moncalieri		72·8	314	e 11 32	− 3	—	—	e 39·3	—
Uccle		73·0	319	—	—	e 21 5	+ 3	e 36·6	40·7
Besançon		73·2	315	—	—	—	—	e 39·6	—
Dyce		74·2	327	—	—	21 32	+16	e 36·6	41·4
Paris		74·8	319	e 11 53	+ 5	e 21 29	+ 5	40·6	47·6
Edinburgh		75·3	325	—	—	e 21 36?	+ 7	—	42·6
Kew		75·4	320	e 11 54	+ 3	e 21 34	+ 4	38·6	—
Scoresby Sund		75·4	344	—	—	21 35	+ 5	38·6	—
Stonyhurst		75·7	322	—	—	—	—	—	49·6
Oxford		75·9	320	—	—	e 21 36	0	e 38·6	45·8
Bidston		76·2	322	26 12	?	—	—	38·7	45·6
Melbourne		76·9	144	—	—	—	—	36·4	48·3
Riverview		77·6	137	—	—	—	—	e 30·9	49·6
Sydney	E.	77·7	137	29 48	?	—	—	48·3	50·1
Tortosa	N.	79·2	311	e 12 15	+ 1	—	—	e 41·6	49·1
Alicante		81·0	310	—	—	—	—	e 45·3	—
Toledo		82·8	311	—	—	e 22 48	− 7	e 46·7	—
Almeria		83·0	310	e 12 30	− 6	22 57	0	45·3	50·0
Granada		83·7	310	e 13 6	+26	i 24 28	?PS	47·6	51·6
Malaga		84·5	310	—	—	e 23 15	+ 1	—	—
San Fernando		85·9	310	23 9	?S	(23 9)	[+ 8]	—	51·1
Wellington	N.	97·1	132	—	—	—	—	40·1	—
Victoria		97·1	26	—	—	—	—	51·8	55·2
Ottawa	E.	108·8	355	—	—	e 34 24	?SR_1	e 49·6	—
Toronto	N.	110·1	359	—	—	e 34 13	?SR_1	61·6	—
Fordham		113·3	354	—	—	—	—	e 64·6	67·6
Florissant		115·1	7	e 12 6	?	e 19 16	?	e 58·6	—
Georgetown	Z.	115·4	355	—	—	—	—	e 62·8	75·1
La Paz		164·6	301	e 20 34	[+22]	—	—	—	—

For Notes see next page.

NOTES TO OCT. 16d. 20h. 27m. 24s.

Additional readings and notes: Phu-Lien MN = +5·8m. Taihoku MN = +12·0m. Zi-ka-wei iE = +12m.42s., MZ = +12·8m. Manila iPR_1E = +6m.4s., iPR_2E = +6m.15s. Nagasaki MN = +19·8m. Koti MN = +17·3m. Sumoto MN = +18·8m., MZ = +20·0m. S is given as P and L as S. Kobe MN = +18·9m. Osaka MN = (+16·9m.) all readings have been *diminished* by 3m. Konigsberg eZ = +10m.42s., MN = +32·6m Vienna PR_1 = +13m.21s. Tananarive MN = +36·6m. Copenhagen +21m.2s. and +24m.13s. Cheb e = +24m.38s., eS = +27m.44s., MN = +38·6m. Jena eLN = +36·6m., MN = +39·1m. Rocca di Papa PR_1 = +13m.52s., eL = +33·8m. De Bilt ePR_1Z = +14m.14s., eSR_1E = +25m.33s., MZ = +47·4m. Uccle MN = +41·0m. Kew SR_1E = +26m.36s., SR_2E = +30m.12s., LZ = +42·6m. Scoresby Sund +26m.36s. Riverview MN = +48·0m. Tortosa ME = +46·1m. Granada SPS = +22m.54s. San Fernando MN = +52·1m. Suva eN = +89m.54s., iN = +90m.0s. Ottawa LN = +58·6m. Fordham iE = +58m.48s.

Oct. 16d. Readings also at 1h. (Adelaide, Melbourne, and Riverview), 2h. (Zurich and near Neuchatel), 3h. (near La Paz), 5h. (near La Paz), 6h. (Wellington), 8h. (near Victoria), 9h. (Port au Prince), 11h. (near Taihoku), 16h. (Baku, Copenhagen, Irkutsk, Ekaterinburg, near Andijan, and Samarkand), 17h. (La Paz), 18h. (Andijan, Samarkand, Riverview, Suva, Wellington, Melbourne, and near Apia), 19h. (Baku, Ekaterinburg, Irkutsk, Florissant, Ottawa, and Granada), 21h. (Suva), 22h. (Ekaterinburg, Irkutsk, Andijan, Riverview, Ottawa, and near Tacubaya), 23h. (Granada and near Tacubaya).

Oct. 17d. Readings at 0h. (La Paz), 1h. (near Andijan and near Manila), 2h. (Suva and Wellington), 4h. (Taihoku), 12h. (Batavia and Ekaterinburg), 13h. (Irkutsk, Casamicciola, Catania, Messina, Rocca di Papa, Rome, Trenta, and Zagreb, local Italian shock), 16h. (near Taihoku (2) and near Casamicciola), 18h. (Andijan, Ekaterinburg, and Phu-Lien), 19h. (Ekaterinburg), 20h. (Irkutsk), 21h. (Andijan and Samarkand), 23h. (Taihoku, La Plata, near Santiago, and near Manila).

Oct. 18d. 10h. 42m. 35s. Epicentre 25°·5N. 98°·5E. (as on Oct. 16d.).

		Δ	Az.	P.	O−C.	S.	O−C.	L.	M.
		°	°	m. s.	s.	m. s.	s.	m.	m.
Phu-Lien		8·9	120	e 2 16	+ 1	—	—	4·7	—
Calcutta	N.	9·7	254	4 21	?S	(4 21)	0	7·8	—
Hong Kong		14·7	99	—	—	e 5 28	−57	e 8·0	9·2
Taihoku	E.	20·9	86	—	—	—	—	e 10·6	—
Bombay		24·6	260	9 54	?S	(9 54)	− 1	15·2	16·7
Andijan		26·3	311	e 5 50	− 1	—	—	—	—
Irkutsk		27·1	8	e 10 20	?S	(e 10 20)	−23	e 16·2	17·3
Samarkand		29·8	306	e 18 10	?	—	—	—	—
Batavia		32·8	165	—	—	—	—	e 16·6	—
Ekaterinburg		41·4	330	e 7 48	−18	14 3	−24	21·4	23·4
Baku		42·8	304	—	—	—	—	e 25·0	—
Pulkovo		57·3	327	—	—	e 17 52	+ 2	30·4	—
Copenhagen		67·0	323	—	—	—	—	35·4	—
De Bilt		72·1	320	—	—	—	—	e 39·4	40·5

Additional readings: Calcutta SN = +6m.37s. Hong Kong MN = +8·3m. Bombay S = +13m.26s. Irkutsk S = +14m.47s.

Oct. 18d. Readings also at 0h. (Baku, Ekaterinburg, Irkutsk, Pulkovo, Copenhagen, Granada, Ottawa, Toronto, Scoresby Sund, and near La Paz), 1h. (Apia), 2h. (Samarkand), 7h. (Ekaterinburg), 8h. (Baku and near Ksara), 9h. (Ksara), 10h. (La Paz and near Akita), 11h. (Bombay), 12h. (near Wellington), 14h. (near Rocca di Papa and Rome), 16h. (Baku, Ekaterinburg, La Paz, Granada, near Almata, and Andijan), 17h. (De Bilt and Uccle), 21h. (near La Paz), 22h. (Taihoku).

Oct. 19d. 10h. 12m. 48s. Epicentre 23°·2S. 69°·0W.

(as given by La Paz and Sucre).

$A = +\cdot329$, $B = -\cdot858$, $C = -\cdot394$; $D = -\cdot934$, $E = -\cdot358$; $G = -\cdot141$, $H = +\cdot368$, $K = -\cdot919$.

A *depth* of focus 0·015 has been assumed.

		Corr. for Focus	Δ	Az.	P.	O–C.	S.	O–C.	L.	M.
		°	°	°	m. s.	s.	m. s.	s.	m.	m.
Sucre	N.	0·0	5·5	41	i 1 24	− 1	—	—	—	—
La Paz		−0·1	6·8	7	i 1 41	− 1	—	—	—	—
Santiago		−0·2	10·3	188	i 2 42	+11	4 34	+ 2	5·5	—
La Plata		−0·4	15·1	143	3 34	− 1	6 17	− 8	7·8	—
Rio de Janeiro		−0·7	23·8	94	i 6 12	+54	i 10 24	+57	12·2	15·5
Port au Prince		−1·3	41·9	356	e 8 6	+ 6	i 14 19	+ 4	e 15·9	18·1
Tacubaya		−1·6	51·8	322	9 8	0	16 25	+ 4	—	—
Georgetown	Z.	−1·8	62·5	354	10 14	− 3	i 19 16	?PS	e 36·6	39·5
Fordham		−1·9	64·2	356	i 10 32	+ 5	i 18 53	+ 1	26·5	28·2
St. Louis		−1·9	64·9	341	e 10 30	− 2	i 19 1	0	—	—
Florissant		−1·9	65·2	341	10 33	− 1	i 18 55	−10	—	—
Harvard	E.	−1·9	65·6	358	e 11 8	+32	i 20 9	?PS	—	—
Ann Arbor		−1·9	66·9	349	e 10 42	− 3	i 19 30	+ 5	e 29·4	34·5
Chicago	E.	−1·9	67·2	346	e 11 38	+51	i 19 57	+28	26·2	—
Toronto	N.	−2·0	67·5	352	e 10 46	− 2	19 28	− 3	e 31·6	—
Tucson	E.	−2·0	68·4	323	e 10 54	0	i 19 51	+ 9	e 27·9	—
	N.	−2·0	68·4	323	10 58	+ 4	i 19 49	+ 7	28·4	—
Ottawa		−2·0	68·8	356	i 10 58	+ 1	i 19 49	+ 1	e 30·5	41·2
Denver		−2·0	71·3	331	e 10 12	−61	e 19 17	−61	—	—
Cape Town		−2·0	75·3	120	i 11 42	+ 4	i 21 15	+ 9	35·8	43·3
Lick		−2·1	78·2	320	e 11 54	− 2	e 21 44	+ 6	e 36·5	—
Berkeley		−2·1	79·0	320	e 11 59	− 1	e 21 50	+ 2	e 37·9	—
Saskatoon		−2·1	82·2	338	e 12 22	+ 2	i 22 22	− 2	e 35·2	—
San Fernando		−2·1	84·0	45	i 12 44	+14	i 22 44	− 1	37·7	55·2
Malaga		−2·1	85·4	46	e 12 34	− 4	22 48	−12	31·2	52·7
Ivigtut		−2·1	86·0	10	i 12 35	− 6	22 51	−17	35·2	—
Granada		−2·1	86·2	46	i 12 36	− 7	i 23 17	+ 8	32·9	42·4
Victoria	E.	−2·1	86·5	328	13 28	+44	23 8	− 4	36·2	43·6
	N.	−2·1	86·5	328	13 3	+19	23 8	− 4	35·4	36·6
Almeria		−2·1	86·8	46	i 12 36	−10	i 22 51	−25	41·0	41·8
Toledo		−2·1	87·4	44	e 12 41	− 9	i 23 3	−19	e 36·4	46·0
Alicante		−2·1	88·8	46	e 12 57	0	i 23 31	− 7	e 35·0	—
Algiers		−2·1	90·6	50	e 12 57	−11	23 21	[−11]	37·2	57·2
Tortosa		−2·1	90·9	45	e 13 3	− 6	23 25	[− 8]	—	56·4
	E.	−2·1	90·9	45	e 12 45	−24	i 23 22	[−11]	37·2	52·9
	N.	−2·1								
Barcelona		−2·1	92·2	45	e 12 46	−31	e 23 25	[−16]	e 36·6	56·9
Wellington	E.	−2·2	92·6	223	i 13 4	−14	i 23 35	[− 9]	i 39·6	43·2
	N.	−2·2	92·6	223	i 13 58	+40	i 23 34	[−10]	i 39·6	40·5
Oxford		−2·2	95·4	35	e 13 15	−18	i 23 43	[−16]	e 41·6	62·9
Bidston		−2·2	95·4	33	13 49	+16	23 35	[−24]	36·5?	42·8
Kew		−2·2	95·8	35	e 13 21	−15	23 47	[−14]	34·2	50·9
Stonyhurst		−2·2	95·9	33	e 13 30	− 6	i 23 44	[−18]	40·2	50·2
Paris		−2·2	96·0	39	e 13 24	−13	i 23 47	[−15]	31·2	44·2
Edinburgh		−2·2	96·1	30	e 13 54	+17	23 52	[−11]	40·2	52·2
Honolulu T.H.	N.	−2·2	97·2	290	—	—	e 24 54	−12	44·9	—
Besançon		−2·2	97·3	41	e 13 47	+ 3	23 56	[−13]	31·2	55·2
Moncalieri		−2·2	97·4	44	e 13 39	− 5	23 55	[−15]	30·7	59·2
Sitka	E.	−2·2	97·5	330	—	—	e 25 42	+33	e 45·2	—
Dyce		−2·2	97·8	29	17 45	?PR,	i 23 50	[−22]	31·3	42·2
Neuchatel		−2·2	97·8	41	i 13 30	−17	e 24 46	−26	—	—
Uccle		−2·2	98·0	38	e 13 35	−13	i 24 0	[−13]	e 41·2	53·0
Piacenza		−2·2	98·7	44	13 48	− 4	24 4	[−13]	31·7	60·8
De Bilt		−2·2	98·9	37	13 38	−15	e 24 6	[−12]	e 45·2	50·2

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		−2·2	99·0	40	e 13 38	−15	24 9	[−10]	37·2	56·9
Zurich		−2·2	99·0	43	e 13 35	−18	e 24 11	[− 8]	—	—
Scoresby Sund		−2·2	99·3	13	13 42	−13	24 2	[−18]	—	—
Florence		−2·2	99·3	46	13 41	−14	24 47	[+27]	42·2	52·2
Rome		−2·2	99·3	48	e 13 48	− 7	i 24 10	[−10]	e 61·5	—
Rocca di Papa		−2·2	99·4	48	i 13 42	−13	e 24 6	[−15]	e 41·0	66·2
Chur		−2·2	99·4	43	e 13 32	−23	e 24 5	[−16]	—	—
Catania		−2·2	99·5	53	e 13 45	−11	e 24 5	[−16]	e 37·9	59·6
Karlsruhe		−2·2	99·6	40	14 1	+ 5	24 25	[+ 3]	e 53·2	—
Ravensburg		−2·2	99·8	41	e 13 44	−14	i 25 1	[+38]	e 47·2	59·2
Hohenheim		−2·2	100·0	40	e 13 43	−16	i 24 57	[+32]	e 47·2	—
Feldberg	N.	−2·2	100·1	39	13 32	−27	e 24 42	[+18]	—	60·7
Messina		−2·2	100·1	52	13 50	− 9	—	—	—	—
Padova		−2·2	100·3	45	e 14 15	+14	i 24 18	[− 7]	e 42·2	63·2
Treviso		−2·2	100·6	44	e 13 49	−13	24 12	[−15]	55·2	60·2
Entebbe		−2·2	100·6	93	13 58	− 4	24 19	[− 8]	44·2	56·2
Innsbruck		−2·2	100·7	42	e 13 42	−21	—	—	—	—
Venice		−2·2	100·7	45	—	—	23 12?	?	—	—
Gottingen		−2·2	101·5	38	e 13 50	−17	i 24 22	[− 9]	e 39·9	58·2
Jena		−2·2	102·2	40	e 13 42	−29	i 24 27	[− 8]	e 47·2	62·7
Hamburg		−2·2	102·3	36	e 13 59	−12	i 24 25	[−10]	e 41·4	52·2
Suva	N.	−2·2	102·3	244	—	—	24 54	[+19]	44·2	—
Cheb		−2·2	102·4	40	e 17 58	?PR₁	e 24 26	[−10]	e 47·2	49·2
Zagreb		−2·2	102·7	45	e 14 0	−13	e 24 26	[−11]	e 38·2	—
Bergen		−2·2	102·7	29	e 17 7	?	—	—	—	48·2
Graz		−2·2	103·3	43	e 14 9	− 7	i 24 22	[−17]	e 35·2	60·5
Potsdam		−2·2	103·6	38	—	—	—	—	e 36·9	57·2
Vienna		−2·2	104·2	43	e 14 29	+ 9	i 24 30	[−14]	e 35·2	65·2
Copenhagen		−2·2	104·4	35	14 3	−18	24 33	[−12]	42·2	—
Tananarive		−2·2	105·1	119	—	—	e 24 40	[− 8]	49·9	59·2
Budapest		−2·2	105·7	43	e 18 27	?PR₁	—	—	e 44·2	64·2
Belgrade	N.	−2·2	105·8	46	e 14 7	−21	e 24 37	[−14]	e 39·1	65·9
Upsala		−2·3	108·3	30	e 14 31	− 8	25 56	?	e 44·2	57·1
Konigsberg		−2·3	108·6	36	—	—	e 26 26	? Σ	e 47·8	59·2
Helwan		−2·3	109·8	65	e 14 57	+11	i 28 30	?PS	—	70·1
Melbourne		—	111·1	208	i 19 12	?PR₁	i 25 52	? Σ	46·3	47·6
Riverview		—	111·3	215	e 19 18	?PR₁	—	—	e 52·8	56·3
Sydney	N.	—	111·3	215	19 0	?PR₁	25 54	? Σ	54·8	57·2
Helsingfors		—	112·0	31	19 27	?PR₁	27 4	?	e 45·2	—
Pulkovo		—	114·6	31	e 15 11	− 7	i 27 3	?	46·2	62·9
Ksara	N.	—	114·6	60	18 48	?	—	—	55·2	—
Simferopol		—	115·2	48	e 18 47	?	—	—	—	—
Yalta		—	115·2	48	e 18 44	?	—	—	—	—
Theodosia		—	116·1	48	e 18 42	?	25 21	[−11]	—	—
Adelaide		—	116·2	205	e 19 37	?PR₁	30 16	?PS	49·5	51·7
Perth		—	124·3	184	i 20 52	?PR₁	i 31 32	?PS	60·2	—
Baku		—	126·4	55	e 19 4	[− 5]	—	—	49·2	52·2
Ekaterinburg		—	130·6	33	i 19 8	[−12]	26 15	?	54·2	68·2
Samarkand		—	139·5	54	e 19 28	[−11]	—	—	47·6	—
Bombay		—	144·3	88	19 38	[− 9]	30 10	?	51·3	84·1
Kodaikanal		—	145·5	104	e 19 0	[−49]	—	—	i 81·9	93·8
Almata		—	145·6	45	e 19 36	[−13]	—	—	e 44·2	—
Colombo		—	145·9	112	19 41	[− 9]	33 16	?	68·7	87·8
Amboina		—	148·3	213	i 19 56	[+ 3]	—	—	—	—
Hyderabad		—	149·0	91	19 52	[− 2]	32 25	?	62·6	82·2
Dehra Dun		—	149·8	70	19 52	[− 4]	—	—	42·2	85·2
Mizusawa		—	149·9	310	19 57	[+ 1]	20 6	?	—	—
Agra	E.	—	150·0	75	19 47	[− 9]	29 52	? Σ	e 48·5	54·1
	N.	—	150·0	75	19 47	[− 9]	e 29 32	? Σ	42·3	42·5
Batavia		—	150·3	172	i 19 44	[−12]	—	—	72·2	—
Akita		—	150·4	311	19 50	[− 6]	—	—	20·8	—
Irkutsk		—	150·5	8	i 19 49	[− 8]	—	—	—	88·0

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.
Osaka		—	155·7	304	e 20 3	[0]	—	—	—	—
Kobe	Z.	—	156·0	304	20 4	[+ 1]	—	—	—	—
Sumoto	Z.	—	156·4	303	e 19 52	[−12]	—	—	—	—
Koti		—	157·7	303	e 19 54	[−12]	—	—	—	—
Calcutta	E.	—	159·2	87	19 57	[−10]	24 53	?PR_1	—	—
	N.	—	159·2	87	20 0	[− 7]	24 50	?PR_1	—	—
Hukuoka		—	160·0	305	e 20 42	[+34]	—	—	—	52·6
Nagasaki		—	160·8	304	e 20 13	[+ 4]	e 31 48	?PR_3	—	—
Manila		—	167·2	229	i 20 12	[− 1]	—	—	78·2	—
Zi-ka-wei	Z.	—	167·8	313	i 20 4	[−10]	—	—	78·6	103·3
Taihoku	E.	—	170·2	283	e 20 9	[− 6]	—	—	35·5	—
Phu-Lien		—	175·3	120	e 20 15	[− 1]	e 36 11	?	70·2	—
Hong Kong		—	176·9	253	e 20 45	+28]	—	—	—	50·9

Additional readings: Sucre iPZ = +1m.26s. Rio de Janeiro iSN = +10m.23s., MN = +17·2m. Georgetown iPZ = +10m.21s., PR_1Z = +12m.48s., PR_2Z = +16m.17s., iZ = +18m.39s. = S +7s., and +18m.49s., PSZ = +19m.32s., iZ = +20m.9s., SR_1Z = +22m.38s., SR_2Z = +24m.14s. Fordham i = +10m.54s., +19m.52s. = PS +4s., +21m.19s. and +22m.27s., MZ = +38·2m. St. Louis iE = +19m.39s. Florissant eE = +10m.36s., iZ = +11m.5s., iNZ = +11m.51s., iPR_1NZ = +13m.7s., iPR_2NZ = +14m.59s., eSE = +18m.59s., iSE = +19m.1s., eSN = +19m.2s., iSN = +19m.45s., eN = +19m.46s., iE = +19m.48s., and +19m.51s., iN = +19m.56s. = PS +5s., iSN = +21m.6s. = Σ − 6s., iSE = +21m.9s. Ann Arbor ePR_1E = +13m.48s., $ePR_2?N$ = +14m.48s., iPS = +20m.18s., e?N = +25m.42s., e?E = +26m.30s., eL?N = +29·5m.; T_o = 10h.12m.42s. Chicago SR_1E = +23m.42s. Toronto iPN = +10m.54s., iN = +11m.44s., iSE = +19m.30s., iN = +19m.57s., iE = +20m.22s. = PS − 8s.; T_o = 10h.12m.53s. Tucson PE = +11m.3s. Ottawa iN = +20m.7s., SR_2E = +24m.55s., eN = +26m.42s. SR_3E = +27m.27s., eN = +29m.12s.?, eLN = +32·2m.; T_o = 10h.12m.56s. Lick ePEN = +11m.46s., eEN = +11m.59s., eE = +12m.7s., eN = +12m.8s., eEN = +12m.33s., eN = +12m.49s., eE = +13m.9s., eSE = +21m.47s., eE = +22m.10s., eN = +22m.44s., eE = +22m.45s., eSR_1E = +27m.3s., eE = +33m.25s. Berkeley eP = +12m.6s., eN = +12m.42s., and +22m.36s., eE = +25m.48s., +27m.50s., and +33m.42s., eN = +33m.54s., eZ = +34m.18s., eLZ = +37·1m., eLN = +37·5m. Saskatoon ePE = +12m.31s., i = +23m.12s. = Σ + 6s., eLN = +36·2m.; T_o = 10h.13m.8s. San Fernando MN = +60·2m. Malaga P = +12m.38s., iZ = +13m.15s., iN = +13m.18s. Ivigtut +23m.42s. Granada PR_1 = +16m.11s., i = +24m.2s. = PS − 19s. Almeria PR_1 = +16m.6s., SR_1 = +24m.6s. Toledo MNW = +46·1m. Barcelona MN = +55·7m. Wellington iPR_1E = +17m.5s., iPR_2E = +19m.12s., [S]E = +22m.38s., SR_1E = +29m.59s.; T_oE = 10h.13m.0s. Kew iZ = +13m.52s., PR_1Z = +17m.8s., PSZ = +25m.42s., SR_1E = +31m.0s., MN = +44·1m., LZ = +45·2m., MZ = +50·8m. Stonyhurst ? = +17m.17s. = PR_1 − 15s. Paris e = +17m.13s. = PR_1 − 27s. Edinburgh i = +25m.30s. Honolulu T.H. ePSE = +26m.36s., LE = +43·8m. Besançon PR_1 = +17m.20s. Moncalieri PR_1 = +17m.28s., MN = +57·8m. Neuchatel ePR_1 = +17m.24s., eS_cP_cS = +24m.2s. Uccle ePR_1 = +17m.22s., i = +31m.33s. = SR_1 − 13s., MN = +53·8m. Piacenza MN = +58·9m. De Bilt PR_1Z = +17m.37s., MN = +46·8m., MZ = +55·3m. Strasbourg iPR_1 = +17m.40s., iPS = +26m.28s., MZ = +52·3m., MN = +61·2m. Zurich ePR_1 = +17m.35s. Scoresby Sund PR_1 = +17m.6s., a reading at +25m.0s. = Σ − 4s., eE = +25m.48s., SR_1 = +30m.30s. Florence i = +17m.32s. = PR_1 − 23s. Rocca di Papa PR_1 = +17m.39s., iS = +24m.12s. Ravensburg eE = +14m.2s., iPR_1E = +17m.42s., iN = +18m.26s., iS_cP_cS = +24m.11s., iPSE = +26m.30s., iPPSE = +27m.12s.?, iSR_1 = +31m.58s., eSR_2? = +34m.12s.? Hohenheim ePR_1E = +17m.37s., ePR_2E = +19m.51s., iS_cP_cS = +24m.10s., iPSE = +26m.29s., iPPSE = +27m.12s., iSR_1 = +31m.57s. Feldberg iN = +13m.53s., eN = +32m.36s. = SR_1 + 25s., and +38m.6s. Innsbruck e = +13m.59s. and +18m.0s. = PR_1 − 3s. Gottingen iPR_1Z = +17m.55s., eN = +18m.0s. = PR_1 − 9s., iE = +25m.14s. = Σ − 5s., eSR_1N = +32m.12s., eSR_1E = +32m.17s., eLN = +37·9m., MN = +44·1m., MZ = +55·8m. Jena ePZ = +13m.44s., iE = +14m.24s., eE = +14m.30s., iZ = +14m.33s., eE = +17m.42s., eEN = +18m.0s., eZ = +18m.3s., eN = +24m.20s., eE = +24m.22s., and +24m.24s., iS_cP_cSN = +24m.28s., eN = +25m.4s., eE = +24m.35s., eN = +25m.4s., MNZ = +54·7m. Hamburg iPR_1Z = +18m.0s., eSR_1N = +32m.28s. Suva PR_1N = +15m.36s., PR_1E = +18m.12s. Cheb MN = +54·7m. Zagreb e = +18m.6s. = PR_1 − 11s., +25m.20s. = Σ − 7s., +26m.25s., +27m.42s. = PS − 7s., and +32m.42s. = SR_1 − 2s. Graz e = +18m.3s. = PR_1 − 18s. Potsdam MN = +64·2m. Vienna PR_1 = +18m.16s., PR_2 = +20m.18s., PS = +25m.14s., $P_cP_cP_cP$ = +33m.0s. Copenhagen $S_cP_cP_cS$ = +25m.17s. Tananarive

Continued on next page.

$S_cP_cSN = +24m.50s.$, eN = +26m.7s., eE = +26m.13s., eN = +26m.28s. and +27m.13s., E = +27m.37s., eN = +33m.9s., E = +33m.28s., N = +33m.37s., ePN = +37m.1s., N = +37m.10s., EN = +44m.40s., MN = +57·2m. Belgrade E = +37m.1s., N = +37m.10s., EN = +44m.40s., MN = +57·2m. $ePR_2N = +18m.4s.$, $ePR_3N = +20m.46s.$, eN = +21m.35s. and +23m.51s., eSN = +26m.5s., eN = +31m.57s., and +37m.46s. Upsala $PR_1E = +18m.45s.$, $S_cP_cSE = +24m.44s.$, iE = +25m.39s., iN = +26m.17s. = Σ +16s. $SR_1 = +33m.37s.$, MN = +47·7m. Konigsberg eN = +33m.48s. $=SR_1 - 8s.$, eE = +34m.48s., MN = +64·7m. Helwan $PR_1 = +18m.53s.$, $PR_2 = +24m.54s.$ Melbourne i = +27m.37s., +28m.42s., and +35m.27s. Riverview i = +20m.3s., $PR_1 = +20m.23s.$, $ePR_4 = +25m.58s.$, ePS = +28m.59s., and +29m.37s., PPS = +30m.5s., $eSR_1 = +34m.54s.$, i = +35m.39s., +39m.39s., and +39m.57s., e = +46m.54s., +47m.25s., and +48m.15s., MN = +56·6m. Sydney L = +35·7m. Helsingfors $S_cP_cS = +25m.18s.$, PS = +28m.45s., $SR_1 = +34m.56s.$ Pulkovo P′ = +19m.6s., $PR_1 = +19m.23s.$, $S_cP_cP_cS = +26m.26s.$, PS = +28m.55s., $SR_1 = +35m.6s.$ Ksara $PR_3N = +25m.20s. = [S] - 8s.$, PSN = +29m.34s., N = +35m.12s. and +39m.27s., E = +40m.1s. and +46m.44s., N = +47m.4s. Adelaide i = +20m.19s., +20m.49s., +26m.15s., and +27m.35s., iS = +30m.27s., e = +34m.12s., $iSR_1 = +36m.25s.$, MN = +55·2m. Baku $PR_1 = +21m.4s.$, PPS = +32m.38s., i = +33m.51s. and +35m.56s. Ekaterinburg e = +16m.26s., $iPR_1 = +21m.16s.$, PS = +31m.19s., $SR_1 = +38m.42s.$ Batavia iP = +19m.51s., iZ = +19m.52s., i = +20m.36s. and +22m.0s. Irkutsk $PR_1 = +23m.27s.$, $iS_cP_cP_cS = +30m.3s.$, PS = +34m.31s., $SR_1 = +42m.24s.$ Kobe PE = +20m.28s., iP′Z = +21m.2s., iP′N = +21m.44s. Sumoto ePE = +19m.54s., ePN = +19m.55s. Koti eNZ = +20m.2s., i = +20m.13s., iP′E = iP′NZ = +21m.9s., iZ = +24m.8s. $=PR_1 - 16s.$, eE = +53m.0s. Hukuoka e = +25m.2s., +32m.23s., and +45m.51s. Nagasaki $ePR_1? = +24m.28s.$ Manila SPS = +46m.32s., LN = +79·2m. Zi-ka-wei iZ = +20m.16s., +20m.38s., +22m.2s., +25m.0s. $=PR_1 - 24s.$, +25m.12s., +25m.48s., +26m.0s., +29m.36s., +30m.6s., and +30m.24s., MN = +95·0m., ME = +109·8m. Phu-Lien $ePR_1 = +26m.11s.$, $ePR_2 = +30m.0s.$, $ePR_3 = +32m.20s.$ Hong Kong P = +21m.53s., $PR_1 = +25m.42s.$, e = +29m.2s., i = +32m.23s., e = +36m.25s.

Oct. 19d. 20h. 20m. 38s. Epicentre 23°·2S. 69°·0W. (as at 10h.).

A = +·329, B = −·858, C = −·394 ; D = −·934, E = −·358 ; G = −·141, H = +·368, K = −·919.

The focal *depth* 0·015 of 10h. is retained.

	Corr. for Focus	Δ	Az.	P.	O−C.	S.	O−C.	L.	M.
	°	°	°	m. s.	s.	m. s.	s.	m.	m.
Sucre	0·0	5·5	41	i 1 24	− 1	i 2 24	− 7	2·7	3·1
La Paz	−0·1	6·8	7	i 1 43	+ 1	i 2 58	− 4	3·8	4·0
Santiago	−0·2	10·3	188	2 42	+11	4 36	+ 4	6·0	—
La Plata	−0·4	15·1	143	3 30	− 5	6 29	+ 4	7·7	—
Rio de Janeiro E.	−0·7	23·8	94	e 6 12	+54	10 22	+55	11·9	—
N.	−0·7	23·8	94	e 6 9	+51	10 12	+45	12·0	17·1
Ottawa	−2·0	68·8	356	—	—	e 19 46	− 2	27·4	—
Granada	−2·1	86·2	46	e 12 47	+ 4	—	—	e 37·4	44·4
Kew	−2·2	95·8	35	—	—	(e 24 22?)	? Σ	e 24·4	—
Paris	−2·2	96·0	39	—	—	—	—	e 48·4	—
Edinburgh	−2·2	96·1	30	—	—	—	—	—	54·4
Uccle	−2·2	98·0	38	—	—	e 24 1	[−12]	e 47·4	—
De Bilt	−2·2	98·9	37	e 13 39	−14	e 24 7	[−11]	e 47·4	50·5
Strasbourg	−2·2	99·0	40	—	—	(e 24 22?)	[+ 3]	e 24·4	—
Scoresby Sund	−2·2	99·3	13	—	—	24 13	[− 7]	—	—
Copenhagen	−2·2	104·4	35	—	—	24 25	[−20]	51·4	—
Pulkovo	—	114·6	31	e 19 28	?PR_1	e 28 58	?	51·4	—
Baku	—	126·4	55	e 19 26	[+17]	—	—	60·4	—
Ekaterinburg	—	130·6	33	i 19 4	[−16]	—	—	56·4	68·8
Samarkand	—	139·5	54	e 19 29	[− 9]	—	—	—	—
Almata	—	145·6	45	e 19 34	[−15]	—	—	—	—
Irkutsk	—	150·5	8	(e 19 46)	[−11]	—	—	(98·9)	—

Additional readings and note: La Paz i = +2m.26s. and +2m.47s., iSN? = +3m.24s., MN = +4·7m. Ottawa LN = +31·4m. De Bilt MNZ = +65·7m. Copenhagen +32m.58s. $=SR_1 - 8s.$ Baku e = +27m.46s. = Σ − 6s., +33m.28s., and +38m.34s. Ekaterinburg i = +21m.41s. = PR_1 +7s. and +22m.53s., e = +28m.3s. = Σ − 15s., +31m.10s. and +34m.28s. Irkutsk i = (+20m.36s.) and (+23m.47s.) $=PR_1$ +6s., e = (+30m.7s.) = Σ −7s.; all readings having been *increased* by 10m.

Oct. 19d. Readings also at 0h. (Samarkand and near Andijan), 1h. (Sucre, Andijan, Samarkand, and near Almata), 10h. (Sucre), 11h. (La Paz and Sucre), 12h. (La Paz (2) and Sucre), 13h. (La Paz and Sucre (2)), 18h. (Ekaterinburg and Irkutsk), 23h. (Sucre and near Nagasaki).

Oct. 20d. 16h. 8m. 17s. Epicentre 55°·0N. 160°·0W. (as on 1924 May 6d.).

A = −·539, B = −·196, C = +·819 ; D = −·342, E = +·940 ;
G = −·770, H = −·280, K = −·574.

		Δ	Az.	P.	O−C.	S.	O−C.	L.	M.
		°	°	m. s.	s.	m. s.	s.	m.	m.
Victoria		23·4	90	5 50	+29	—	—	9·6	12·4
Chicago	E.	47·5	76	—	—	e 16 16	+28	e 28·9	29·5
Toronto	E.	50·7	67	—	—	—	—	25·7	—
Scoresby Sund		51·0	19	—	—	—	—	27·7	—
Ottawa		51·4	63	—	—	e 16 31	− 5	e 25·7	—
Ivigtut		52·0	36	—	—	—	—	27·7	—
Irkutsk		52·2	310	e 9 19	− 3	e 16 17	−29	—	32·8
Georgetown	z.	55·3	70	—	—	i 18 50	[−28]	e 31·2	—
Fordham		55·7	67	i 9 26	−18	e 17 19	−11	29·3	33·2
Ekaterinburg		63·4	336	i 10 38	+ 4	i 19 8	+ 2	29·7	43·4
Pulkovo		64·9	355	e 10 48	+ 4	—	—	33·7	38·3
Copenhagen		69·1	5	11 13	+ 1	—	—	33·7	—
Hamburg	z.	71·1	7	e 11 28	+ 4	—	—	—	—
De Bilt		72·2	10	—	—	—	—	e 37·7	—
Andijan		74·4	322	e 11 45	0	e 21 59	+40	—	—
Tashkent		75·0	325	—	—	—	—	e 31·7	39·5
Vienna	z.	76·7	3	i 11 59	0	—	—	—	—
Samarkand		77·2	326	e 12 3	+ 1	e 22 28	+37	—	—
Zurich		77·2	9	i 12 2	0	—	—	—	—
Neuchatel		77·4	9	e 12 3	0	—	—	—	—
Simferopol		79·4	350	e 12 13	− 2	—	—	—	—
Sebastopol		79·7	350	e 12 16	− 1	—	—	—	—
Yalta		79·8	350	e 12 8	0	—	—	—	—
Baku		81·3	339	i 12 27	0	22 40	+ 2	42·7	54·0
Granada		85·6	19	i 9 35	?	—	—	41·7	48·7
Bombay		93·5	312	—	—	—	—	e 47·7	—

Additional readings: Chicago eE? = +23m.33s., eE = +25m.33s., iN = +25m.38s., eN = +28m.13s. Ottawa LN = +30·7m. Fordham e = +20m.59s. Tashkent e = +5m.43s. and i +15m.43s. Granada +9m.37s.

Oct. 20d. Readings also at 0h. (De Bilt, Uccle, Paris, Kew, and La Paz (2)), 1h. (Strasbourg), 3h. (La Paz, Sucre, and Port au Prince), 4h. (Ottawa, Toronto, and Rio de Janeiro), 7h. (Wellington), 12h. (Wellington and near Lick), 13h. (Ekaterinburg, Irkutsk, and Entebbe), 17h. (near Ksara), 18h. (Suva and near Wellington), 19h. (near Almata and near Taihoku), 20h. (Melbourne and near Wellington), 21h. (Adelaide and La Paz).

Oct. 21d. 10h. 33m. 35s. Epicentre 59°·0S. 28°·0W.

A = +·455, B = −·242, C = −·857; D = −·469, E = −·883: G = −·757, H = +·402, K = −·515.

		Δ	Az.	P.	O−C.	S.	O−C.	L.	M.
		°	°	m. s.	s.	m. s.	s.	m.	m.
La Plata		31·1	309	—	—	—	—	13·4	—
Rio de Janeiro		37·7	336	e 8 43	?PR_1	—	—	e 17·0	—
Cape Town		39·4	71	e 6 25	?	i 13 29	−28	—	18·2
Sucre		48·2	310	e 8 55	0	—	—	20·9	26·9
La Paz		51·6	309	9 18	+ 1	e 16 40	+ 1	24·6	30·6
Tananarive		66·5	88	10 44	−11	e 19 32	−12	e 29·4	e 34·4
Entebbe		75·4	64	21 31	?S	(21 31)	+ 1	—	40·6
Wellington	N.	77·9	197	—	—	—	—	36·4	—
Melbourne		83·1	175	—	—	i 22 45	−13	46·7	47·7
Adelaide		85·4	169	—	—	i 22 59	[+ 1]	e 38·6	49·4
Riverview		87·2	179	—	—	e 23 7	[− 3]	e 48·7	50·7
Almeria		98·2	20	—	—	—	—	46·3	51·4
Granada		98·3	20	—	—	—	—	e 44·4	49·4
Algiers		99·2	26	—	—	—	—	50·4	53·4
Toledo	N.E.	100·8	19	—	—	e 26 53	+50	e 49·5	—
Tortosa	N.	102·6	22	—	—	—	—	e 48·4	55·0
Georgetown	Z.	106·0	322	—	—	—	—	e 53·9	66·6
Rocca di Papa		107·2	30	e 18 13	[0]	—	—	—	—
Piacenza		108·5	26	—	—	—	—	—	40·7
Paris		110·6	20	—	—	—	—	e 53·4	59·4
Florissant	E.	110·6	312	—	—	—	—	e 54·9	—
Toronto		111·0	322	—	—	—	—	54·4	—
Strasbourg		111·4	25	—	—	e 28 25?	?	e 53·4	—
Ottawa		111·5	325	—	—	e 28 25?	?	58·4	—
Bombay		111·7	87	e 19 8	?PR_1	28 46	?PS	46·6	—
Kew	Z.	112·7	16	—	—	e 28 31	?	56·4	—
Uccle		112·9	21	—	—	e 29 1	?PS	e 53·4	—
Budapest		113·2	32	—	—	—	—	e 60·4	—
Cheb		113·9	27	—	—	—	—	e 56·4	62·4
De Bilt		114·2	22	—	—	e 29 19	?PS	e 51·4	60·6
Edinburgh		116·6	14	—	—	e 38 25?	?	—	—
Hamburg		116·6	25	—	—	—	—	e 58·4	63·4
Dyce		118·0	14	—	—	—	—	e 54·9	60·9
Baku		118·2	56	e 19 57	?PR_1	e 29 48	?PS	52·4	64·7
Copenhagen		119·1	25	—	—	—	—	50·4	—
Upsala		124·0	26	—	—	—	—	e 60·4	—
Helsingfors		126·1	30	—	—	—	—	e 66·4	—
Pulkovo		127·2	32	e 19 1	[−11]	—	—	60·4	71·5
Andijan		128·6	74	e 19 37	[+22]	—	—	—	—
Scoresby Sund		129·5	2	—	—	—	—	56·4	—
Almata		133·2	75	e 22 40	?	—	—	—	—
Ekaterinburg		135·3	50	e 19 12	[−19]	26 15	[− 5]	55·4	75·6
Irkutsk		152·9	83	e 19 59	[− 1]	—	—	74·4	89·8

Additional readings: La Paz eSN = +16m.34s., MN = +39·8m. Tananarive E = +13m.55s. = PR_1 − 2s. Adelaide eSR_1 = +28m.46s. Riverview MN = +50·0m. Rocca di Papa e = +8m.13s. Ottawa eN = +35m.25s. = SR_1 + 24s. Kew LEN = +51·4m. De Bilt iPR_1Z = +19m.40s., e = +35m.57s. = SR_1 + 23s., MN = +56·2m., MZ = +63·7m. Copenhagen +30m.7s. Ekaterinburg iPR_1 = +21m.46s., iP_gP_gS = +22m.37s., PPS = +33m.48s., SR_1 = +39m.25s. Irkutsk e = +22m.27s. and +38m.57s.

Oct. 21d. Readings also at 0h. (Taihoku), 1h. (La Paz and Sucre), 3h. (Suva), 8h. (Lick), 9h. (Wellington), 12h. (Baku, Copenhagen, Ekaterinburg, Andijan, and near Samarkand), 14h. (near Sumoto), 15h. (Apia), 16h. (Nagoya, near Akita, and Mizusawa), 17h. (near Kobe and Sumoto), 21h. (Wellington, Sucre, near La Paz, and near Florissant), 23h. (Bergen).

Oct. 22d. 13h. 55m. 39s. Epicentre 19°·5N. 144°·0E. (as on 1922 Dec. 16d.).

A = −·763, B = +·554, C = +·334; D = +·588, E = +·809; G = −·270, H = +·196, K = −·943.

Very uncertain identification.

	△	Az.	P.	O−C.	S.	O−C.	L.	M.
	°	°	m. s.	s.	m. s.	s.	m.	m.
Tokyo	16·6	348	4 6	+ 6	7 3	− 6	—	—
Nagoya	16·9	340	e 4 7	+ 3	—	—	—	—
Sumoto	16·9	333	e 3 43	−21	—	—	—	7·4
Kobe	17·1	334	e 4 38	+32	—	—	—	—
Mizusawa	19·8	354	4 38	− 1	8 18	− 1	—	—
Akita	20·5	351	e 4 41	− 6	(8 30)	− 4	8·5	8·5
La Paz	149·3	91	e 19 36	[−19]	—	—	—	—

Additional readings: Sumoto MZ = +4·4m., MN = +4·8m. Mizusawa SN = +8m.17s.

Oct. 22d. 18h. 38m. 30s. Epicentre 23°·2N. 120°·6E. (as on 1929 Jan. 2d.).

A = −·468, B = +·791, C = +·394; D = +·861, E = +·509: G = −·201, H = +·339, K = −·919.

		△	Az.	P.	O−C.	S.	O−C.	L.	M.
		°	°	m. s.	s.	m. s.	s.	m.	m.
Taihoku	N.	2·0	25	0 39	+ 8	—	—	1·2	1·5
Hong Kong		6·0	262	0 50	−42	3 0	+16	3·7	4·6
Zi-ka-wei	z.	8·0	5	i 3 42	?S	(i 3 42)	+ 5	(4·8)	5·5
Manila		8·6	178	e 6 30	?	—	—	—	—
Phu-Lien		13·2	262	e 3 19	+ 3	e 6 31	+42	7·5	—
Irkutsk		31·6	342	e 10 46	?	e 12 0	− 1	16·4	20·6
Andijan		43·8	306	—	—	—	—	e 21·3	—
Bombay		44·6	275	8 25	− 5	15 0	−10	23·0	27·8
Samarkand		47·8	5	e 8 48	− 5	—	—	—	—
Ekaterinburg		54·4	326	i 9 33	− 2	—	—	24·5	35·2
Baku		60·9	307	—	—	—	—	36·2	—
Kucino		67·0	324	—	—	—	—	e 35·5	—
Pulkovo		70·3	329	—	—	—	—	e 35·5	42·0
Copenhagen		80·6	328	—	—	—	—	44·5	—
Cheb		83·2	322	—	—	—	—	e 48·5	—
De Bilt		86·1	326	—	—	—	—	e 46·5	48·4
Strasbourg		86·6	322	—	—	—	—	e 47·5	—
Uccle		87·2	325	—	—	—	—	e 47·5	—
Kew		89·2	329	—	—	—	—	e 52·5	—
Paris		89·4	324	—	—	—	—	e 53·5	58·5

Additional reading and notes: Zi-ka-wei gives S as iP and L as S. Irkutsk readings are given without phase. De Bilt MN = +48·6m. Tashkent (△ = 46°·3 Az. = 308°), e = 18h.35m., 18h.40·9m., 18h.43·9m., eL = 18h.49·9m., M = 18h.56·9m. "Probable error in the times."

Oct. 22d. 20h. 1m. 16s. Epicentre 44°·5N. 11°·0E. (as on 1929 Sept. 16d.).

A = +·700, B = +·136, C = +·701; D = +·191, E = −·982: G = +·688, H = +·134, K = −·713.

	△	Az.	P.	O−C.	S.	O−C.	L.	M.
	°	°	m. s.	s.	m. s.	s.	m.	m.
Florence	0·7	166	e 0 6	− 5	—	—	—	0·3
Padova	1·1	35	e 0 16	− 1	e 0 30	− 1	—	—
Piacenza	1·1	300	e 0 29	+12	—	—	—	1·5
Venice	1·3	45	0 44?	+24	—	—	—	—
Treviso	1·4	36	0 27	+ 6	0 41	+ 2	—	0·7
Moncalieri	2·4	290	e 0 33	− 4	—	—	—	1·6
Rome	2·8	157	e 0 46	+ 2	—	—	—	1·6
Rocca di Papa	3·0	154	i 0 49	+ 2	—	—	—	1·9
Ravensburg	3·4	344	—	—	e 1 24	−10	e 2·0	—
Zagreb	3·8	68	e 1 4	+ 5	—	—	e 1·9	—
Hohenheim	4·4	345	—	—	—	—	e 2·5	—
Strasbourg	4·6	336	e 1 44?	+33	—	—	—	—
Vienna z.	5·2	44	—	—	—	—	e 2·8	—

Additional readings: Florence P = +14s. Ravensburg iE = +2m.8s, Zagreb eNE = +2m.2s., eNW = +2m.4s.

Oct. 22d. Readings also at 4h. (near Lick), 5h. (Kobe and near Sumoto), 6h. (Ekaterinburg, Hong Kong, Irkutsk, Phu-Lien, near Sumoto, and near Taihoku), 7h. (Granada), 8h. (Andijan and Samarkand), 9h. (Manila), 10h. (near Nagasaki), 11h. (near Batavia), 13h. (Irkutsk, Tashkent, and near Ksara), 14h. (Baku, Ekaterinburg, and Pulkovo). 16h. (Mizusawa), 18h. (La Plata, Rio de Janeiro, La Paz, Sucre), 20h. (Andijan, Belgrade, Vienna, and near Zagreb), 21h. (Taihoku).

Oct. 23d. 17h. 48m. 48s. Epicentre 37°·0N. 138°·5E. (as on 1926 Dec. 5d.).

A = −·599, B = +·529, C = +·602; D = +·663, E = +·749; G = −·451, H = +·399, K = −·799.

		Δ	Az.	P.	O−C.	S.	O−C.	L.	M.
		°	°	m. s.	s.	m. s.	s.	m.	m.
Nagoya		2·2	214	e 0 28	− 6	0 58	− 2	1·4	—
Mizusawa	E.	2·9	44	0 48	+ 3	1 22	+ 2	—	—
Akita		3·0	25	e 0 38	− 9	—	—	1·5	—
Osaka		3·5	227	0 52	− 3	—	—	2·0	2·6
Kobe		3·6	230	e 1 13	+17	—	—	e 2·1	—
Sumoto		4·0	228	e 1 42	+40	e 2 14	?L	(e 2·2)	2·5

No additional readings.

Oct. 23d. Readings also at 0h. (La Paz, Sucre, Rio de Janeiro, Tashkent, near Andijan, and Samarkand), 1h. (Baku and Ekaterinburg), 8h. (Ksara), 10h. (Ksara, Ekaterinburg, Baku, Andijan, and Samarkand), 11h. (Andijan), 12h. (near Tacubaya), 13h. (Baku and Samarkand), 14h. (Andijan and near Suva), 16h. (Hong Kong, Irkutsk, Phu-Lien, and near Taihoku), 17h. (Ekaterinburg), 18h. (near Taihoku), 19h. (La Paz and Sucre), 20h. (Florissant, Ottawa, Baku, Ekaterinburg, Irkutsk, Pulkovo, Tashkent, Copenhagen, Paris, Strasbourg, Stonyhurst, Andijan, and Samarkand), 23h. (Samarkand).

Oct. 24d. 6h. 34m. 0s. Epicentre 22°·5N. 117°·5E. (as on 1913 Jan. 8d.)

A = −·427, B = +·819, C = +·383; D = +·887, E = +·462; G = −·177, H = +·339, K = −·924.

		Δ	Az.	P.	O−C.	S.	O−C.	L.	M.
		°	°	m. s.	s.	m. s.	s.	m.	m.
Hong Kong		3·1	268	1 3	+14	1 39	+13	2·0	4·1
Taihoku		4·4	55	e 0 59	− 9	1 25	−36	1·9	2·7
Manila		8·6	157	e 2 10	0	i 3 55	+ 2	i 4·8	—
Zi-ka-wei	N.	9·3	21	e 2 50	+30	4 30	+20	—	—
Phu-Lien		10·3	263	e 2 41	+ 7	—	—	6·0	10·1
Nagasaki		14·9	44	(e 3 39)	+ 1	e 3 39	?P	e 8·8	10·2
Hukuoka		15·8	43	e 3 19	−30	e 6 21	−29	9·4	11·0
Koti	E.	17·9	49	—	—	—	—	e 8·5	—
Sumoto		19·3	48	4 15	−18	—	—	e 13·0	14·5
Kobe		19·6	48	4 53	+17	e 8 5	−10	e 11·4	14·8
Osaka		19·8	48	4 39	0	(7 52)	−27	7·9	9·3
Toyooka	E.	19·9	45	i 4 42	+ 2	e 8 16	− 5	i 10·8	13·2
	N.	19·9	45	—	—	e 8 11	−10	e 11·1	12·4
Nagoya		21·1	49	e 4 54	0	8 40	− 6	—	—
Tokyo		23·4	51	5 21	0	—	—	—	—
Akita		25·7	43	e 5 54	+ 9	10 0	−16	i 15·0	—
Calcutta	N.	26·9	276	7 12	?	13 12	?	—	—
Batavia		30·6	201	i 6 34	0	i 12 27	+43	—	—
Irkutsk		31·4	344	e 6 46	+ 4	e 12 16	+18	14·5	23·0
Agra	E.	36·0	287	8 57	?PR_1	—	—	i 24·9	25·4
	N.	36·0	287	e 9 0?	?PR_1	e 15 55	?SR_1	i 27·9	25·6

Continued on next page.

	Δ	Az.	P.	O−C.	S.	O−C.	L.	M.
	°	°	m. s.	s.	m. s.	s.	m.	m.
Hyderabad	37·0	269	7 31	+ 1	13 54	+30	20·8	27·6
Colombo	39·5	253	8 5	+14	14 30	+31	22·3	25·0
Kodaikanal	40·2	260	e 10 36	?	—	—	—	—
Bombay	41·6	275	8 11	+ 2	15 21	+49	25·1	26·4
Andijan	41·9	307	8 12	+ 2	—	—	24·0	—
Samarkand	45·9	305	e 8 26	−13	15 48	+21	—	—
Ekaterinburg	53·4	325	e 9 20	− 9	—	—	25·0	35·6
Baku	59·0	305	e 10 37	+32	e 18 43	?PS	29·0	38·8
Kucino	65·8	323	—	—	—	—	33·4	42·4
Theodosia	68·9	312	e 11 41	+31	20 54	?PS	—	—
Pulkovo	69·3	327	e 11 36	+23	20 51	?PS	36·0	45·5
Simferopol	69·8	311	e 11 42	+26	—	—	—	—
Yalta	69·8	311	e 11 53	+37	—	—	—	—
Sebastopol	70·2	311	e 11 56	+38	—	—	—	—
Ksara	71·0	300	11 48	+25	21 17	?PS	39·3	—
Upsala	75·2	330	—	—	—	—	e 38·0	47·9
Konigsberg	75·6	325	—	—	—	—	e 32·3	—
Copenhagen	79·6	327	—	—	22 54	?PS	38·0	—
Potsdam	80·6	324	—	—	—	—	e 42·6	46·9
Hamburg	81·8	325	—	—	—	—	e 42·0	53·0
Cheb	82·0	322	e 23 17	?PS	—	—	e 46·0	53·0
Gottingen N.	82·8	324	—	—	—	—	i 45·9	52·8
Scoresby Sund	82·8	348	—	—	—	—	44·0	—
De Bilt	85·1	325	—	—	—	—	e 44·0	56·4
Strasbourg	85·4	321	—	—	(e 24 0?)	+37	e 24·0	—
Rocca di Papa	85·5	315	e 13 10	+19	e 23 30	+ 5	e 46·9	59·9
Florence	85·5	316	e 12 50	− 1	24 0	?PS	e 51·0	56·0
Dyce	85·7	332	—	—	—	—	40·1	48·7
Piacenza	86·0	318	23 52	?PS	—	—	46·0	57·5
Uccle	86·1	325	—	—	—	—	e 44·0	47·9
Edinburgh	87·0	331	—	—	—	—	45·0	50·0
Besançon	87·1	320	—	—	—	—	e 49·0	—
Moncalieri	87·2	319	—	—	—	—	e 47·0	—
Stonyhurst	87·8	329	—	—	e 24 10	+20	46·0	58·2
Paris	88·2	324	e 13 0?	− 6	—	—	46·0	50·0
Kew	88·2	327	—	—	e 23 48	− 6	e 47·0	—
Oxford	88·6	327	—	—	—	—	e 44·0	58·4
Victoria E.	90·7	35	23 52	?S·	(23 52)	[+20]	53·6	59·2
Ivigtut	95·5	354	—	—	—	—	50·0	—
Alicante	96·0	316	—	—	—	—	e 57·5	—
Toledo	97·2	320	—	—	—	—	e 50·7	65·6
Almeria	97·9	316	—	—	—	—	—	54·8
Malaga	99·4	316	—	—	—	—	e 50·6	—
San Fernando E.	100·7	317	—	—	—	—	—	60·8
Ottawa	111·0	9	—	—	e 29 0?	?PS	e 52·0	—
Toronto N.	112·1	12	—	—	—	—	e 57·0	—
Fordham E.	115·8	9	—	—	—	—	e 59·6	—
Georgetown Z.	117·1	11	—	—	—	—	e 66·7	84·2
La Paz	171·9	43	e 20 32	[+16]	—	—	—	—
Sucre	175·6	37	e 20 26	[+ 9]	e 25 52	?PR_1	—	—

Additional readings: Hong Kong i = +3m.55s., MN = +3·7m. Taihoku P = +1m.11s., SZ = +1m.38s., MNZ = +2·2m. Zi-ka-wei iN = +6m.40s., iN = +7m.56s., iN = +8m.22s., iN = +8m.40s. Phu-Lien MN = +9·2m. Nagasaki eP = 6h.30m.52s. Koti eLN = +9·0m., eE = +13m.20s., eN = +15·3m., eE = +15·4m. Sumoto MZ = +14·4m., MN = +14·7m. Kobe MNW = +13·6m., MZ = +14·9m. Osaka MN = +9·2m. Akita PR_1 = +6m.41s. Ekaterinburg iPS = +17m.36s., iSR_1 = +21m.42s. Upsala MN = +47·9m. Konigsberg eZ = +31m.16s., eEN = +43m.45s., eZ = +44m.32s., eE = +47m.30s. Hamburg MN = +47·0m. Gottingen eN = +42m.17s. De Bilt e = +24m.0s.?, eLN = +42·0m., MN = +48·3m. Rocca di Papa i = +13m.30s. Uccle MN = +48·3m. Toledo MN = +66·0m. San Fernando MN = +68·5m. Ottawa eN? = +38m.0s. Toronto eN = +53m.0s. ?

Oct. 24d. 18h. 57m. 24s. Epicentre 32°·7N. 130°·3E.

A = −·544, B = +·642, C = +·540; D = +·763, E = +·647; G = −·349, H = +·412, K = −·842.

	Δ	Az.	P.	O−C.	S.	O−C.	L.	M.
	°	°	m. s.	s.	m. s.	s.	m.	m.
Nagasaki	0·4	270	e 0 6	0	i 0 14	+ 3	—	0·3
Hukuoka	0·9	7	0 15	+ 1	0 28	+ 3	—	0·5
Matuyama	2·4	61	i 0 29	− 8	(i 1 2)	− 4	i 1·0	1·1
Koti	2·9	73	i 0 47	+ 2	1 23	+ 3	—	1·8
Muroto	3·3	79	e 0 52	0	e 1 36	+ 5	—	—
Sumoto	4·2	65	1 14	+ 9	2 5	+10	—	2·2
Kobe	4·5	62	e 1 26	+16	2 19	+15	e 2·6	2·8
Toyooka	4·7	51	i 1 24	+11	—	—	i 2·4	2·5
Osaka	4·8	64	1 7	− 7	—	—	2·4	3·3
Nagoya	6·1	64	e 1 25	− 8	—	—	3·2	—
Irkutsk	27·1	324	—	—	—	—	12·5	—
Tashkent	48·5	300	e 8 47	−10	—	—	e 26·5	27·9
Ekaterinburg	52·2	320	—	—	—	—	e 16·6	—
Bombay	52·9	273	12 36?	?PR_1	—	—	—	—

Additional readings and note: Nagasaki iP = +8s. Hukuoka MN = +0·6m. Matuyama iS = +34s., iSR_1 = +40s., iSR_2 = +46s. Koti P = +1m.13s. Muroto eP = 18h.56m.1s., e = 18h.56m.53s.; also e = +1m.18s. Toyooka MN = +2·7m. Osaka MN = +3·0m., MZ = +3·7m. Tashkent eL = +11m.30s. Ekaterinburg e = +30m.20s., eL = +40·6m.: the readings for this and Tashkent are divided into two shocks, there is no further evidence for another shock at about this time and it is probable all these readings belong here.

Oct. 24d. Readings also at 1h. (near La Paz, Sucre, and near Samarkand), 2h. and 3h. (La Paz), 4h. (Riverview, Andijan, and near Samarkand), 5h. (Christchurch, Wellington, Melbourne, Akita, Nagoya, and Ottawa), 6h. (Mizusawa), 7h. (Nagoya (2), and near Osaka), 8h. (Taihoku), 9h. (Tashkent), 10h. (La Paz and near Sucre), 13h. (Tashkent), 14h. (Tashkent, near Almata, Andijan (2), and Samarkand (2)), 16h. (near Manila), 17h. (Andijan and near Almata), 18h. (La Paz and Sucre), 21h. (Ottawa, Toronto, Tucson, Victoria, Puebla, near Tacubaya, and Vera Cruz), 23h. (near Hukuoka and Nagasaki).

Oct. 25d. Readings at 1h. (near Samarkand), 2h. (Andijan and Samarkand (2)), 5h. (Ekaterinburg, Irkutsk, Tashkent, Samarkand, Andijan, La Paz, La Plata, Riverview, Sydney, Melbourne, Christchurch, and Wellington), 12h. (Andijan, near Hukuoka, and Nagasaki), 14h. (Andijan, Simferopol, and near Theodosia), 15h. (near Almeria, near Zagreb, near Hukuoka and Nagasaki), 17h. (Mizusawa and near Tacubaya), 19h. (near Taihoku), 21h. (near Taihoku, near Hukuoka, and Nagasaki).

Oct. 26d. 21h. 27m. 16s. Epicentre 34°·0N. 134°·8E. (as on 1928 July 7d.).

A = −·584, B = +·588, C = +·559; D = +·710, E = +·705; G = −·394, H = +·397, K = −·829.

	Δ	Az.	P.	O−C.	S.	O−C.	L.	M.
	°	°	m. s.	s.	m. s.	s.	m.	m.
Sumoto	0·4	11	i 0 2	− 4	0 6	− 5	—	0·1
Kobe	0·7	25	0 10	− 1	(i 0 16)	− 4	i 0·3	0·4
Muroto	0·9	215	e 0 20	+ 6	0 37	+12	—	—
Osaka	0·9	38	0 16	+ 2	(0 22)	− 3	0·4	1·1
Andijan	49·2	298	16 34	?S	(16 34)	+25	—	—
Tashkent	51·2	300	—	—	e 17 28	+54	e 19·0	20·0
Samarkand	53·3	299	17 25	?S	(17 25)	+25	—	—
Ekaterinburg	53·7	320	—	—	—	—	e 27·4	—

Additional readings: Osaka MN = +0·9m. Tashkent e = +18m.20s.

Oct. 26d. Readings also at 3h. (near Nagasaki), 4h. (La Paz, Sucre, La Plata, and Copiapo), 6h. (Baku, Ekaterinburg, Tashkent, and near Samarkand), 8h. (Ekaterinburg, Tashkent, Ksara, and near Baku), 13h. (Copenhagen), 22h. (Wellington), 23h. (Andijan and Samarkand).

Oct. 27d. 16h. 42m. 57s. Epicentre 33°·5N. 48°·0E. (as on 1927 Nov. 15d.).

$A = +\cdot558$, $B = +\cdot620$, $C = +\cdot552$; $D = +\cdot743$, $E = -\cdot669$; $G = +\cdot369$, $H = +\cdot410$, $K = -\cdot834$.

		Δ	Az.	P.	O−C.	S.	O−C.	L.	M.
		°	°	m. s.	s.	m. s.	s.	m.	m.
Baku		7·1	12	2 0	+12	i 3 33	+20	—	6·6
Ksara	E.	10·1	275	e 2 37	+ 6	i 5 47	+75	7·7	—
Helwan		14·6	260	3 25	− 9	8 5	?L	(8·1)	12·6
Theodosia		15·1	323	e 3 44	+ 4	6 45	+11	—	—
Yalta		15·3	320	—	—	e 7 3	+24	—	—
Simferopol		15·7	321	e 3 54	+ 6	6 59	+11	—	—
Sebastopol		15·8	319	—	—	e 7 4	+14	—	—
Samarkand		16·4	63	e 3 51	− 6	—	—	—	—
Tashkent		18·5	59	i 4 26	+ 3	i 7 54	+ 3	e 10·0	13·6
Andijan		20·5	64	e 4 45	− 2	—	—	—	—
Kucino		23·3	346	5 19	− 1	e 9 35	+ 4	e 12·6	15·2
Ekaterinburg		24·9	17	e 5 27	−10	e 9 56	− 5	14·0	—
Bombay		26·5	117	—	—	e 8 3?	?	—	—
Pulkovo		28·7	341	—	—	e 10 50	−22	16·0	—
Copenhagen		33·1	323	—	—	11 3?	−83	—	—
Entebbe		36·5	207	—	—	—	—	17·0	23·0
Irkutsk		44·0	47	—	—	e 18 8	?SR_1	24·6	—

Ksara gives also LN = +6·1m.

Oct. 27d. 19h. 29m. 41s. Epicentre 29°·0N. 124°·5E. (as on 1923 April 23d.).

$A = -\cdot495$, $B = +\cdot721$, $C = +\cdot485$; $D = +\cdot824$, $E = +\cdot566$; $G = -\cdot275$, $H = +\cdot400$, $K = -\cdot875$.

		Δ	Az.	P.	O−C.	S.	O−C.	L.
		°	°	m. s.	s.	m. s.	s.	m.
Zi-ka-wei		3·4	310	—	—	e 1 33	− 1	(2·8)
Taihoku		4·8	214	1 14	0	(2 10)	− 1	2·2
Nagasaki		5·9	49	1 38	+ 7	3 12	?L	(3·2)
Manila		14·9	194	e 3 6	−32	e 5 9	−81	—
Mizusawa	E.	17·1	49	—	—	7 22	+ 2	—
Phu-Lien		18·1	247	3 19?	−59	—	—	—
Irkutsk		27·6	333	i 7 18	+74	—	—	15·0
Samarkand		47·8	300	e 8 47	− 6	—	—	—
Ekaterinburg		51·9	321	i 9 19	0	e 17 6	+23	28·3
Baku		60·6	305	—	—	—	—	e 31·8
Pulkovo		67·3	329	e 15 19	?PR_2	—	—	42·3
Copenhagen		77·5	329	—	—	—	—	36·3

Zi-ka-wei gives S as simply e and L as S.

Oct. 27d. Readings also at 1h. (near Akita), 2h. (Wellington, Andijan, Samarkand, Ekaterinburg, Tashkent, and near Mizusawa), 3h. (Baku, Pulkovo, Kucino, and Copenhagen), 4h. (Andijan and Samarkand), 5h. (Samarkand), 12h. (Andijan), 16h. (near Sumoto), 18h. (near Taihoku).

Oct. 28d. Readings at 1h. (Andijan, Samarkand, and near Koti), 4h. (Ksara), 7h. (Samarkand), 8h. (Suva), 9h. (Bombay and Ksara), 10h. (Baku, Ekaterinburg, Pulkovo, Tashkent, Entebbe, and Copenhagen), 12h. (Baku, Ekaterinburg, Tashkent, and Ksara), 13h. (near La Paz), 14h. (near Akita (2)), 15h. (near La Paz), 16h. (Marseilles), 23h. (Baku, Ksara, Tashkent, Ottawa, and Toronto).

Oct. 29d. 5h. 53m. 30s. Epicentre 27°·5N. 55°·0E. (as on 1926 April 23d.).

A = +·509, B = +·727, C = +·462 ; D = +·819, E = −·574 ;
G = +·265, H = +·378, K = −·887.

		△	Az.	P.	O−C.	S.	O−C.	L.	M.
		°	°	m. s.	s.	m. s.	s.	m.	m.
Baku		13·5	343	i 3 27	+ 7	i 6 1	+ 5	6·5	9·9
Samarkand		15·7	36	3 50	+ 2	6 57	+ 9	8·8	—
Ksara		17·6	297	i 4 18	+ 6	i 7 47	+16	i 10·6	—
Tashkent		18·1	37	i 4 24	+ 6	i 7 46	+ 4	—	11·5
Bombay		18·5	114	4 29	+ 6	8 9	+18	10·3	18·3
Andijan		19·2	44	4 35	+ 4	8 18	+12	—	—
Dehra Dun		20·3	77	—	—	—	—	11·5	13·5
Agra	N.	20·5	85	e 4 19	−28	8 7	−27	10·1	12·8
Helwan		20·9	282	4 56	+ 4	8 49	+ 7	—	14·8
Theodosia		23·5	323	5 21	− 2	9 31	− 4	—	—
Hyderabad		23·8	110	5 26	0	10 26	?SR_1	14·9	19·0
Yalta		23·8	321	5 21	− 5	9 35	− 5	—	—
Simferopol		24·1	322	5 27	− 2	e 9 43	− 3	—	—
Sebastopol		24·2	321	5 29	− 1	e 9 46	− 2	—	—
Ekaterinburg		29·6	6	i 6 15	− 9	(11 30)	+ 3	11·5	19·3
Kucino		30·8	341	e 6 30	− 6	e 11 50	+ 2	—	14·3
Colombo		31·3	128	5 49	−52	—	—	—	20·6
Belgrade	N.	32·5	314	e 6 39	−14	—	—	e 20·3	22·9
Budapest		34·3	316	7 0	− 7	—	—	e 20·0	24·0
Entebbe		35·0	225	7 0	−13	—	—	—	20·1
Vienna		36·3	317	i 7 16	− 8	16 41	?	i 20·6	28·8
Pulkovo		36·4	340	7 17	− 8	12 57	−19	19·0	20·1
Rocca di Papa		37·2	304	9 10	?PR_2	—	—	e 22·1	22·9
Florence		38·6	306	e 7 30	−13	—	—	—	—
Cheb		39·4	317	—	—	—	—	e 20·5	—
Piacenza		39·9	310	—	—	16 30	?SR_1	—	24·9
Chur		40·4	311	e 7 48	−10	e 13 54	−19	—	—
Upsala	N.	41·1	333	—	—	—	—	e 25·5	—
Zurich		41·1	311	i 7 55	− 9	e 14 4	−18	—	—
Moncalieri		41·2	309	e 10 0	?PR_2	17 10	?SR_1	24·6	28·5
Copenhagen		41·5	326	—	—	14 10	−18	18·5	—
Strasbourg		41·9	313	e 9 30?	?PR_1	—	—	e 16·5	—
Hamburg		42·0	321	—	—	—	—	e 17·5	33·5
Neuchatel		42·1	312	i 8 3	− 9	—	—	—	—
De Bilt	E.	44·3	318	—	—	e 19 0	?SR_2	e 25·5	31·2
Algiers		44·4	296	8 20	− 9	14 54	−13	—	—
Uccle		44·7	316	—	—	—	—	24·5	—
Paris		45·3	313	—	—	—	—	e 27·5	31·5
Tananarive		47·0	190	e 9 20	+33	15 38	− 3	23·7	25·8
Phu-Lien		47·2	87	e 7 38	−70	—	—	—	—
Kew		47·5	318	—	—	—	—	22·5	—
Granada		49·7	296	—	—	—	—	e 24·5	29·5
Ottawa		94·4	328	—	—	—	—	48·5	—
Toronto		97·5	330	—	—	—	—	43·5	—

Additional readings: Ekaterinburg e = +10m.33s. Kucino e = +9m.42s. Belgrade eN = +10m.44s. and +18m.29s. Vienna i = +19m.49s. De Bilt eLN = +22·5m., MN = +27·0m. Algiers PR_1 = +10m.8s. Tananarive E = +19m.21s., MN = +25·1m. Kew eEN = +19m.0s. = SR_1 −18s. LZ = +31·5m.

Oct. 29d. 8h. 57m. 35s. Epicentre 25°·0N. 51°·5E.

A = +·564, B = +·709, C = +·423; D = +·783, E = −·623; G = +·263, H = +·331, K = −·906.

	Δ	Az.	P.	O−C.	S.	O−C.	L.	M.
	°	°	m. s.	s.	m. s.	s.	m.	m.
Baku	15·4	356	e 3 47	+ 3	6 16	−25	6·9	9·9
Ksara E.	16·2	307	e 3 58	+ 3	i 7 8	+ 8	9·5	—
Samarkand	19·6	38	e 5 18	+42	—	—	—	—
Tashkent	22·0	37	e 5 44	+39	i 9 20	+15	e 11·4	12·6
Andijan	23·1	44	e 6 14	+56	—	—	—	—
Theodosia	23·8	331	e 5 18	− 8	8 11	−89	—	—
Simferopol	24·4	329	e 5 23	− 9	—	—	—	—
Ekaterinburg	32·5	10	e 6 49	− 4	e 11 42	−34	16·4	—
Pulkovo	37·7	345	—	—	—	—	e 16·4	—
Irkutsk	47·9	40	—	—	—	—	e 11·6	—

Additional readings: Ksara LN = +8·4m. Tashkent e = +10m.38s.

Oct. 29d. 10h. 32m. 36s. (I) / 11h. 48m. 20s. (II) } Epicentre 27°·5N. 55°·0E. (as at 5h.).

		Δ	Az.	P.	O−C.	S.	O−C.	L.	M.
		°	°	m. s.	s.	m. s.	s.	m.	m.
I	Baku	13·5	343	e 3 22	+ 2	—	—	e 7·0	—
II		13·5	343	e 3 22	+ 2	e 5 58	+ 2	8·7	10·3
I	Samarkand	15·7	36	e 3 44	− 4	e 6 47	− 1	8·7	—
II		15·7	36	e 3 50	+ 2	—	—	—	—
I	Ksara E.	17·6	297	e 4 13	+ 1	7 37	+ 6	—	—
II	N.	17·6	297	4 16	+ 4	7 38	+ 7	12·1	—
I	Tashkent	18·1	37	i 4 16	− 2	i 7 48	+ 6	e 10·4	13·5
II		18·1	37	i 4 21	+ 3	i 7 40	− 2	8·7	13·1
I	Bombay	18·5	114	(4 26)	+ 3	4 26	?P	12·7	—
I	Andijan	19·2	44	e 4 56	+25	—	—	—	—
II		19·2	44	e 4 36	+ 5	—	—	—	—
I	Theodosia	23·5	323	e 5 18	− 5	—	—	—	—
II		23·5	323	e 5 28	+ 5	—	—	—	—
II	Almata	23·7	43	e 5 24	− 1	—	—	—	—
II	Yalta	23·8	321	e 5 22	− 4	—	—	—	—
II	Simferopol	24·1	322	e 5 24	− 5	—	—	—	—
II	Sebastopol	24·2	321	e 5 25	− 5	—	—	—	—
I	Ekaterinburg	29·6	6	e 8 6	+102	—	—	15·4	—
II		29·6	6	e 6 13	−11	e 12 35	?SR_1	15·7	19·4
I	Kucino	30·8	341	e 7 42	+66	—	—	—	—
II		30·8	341	—	—	e 11 46	− 2	—	—
I	Entebbe	35·0	225	—	—	—	—	18·4	—
I	Pulkovo	36·4	340	—	—	—	—	e 16·8	—
II		36·4	340	e 8 39	?PR_1	e 15 16	?SR_1	20·7	28·0
II	Copenhagen	41·5	326	—	—	—	—	23·7	—
I	Irkutsk	44·0	41	—	—	—	—	24·3	30·9
II		44·0	41	—	—	—	—	22·4	30·2

Baku gives also for I e = +8m.42s., L = +12·4m.

Oct. 29d. 16h. 40m. 24s. Epicentre 44°·6N. 10°·6E. (as on 1929 July 28d.).

A = +·700, B = +·131, C = +·702; D = +·184, E = −·983; G = +·690, H = +·129, K = −·712.

	Δ	Az.	P.	O−C.	S.	O−C.	M.
	°	°	m. s.	s.	m. s.	s.	m.
Florence	0·9	150	e 0 21	+ 7	0 36	+11	0·7
Padova	1·2	48	e 0 18	0	i 0 30	− 3	—
Chur	2·3	342	e 0 36	0	i 0 57	− 6	—
Zurich	3·1	334	e 0 50	+ 1	e 1 26	0	—
Neuchatel N.	3·5	314	e 0 47	− 8	e 1 22	−15	—

No additional readings.

Oct. 29d. 18h. 33m. 3s. Epicentre 26°·0N. 96°·0E. (as on 1927 Mar. 15d.).

A = −·094, B = +·894, C = +·438; D = +·995, E = +·105; G = −·046, H = +·436, K = −·899.

	Δ	Az.	P.	O−C.	S.	O−C.	L.	M.
	°	°	m. s.	s.	m. s.	s.	m.	m.
Calcutta	7·9	245	(2 0)	0	(3 34)	0	(4·0)	—
Phu-Lien	11·0	116	e 3 0	+16	—	—	5·0	—
Hong Kong	17·0	99	6 36	?S	(6 36)	−42	e 8·2	9·3
Bombay	22·6	256	9 52	?S	(9 52)	+35	15·7	16·7
Tashkent	26·8	312	—	—	e 10 39	+ 2	e 15·8	18·2
Irkutsk	27·0	11	7 14	+76	e 10 26	−15	i 14·9	—
Ekaterinburg	39·8	330	7 55	+ 2	14 7	+ 4	21·0	—
Baku	40·7	303	—	—	—	—	24·0	—
Ksara	52·0	295	—	—	—	—	e 28·3	—
Pulkovo	55·6	327	—	—	—	—	e 28·0	—

Additional readings and note: Calcutta PE = (+2m.1s.), all readings having been *diminished* by 3m. Hong Kong MN = +8·4m. Bombay S = +13m.33s. Tashkent e = +13m.16s. Irkutsk eL = +21·2m.

Oct. 29d. Readings also at 3h. (near Nagasaki), 4h. (Mizusawa and near Manila), 5h. (Belgrade and Zagreb), 9h. (near Batavia), 10h. (Andijan), 18h. (Ksara), 20h. (Baku, Ekaterinburg, Ksara, Tashkent, near Kobe, Osaka, and Sumoto), 21h. (Melbourne and near Manila).

Oct. 30d. Readings at 0h. (Ekaterinburg, Irkutsk, and Tashkent), 5h. (Almata, Andijan, near Samarkand, Tashkent, and near Manila), 6h. (Kodaikanal and near Tacubaya), 7h. (near La Paz), 17h. (Andijan and Samarkand), 18h. (near Tacubaya), 19h. (Ksara and Samarkand), 20h. (Entebbe), 21h. (near La Paz), 22h. (Andijan), 23h. (La Paz).

Oct. 31d. Readings at 3h. (Florence), 4h. (Simferopol, Theodosia, near Sebastopol and Yalta), 5h. (near Taihoku), 8h. (near Manila), 10h. (Alicante), 11h. (Andijan, Samarkand, Baku, Irkutsk, Ksara, Tashkent), 13h. (Nagoya, Almata, Samarkand, and near Andijan), 15h. (Victoria), 19h. (Zagreb) 23h. (Ekaterinburg and Tashkent).

Nov. 1d. 6h. 57m. 14s. Epicentre **46°·0N. 26°·1E.**

A = +·624, B = +·306, C = +·719; D = +·440, E = −·898; G = +·646, H = +·316, K = −·695.

		Δ	Az.	P.	O−C.	S.	O−C.	L.	M.
		°	°	m. s.	s.	m. s.	s.	m.	m.
Belgrade		4·1	256	e 1 13	+ 9	i 1 48	− 5	—	2·6
Budapest		5·0	290	i 1 29	+12	2 36	+19	3·3	—
Sebastopol		5·4	102	i 1 26	+ 3	—	—	—	—
Simferopol		5·7	98	1 29	+ 1	—	—	—	—
Yalta		5·9	102	1 30	− 1	(2 28)	−13	2·5	2·7
Theodosia		6·5	95	1 43	+ 4	(2 48)	− 9	2·8	3·4
Vienna		7·0	292	i 1 56	+10	3 30	+20	i 4·5	5·5
Zagreb		7·1	272	i 1 56	+ 8	i 3 19	+ 6	i 3·4	3·9
Graz		7·4	282	i 2 1	+ 9	i 3 30	+ 9	—	6·1
Bari		8·0	238	2 1	0	3 6	−31	4·1	—
Laibach	N.	8·0	274	i 2 29	+28	e 3 45	+ 8	e 5·6	7·1
Taranto		8·4	232	2 8	+ 1	3 38	− 9	—	5·1
Konigsberg		9·5	340	i 2 27	+ 4	i 4 48	+32	—	5·1
Venice		9·6	272	i 2 28	+ 4	i 4 30	+12	—	5·9
Treviso		9·7	273	i 2 29	+ 3	e 4 31	+10	—	6·4
Trenta		9·8	230	i 2 36	+ 9	—	—	—	—
Cheb		10·0	299	e 2 38	+ 8	e 4 28	− 1	e 5·9	7·9

Continued on next page.

		Δ	Az.	P.	O−C.	S.	O−C.	L.	M.
		°	°	m. s.	s.	m. s.	s.	m.	m.
Naples	E.	10·0	244	e 3 6	+36	e 5 11	+42	—	—
Padova		10·0	272	i 2 38	+ 8	i 4 42	+13	—	—
Innsbruck		10·2	283	e 2 34	+ 1	—	—	i 5·2	—
Rocca di Papa		10·5	251	e 2 36	− 1	i 4 57	+14	—	6·9
Potsdam		10·6	312	i 2 41	+ 3	i 4 48	+ 3	—	7·3
Rome		10·6	252	e 2 37	− 1	i 3 18	−87	—	6·2
Florence		10·7	264	e 2 21	−19	4 15	−33	—	4·8
Jena		10·8	303	i 2 46	+ 5	e 5 10	+20	e 5·8	6·8
Messina		11·0	229	2 46	+ 2	—	—	—	—
Ravensburg		11·4	285	i 2 50	0	e 5 8	+ 4	i 6·0	8·3
Chur		11·5	280	i 2 52	0	i 5 8	+ 1	—	—
Piacenza		11·5	272	e 2 17	−35	5 2	− 5	—	5·8
Hohenheim		11·7	290	i 2 57	+ 2	e 5 26	+14	e 6·3	8·6
Catania		11·8	228	e 3 7	+11	—	—	e 4·8	8·6
Gottingen		12·0	303	i 3 0	+ 1	e 5 22	+ 3	i 6·9	8·6
Zurich		12·1	283	i 3 0	0	i 5 23	+ 2	—	—
Karlsruhe		12·3	291	i 3 7	+ 4	5 46?	+20	6·8	8·1
Kucino		12·3	33	—	—	—	—	e 6·8	—
Strasbourg		12·7	289	i 3 10	+ 1	5 44	+ 7	7·8	—
Hamburg		12·8	312	i 3 10	0	i 5 54	+15	7·3	10·8
Moncalieri		12·9	272	2 59	−13	5 6	−36	6·9	—
Copenhagen		13·0	323	i 3 10	− 3	5 28	−16	—	—
Neuchatel		13·2	281	i 3 14	− 2	e 5 48	− 1	—	—
Besançon		13·8	286	3 22	− 1	i 6 12	+ 9	—	—
Pulkovo		14·0	9	3 23	− 3	5 48	−20	7·6	8·0
Helsingfors		14·2	358	3 21	− 8	5 49	−24	6·3	—
Ksara	E.	14·2	145	3 21	− 8	6 3	−10	6·7	—
Grenoble		14·3	274	i 2 27	−63	5 13	−62	7·3	—
Upsala		14·8	343	3 32	− 4	i 6 13	−14	—	8·1
De Bilt		15·0	301	i 3 41	+ 2	6 37	+ 5	7·8	10·2
Marseilles		15·0	267	e 3 36	− 3	i 6 40	+ 8	—	—
Uccle		15·2	296	i 3 42	0	i 6 39	+ 2	e 7·8	—
Puy de Dôme		16·1	278	i 2 39	−74	i 6 2	−55	—	—
Paris		16·2	289	i 3 53	− 2	i 6 58	− 2	8·8	9·8
Helwan		16·6	164	3 51	− 9	i 6 52	−17	—	—
Barcelona		17·8	264	—	—	e 7 30	− 6	8·9	—
Baku		18·1	99	e 4 11	− 7	i 7 32	−10	—	8·9
Kew		18·1	297	i 4 16	− 2	i 7 42	0	9·1	—
Oxford		18·8	298	i 4 20	− 7	i 7 52	− 6	—	—
Bergen		18·9	327	i 5 6	+38	8 36	+36	—	—
Tortosa		19·2	264	e 4 32	+ 1	i 7 58	− 8	—	—
Algiers		19·5	250	e 4 25	−10	8 0	−13	e 9·2	—
Stonyhurst		19·8	304	i 4 37	− 2	i 8 10	− 9	—	13·6
Dyce		20·6	313	e 4 39	− 9	i 8 24	−12	—	9·3
Edinburgh		20·7	309	4 48	− 1	9 36	?L	(9·6)	9·7
Alicante		21·0	258	e 4 48	− 5	i 8 39	− 5	e 9·7	—
Toledo		22·8	265	5 0	−15	8 58	−23	e 10·3	—
Almeria		23·0	257	i 5 3	−14	9 1	−24	13·4	14·2
Granada		23·7	259	i 3 50	−95	9 28	−10	13·8	16·5
Ekaterinburg		23·8	50	i 5 11	−15	i 9 15	−25	12·3	15·6
Malaga		24·5	259	e 5 11	−22	9 26	−28	11·8	—
Tashkent		31·2	83	e 4 49	−111	e 10 55	−59	—	15·0
Scoresby Sund		33·6	334	—	—	—	—	14·8	—
Ivigtut		43·9	318	—	—	—	—	20·8	—
Bombay		46·9	109	8 23	−23	14 13	−87	e 19·9	20·7
Irkutsk		49·0	53	—	—	i 16 33	+27	26·8	—
Ottawa		65·7	313	—	—	e 19 46?	+13	36·8	—
Toronto		68·8	313	—	—	19 46?	−26	—	—

Additional readings: Belgrade ePEZ = +1m.14s., iPR$_1$N = +1m.17s., iPSN = +1m.29s., iE = +1m.45s., iSR$_1$E = +2m.4s., MN = +2·4m. Vienna P = +2m.3s., P* = +2m.15s., PR$_1$ = +2m.32s., P$_3$S = +3m.14s., PS$_1$ = +4m.6s. Zagreb iNW = +2m.0s., iNE = +2m.1s., i = +2m.5s., iNW =

Continued on next page.

+2m.9s., iNE = +2m.11s., iNW = +2m.14s., iNE = +2m.19s., iNW = +2m.21s., +2m.34s., +2m.40s., +2m.55s., and +3m.15s., MNW = +3·6m. Laibach eN = +2m.57s., +3m.24s., and +4m.45s. Konigsberg iZ = +2m.33s., iN = +2m.39s., iEN = +2m.47s., iZ = +2m.50s., iN = +3m.8s., iE = +3m.11s., iZ = +3m.24s., iPR$_1$EN = +3m.31s., eEN = +4m.4s., and +4m.32s., iZ = +4m.56s., MN = +5·6m. Innsbruck iP = +2m.39s., i = +2m.58s., +3m.25s., and +3m.58s. Rocca di Papa i = +3m.13s. Potsdam iEN = +3m.14s.? and +4m.14s.? Jena eN = +3m.26s., eZ = +3m.41s., eE = +3m.43s., eE = +3m.58s., eSZ = +5m.16s. Ravensburg iE = +3m.26s., i = +3m.51s., iS = +5m.10s., iSR$_1$ = +3m.26s. Piacenza MN = +7·3m. Hohenheim iPR$_1$E = +3m.3s., iPR$_2$E = +3m.7s., iE = +3m.41s., eE = +4m.0s., eN = +4m.14s., eE = +4m.31s., eN = +5m.1s., iS = +5m.29s., eSR$_1$N = +5m.42s., iL = +6·4m. Gottingen iPZ = +2m.57s. iPN = +3m.1s., iN = +6m.14s., and +7m.22s., MN = +7·4m., MZ = +7·5m. Hamburg iPR$_1$Z = +3m.18s., eE = +5m.29s., MZ = +7·8m., MN = +8·8m. Ksara PN = +3m.22s. Upsala MN = +9·9m. De Bilt MN = +10·4m. Baku i = +6m.13s. Kew LZ = +12·0m. Oxford PR$_1$ = +5m.0s., i = +8m.41s. Algiers iP = +4m.27s., L = +10·1m. Stonyhurst ? = +9m.15s. Edinburgh i = +9m.30s. Toledo iSNE = +9m.9s. Almeria i = +5m.38s. Granada i = +4m.13s. Tashkent e = +7m.6s. Scoresby Sund +8m.24s. Irkutsk e = +15m.36s. and +19m.19s.

Nov. 1d. 16h. 3m. 2s. Epicentre 34°·4N. 130°·2E. (as on 1929 Aug. 3d.).

A = −·533, B = +·630, C = +·565; D = +·764, E = +·645; G = −·365, H = +·432, K = −·825.

	Δ	Az.	P.	O−C.	S.	O−C.	M.
	°	°	m. s.	s.	m. s.	s.	m.
Hukuoka	0·8	168	0 28	+16	0 57	+35	1·1
Nagasaki	1·7	189	e 0 28	+ 2	0 48	0	1·0
Matuyama	2·2	105	e 0 30	− 4	—	—	1·0
Koti	2·9	107	0 40	− 5	—	—	—
Sumoto	3·9	90	e 1 9	+ 8	1 38	− 9	1·7

Additional readings: Hukuoka P = +31s., S = +59s. Matuyama iPR$_1$ = +39s. Sumoto MN = +1·6m.

Nov. 1d. Readings also at 1h. (Ekaterinburg, Tashkent, and near Mizusawa), 2h. (Almata, Andijan, Samarkand, Sucre, and near La Paz), 3h. (Ekaterinburg, Tashkent, near Andijan, and Samarkand), 4h. (Entebbe and near Tacubaya), 6h. (near Tananarive), 8h. (La Paz and Samarkand), 10h. (near Baku and Tashkent), 12h. (Andijan and Samarkand), 16h. (Taihoku), 18h. (Tucson, near Oaxaca, Tacubaya, and Vera Cruz), 19h. (near Andijan (2), near Samarkand (3), and near Santiago), 20h. (Andijan).

Nov. 2d. 1h. 32m. 34s. Epicentre 19°·0N. 120°·5E. (as on 1928 Nov. 28d.).

A = −·480, B = +·815, C = +·326; D = +·862, E = +·507; G = −·165, H = +·280, K = −·946.

		Δ	Az.	P.	O−C.	S.	O−C.	L.	M.
		°	°	m. s.	s.	m. s.	s.	m.	m.
Manila		4·4	173	i 1 13	+ 5	i 2 7	+ 6	—	3·8
Taihoku		6·1	9	1 30	− 3	(2 33)	−13	2·5	—
Hong Kong		6·7	301	1 50	+ 8	3 21	+19	—	3·8
Phu-Lien		13·2	281	e 3 26	+10	—	—	—	—
Kobe		20·4	37	e 3 19	?	—	—	—	—
Osaka		20·5	37	4 15	−32	—	—	7·8	9·9
Mizusawa	E.	26·9	37	(5 26)	−31	5 26	?P	—	—
Ekaterinburg		57·8	327	i 9 49	− 9	i 17 43	−13	—	—
		57·8	327	i 10 16	+18	i 18 28	+32	27·4	—
Copenhagen		84·1	327	—	—	—	—	39·4	—
Vienna	Z.	84·9	320	i 12 31	−16	—	—	—	—
De Bilt		89·5	326	—	—	—	—	e 48·4	—

Additional readings: Manila iS = +2m.18s., MN = +5·0m.; T_o = 1h.32m.46s. Kobe i = +4m.23s. Ekaterinburg (second line), e = +19m.22s.

Nov. 2d. Readings also at 1h. (La Paz), 5h. (Taihoku), 7h. (La Paz), 8h. (Samarkand), 9h. (near Oaxaca), 11h. (near Tacubaya), 17h. (Zurich, Kobe, and near Sumoto), 18h. (Andijan and near Samarkand), 22h. (near Manila), 23h. (Wellington and near Belgrade).

Nov. 3d. Readings at 3h. (Andijan and near Samarkand), 5h. (Samarkand), 7h. (Christchurch, Riverview, Suva, near Oaxaca, and Tacubaya), 8h. (Christchurch and near Wellington), 9h. (Ekaterinburg), 10h. (Ksara and Tashkent), 11h. (Ottawa, Toronto, near Lick, near Kobe, and Sumoto), 13h. (Ekaterinburg, Irkutsk, near Taihoku (2), near Andijan, and Samarkand), 15h. (near Phu-Lien), 17h. (Wellington, Chur, Neuchatel, Simferopol, Theodosia, Yalta, near Sebastopol, and near Ksara), 20h. (Ekaterinburg, Tashkent, Samarkand, near Almata, and Andijan), 23h. (Taihoku (2)).

Nov. 4d. 15h. 32m. 18s. Epicentre 11°·2S. 161°·2E. (as on 1926 April 16d.).

$A = -\cdot 929$, $B = +\cdot 316$, $C = -\cdot 194$; $D = +\cdot 322$, $E = +\cdot 947$; $G = +\cdot 184$, $H = -\cdot 063$, $K = -\cdot 981$.

		Δ	Az.	P.	O−C.	S.	O−C.	L.	M.
		°	°	m. s.	s.	m. s.	s.	m.	m.
Riverview		24·4	200	e 5 33	+ 1	e 10 9	+17	e 13·1	16·1
Sydney	E.	24·4	200	10 18	?S	(10 18)	+26	14·7	15·2
Melbourne		30·4	205	—	—	i 11 36	− 5	14·5	19·2
Adelaide		31·4	218	e 6 48	+ 6	e 11 42	−16	e 15·7	20·2
Wellington		32·4	160	—	—	i 12 10	− 4	14·7	—
Christchurch		33·8	165	—	—	—	—	—	23·2
Perth		46·6	235	—	—	—	—	e 23·7	—
Batavia		53·9	271	i 12 49	?	i 19 16	[+ 8]	—	—
Irkutsk		80·0	329	e 12 11	− 8	i 22 5	−18	35·7	—
Victoria	E.	89·0	40	—	—	—	—	41·0	43·6
Bombay		92·1	289	—	—	—	—	e 53·7	—
Tashkent		98·8	312	—	—	e 25 3	−41	e 43·7	65·9
Ekaterinburg		105·1	327	—	—	e 25 52	? Σ	39·7	63·7
Florissant		111·3	52	e 21 22	?	e 25 12	[− 3]	e 52·7	56·2
Baku		113·4	310	—	—	—	—	e 63·7	—
Kucino		117·6	328	—	—	—	—	e 57·8	—
Toronto		118·8	45	—	—	—	—	62·7	—
Pulkovo		119·4	334	—	—	—	—	e 64·7	71·9
Scoresby Sund		120·6	2	—	—	—	—	63·7	—
Ottawa		120·9	42	—	—	—	—	e 57·7	—
Georgetown	Z.	121·5	50	—	—	—	—	e 61·0	—
Copenhagen		129·3	337	—	—	—	—	69·7	—
De Bilt		134·7	339	—	—	—	—	e 60·7	74·5
Uccle		136·1	339	—	—	—	—	e 65·7	—
Strasbourg		136·6	335	—	—	—	—	e 72·7	—
Paris		138·4	340	—	—	—	—	e 80·7	—

Additional readings: Suva (Δ = 18°·0 Az. = 115°), 15h.30m. Riverview eS = +10m.20s., MN = +17·9m.; T_g = 15h.31m.42s. Sydney SE = +12m.54s. Melbourne i = +14m.22s. Adelaide e = +9m.0s. Perth e = +19m.2s. = SR_1 +0s., and +25m.2s. Batavia i = +20m.25s. Ekaterinburg e = +27m.41s. and +33m.10s. Florissant eEN = 15h.23m.0s.

Nov. 4d. 23h. 6m. 36s. Epicentre 44°·2N. 34°·3E. (given by the stations).

$A = +\cdot 592$, $B = +\cdot 404$, $C = +\cdot 697$.

	Δ	P.	O−C.	S.	O−C.	L.	M.
	°	m. s.	s.	m. s.	s.	m.	m.
Yalta	0·3	0 2	− 3	(1 0 6)	− 2	i 0·1	0·1
Sebastopol	0·7	e 0 12	+ 1	—	—	i 0·4	0·4
Simferopol	0·8	e 0 13	+ 1	—	—	e 0·4	—
Theodosia	1·1	e 0 33	+16	(e 0 33)	+ 2	—	—

No additional readings.

Nov. 4d. Readings also at 5h. (La Paz and near Manila), 6h. (Ksara), 9h. (near La Paz), 10h. (near Taihoku and near Mizusawa), 14h. (Suva), 17h. (Baku, Ekaterinburg, Ksara, and Samarkand), 19h. (Taihoku), 20h. (2) and 21h. (near Tacubaya), 22h. (Andijan and Samarkand).

Nov. 5d. 10h. 6m. 4s. Epicentre 37°·5N. 45°·5E.

A = +·556, B = +·566, C = +·609 ; D = +·713, E = −·701 ;
G = +·427, H = +·434, K = −·793.

		Δ	Az.	P.	O−C.	S.	O−C.	L.	M.
		°	°	m. s.	s.	m. s.	s.	m.	m.
Baku		4·5	48	e 1 23	+13	—	—	i 2·4	—
Ksara	E.	8·6	248	e 2 12	+ 2	4 46	+53	5·8	—
Samarkand		16·9	76	e 4 0	− 4	—	—	—	—
Tashkent		18·7	71	—	—	—	—	e 10·9	17·0
Andijan		21·0	74	e 4 53	0	—	—	—	—
Ekaterinburg		21·8	22	e 4 48	−15	8 52	− 9	10·9	14·9
Pulkovo		24·3	341	i 5 30	− 1	—	—	—	—
Irkutsk		42·8	50	—	—	—	—	23·9	—

Additional readings: Ksara LN = +5·6m. Tashkent e = +4m.50s. and +9m.50s.

Nov. 5d. 11h. 37m. 55s. Epicentre 9°·0N. 128°·0E. (as on 1924 Sept. 27d.).

A = −·608, B = +·778, C = +·156 ; D = +·788, E = +·616 ;
G = −·096, H = +·123, K = −·988.

		Δ	Az.	P.	O−C.	S.	O−C.	L.	M.
		°	°	m. s.	s.	m. s.	s.	m.	m.
Manila		8·9	310	e 2 16	+ 1	i 3 43	−18	4·7	5·5
Taihoku	E.	17·2	340	e 4 9	+ 2	—	—	—	—
Hong Kong		18·8	317	4 24	− 3	7 56	− 2	9·0	9·7
Zi-ka-wei		23·0	345	(i 5 41)	+24	(9 55)	+30	(12·9)	(14·8)
Nagasaki		23·8	4	e 5 32	+ 6	e 9 51	+11	—	—
Phu-Lien		23·8	302	5 16	−10	e 9 32	− 8	11·1	14·7
Koti		25·1	11	i 5 45	+ 6	e 10 23	+18	—	—
Batavia		26·0	235	i 5 52	+ 4	i 10 13	− 9	16·1	—
Sumoto		26·1	13	5 56	+ 7	e 11 36	+72	—	16·5
Kobe		26·5	13	i 5 59	+ 6	e 14 58	?L	(15·0)	—
Osaka		26·6	14	5 49	− 5	(10 35)	+ 2	10·6	11·8
Toyooka		27·3	12	i 6 6	+ 5	—	—	e 16·1	—
Nagoya		27·4	16	e 6 9	+ 7	—	—	—	—
Tokyo		28·7	20	6 11	− 4	—	—	—	—
Mizusawa	E.	32·3	20	(6 54)	+ 3	6 54	?P	—	—
Calcutta		40·3	294	8 43	+46	14 27	+16	17·9	—
Irkutsk		47·4	340	i 8 48	− 2	15 34	−12	26·1	34·0
Colombo		47·8	273	8 40	−13	15 25	−26	20·9	26·4
Riverview		48·1	154	—	—	e 15 53	− 2	e 25·2	28·9
Hyderabad		48·8	285	8 50	− 9	15 55	− 9	23·7	31·9
Melbourne		49·4	162	—	—	i 16 5?	− 6	—	29·1
Kodaikanal		49·8	275	e 20 23	?SR_4	—	—	—	—
Bombay		54·2	287	9 37	+ 3	17 19	+ 8	28·6	40·1
Almata		56·0	317	9 46	0	—	—	—	—
Andijan		58·3	313	10 6	+ 5	18 16	+13	—	—
Tashkent		60·8	313	i 10 52	+34	i 18 26	− 7	28·1	38·4
Samarkand		62·1	311	10 30	+ 4	18 43	− 6	—	—
Wellington	E.	66·1	144	—	—	—	—	32·1	—
Ekaterinburg		70·2	328	i 11 21	+ 3	20 25	− 3	29·1	42·9
Baku		75·1	310	e 11 52	+ 2	i 21 23	− 4	36·2	46·4

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		Δ °	Az. °	P. m. s.	O−C. s.	S. m. s.	O−C. s.	L. m.	M. m.
Kucino		82·6	325	12 28	− 6	22 22	−31	38·9	45·2
Theodosia		85·4	316	12 50	0	23 28	+ 5	—	—
Pulkovo		86·1	330	12 53	− 1	23 7	[+ 4]	40·1	53·5
Simferopol		86·4	316	e 12 52	− 3	—	—	—	—
Yalta		86·4	316	12 52	− 3	23 34	0	—	—
Ksara	E.	86·7	305	12 54	− 3	23 29	− 9	—	—
Sebastopol		86·8	316	e 12 57	− 1	—	—	—	—
Helwan		91·2	301	e 13 13	− 9	23 58	? Σ	—	57·4
Konigsberg	E.	92·5	327	—	—	—	—	e 55·4	—
Victoria	N.	95·3	38	24 23	?S	(24 23)	[+24]	45·4	46·3
Budapest		95·8	320	—	—	—	—	e 58·1	—
Copenhagen		96·4	330	—	—	24 35	? Σ	46·1	—
Scoresby Sund		98·0	350	—	—	—	—	52·1	—
Cheb		98·9	325	—	—	—	—	e 57·1	60·1
Feldberg	N.	101·1	327	—	—	—	—	—	59·1
De Bilt	E.	101·9	328	—	—	—	—	e 52·1	56·0
Rocca di Papa		102·2	317	e 17 13	[−42]	—	—	—	75·3
Strasbourg		102·3	324	—	—	e 27 5?	?PS	e 54·1	—
Florence		102·3	319	e 18 22	[+27]	27 17	?PS	—	63·1
Piacenza		102·6	321	—	—	e 25 5	? Σ	—	65·6
Uccle		103·0	327	—	—	—	—	e 53·1	—
Kew		105·0	330	—	—	—	—	55·5	—
Paris		105·1	325	—	—	—	—	e 56·1	—
Almeria		114·7	318	e 20 13	?PR_1	e 29 14	+66	—	61·1
Florissant	Z.	120·4	33	i 20 39	?PR_1	—	—	e 60·6	—
Ottawa		121·6	17	e 20 49	?PR_1	e 37 35	?SR_1	e 63·1	—
Toronto		121·8	22	—	—	26 5?	? Σ	—	—
La Paz		162·6	117	e 20 18	[+ 8]	—	—	79·1	110·6
Sucre		163·7	129	e 20 22	[+11]	—	—	—	—

Additional readings and note: Manila LN? = +4·9m., MN = +5·2m. Hong Kong PR_1 = +4m.43s., MN = +10·6m. Zi-ka-wei iZ = (+5m.59s.) = PR_1 +15s., (+6m.25s.), and (+10m.11s.), SR_1E = (+10m.17s.), iZ = (+10m.23s.); all readings have been *increased* by 4m. Batavia iP = +5m.55s., iN = +6m.57s. Sumoto MN = +16·4m., MZ = +17·4m. Osaka MN = +15·4m. Calcutta PN = +8m.41s. Riverview e = +10m.41s., ePR_1 = +10m.53s., SR_1 = +19m.29s., MN = +27·4m. Hyderabad MN = +33·4m. Tashkent i = +18m.41s., e = +18m.47s. Wellington LN = +25·1m. De Bilt eLN = +48·1m., MN = +55·5m., MZ = +65·4m. Rocca di Papa i = +18m.17s. = PR_1 − 11s. Kew eEN = +33m.23s. = SR_1 − 17s., LZ = +66·1m. Ottawa eN = +30m.35s.

Nov. 5d. Readings also at 5h. (Ksara and Kobe), 6h. (Catania, Messina, and Mineo), 7h. (near Graz, Zagreb, and Budapest), 8h. (La Paz), 11h. (near Akita), 14h. (Georgetown and Wellington), 15h. (Samarkand and Batavia), 17h. (Taihoku), 18h. (Ekaterinburg, Tashkent, and near Manila), 20h. (Baku, Ekaterinburg, Entebbe, Ksara, and Tashkent), 21h. (Lick), 23h. (Akita, Mizusawa, Kobe, Nagoya, Osaka, and Toyooka).

Nov. 6d. Readings at 2h. (near Santiago), 4h. (near Tananarive), 5h. (Florissant and Tucson), 6h. (Ottawa and Toronto), 8h. (Mizusawa and near Tacubaya), 9h. (Taihoku), 11h. (Akita, Nagoya, and Osaka), 12h. (near Zagreb), 16h. (Andijan and Samarkand), 18h. (near Toyooka), 21h. (Entebbe, near Andijan, and Tashkent), 22h. (near Samarkand).

Nov. 7d. 5h. 22m. 15s. Epicentre 13°·0N. 124°·7E. (as on 1927 July 3d.).

A = −·555, B = +·801, C = +·225; D = +·822, E = +·569; G = −·128, H = +·185, K = −·974.

		△	Az.	P.	O−C.	S.	O−C.	L.	M.
		°	°	m. s.	s.	m. s.	s.	m.	m.
Manila		4·0	294	e 1 4	+ 2	i 1 58	+ 8	—	2·5
Hong Kong		13·7	314	3 12	−10	e 6 15	+14	—	7·8
Zi-ka-wei	Z.	18·4	351	e 4 21	− 1	7 47	− 2	—	11·4
Phu-Lien		19·0	297	3 45?	−44	—	—	—	—
Tashkent		55·4	313	—	—	e 17 21	− 5	e 28·6	31·0
Ekaterinburg		65·1	328	—	—	e 19 32	+ 6	31·8	—

Additional readings: Hong Kong MN = +8·2m. Tashkent e = +20m.51s.

Nov. 7d. Readings also at 0h. (Baku, Ekaterinburg, Tashkent, De Bilt, Strasbourg, Rocca di Papa, Florissant, and Rio de Janeiro), 4h. (near Manila), 9h. (Ekaterinburg, Irkutsk, and Neuchatel), 10h. (Baku, Kucino, Tashkent, and near Amboina), 15h. (Sumoto), 16h. (Ekaterinburg, Irkutsk, Tashkent, and near Samarkand), 19h. (near Akita), 20h. (near Lick), 21h. (near Zagreb).

Nov. 8d. 3h. 20m. 20s. Epicentre 3°·0N. 85°·0W. (as on 1927 May 19d.).

A = +·087, B = −·995, C = +·052; D = −·996, E = −·087; G = +·005, H = −·052, K = −·999.

		△	Az.	P.	O−C.	S.	O−C.	L.	M.
		°	°	m. s.	s.	m. s.	s.	m.	m.
La Paz		25·6	140	5 43	− 1	i 10 13	− 1	12·6	16·4
Sucre		29·4	139	i 6 22	0	10 42	−42	14·1	17·2
Florissant	E.	36·2	354	i 8 45	+81	i 13 11	− 2	e 15·7	—
Georgetown	Z.	36·7	11	—	—	i 13 29	+ 9	e 16·9	23·6
Tucson		38·0	324	7 37	− 1	13 40	+ 2	20·1	—
Fordham		39·2	15	—	—	i 13 58	+ 4	20·2	20·7
Toronto	N.	41·0	7	—	—	e 13 55	−26	24·2	—
Ottawa		43·2	11	—	—	i 14 50	− 1	e 19·9	—
Lick		47·9	321	e 8 57	+ 4	—	—	—	—
Rio de Janeiro	E.	48·3	125	e 16 20	?S	(e 16 20)	+22	e 25·8	—
	N.	48·3	125	e 16 18	?S	(e 16 18)	+20	e 25·7	30·2
Victoria	E.	56·0	331	—	—	—	—	33·7	35·1
Scoresby Sund		78·5	19	—	—	—	—	39·7	—
Kew		84·4	39	—	—	e 23 16	+ 4	41·7	—
Paris		86·2	41	—	—	—	—	e 41·7	—
Uccle		87·3	40	—	—	—	—	e 41·7	—
De Bilt		87·7	39	—	—	—	—	e 43·7	46·1
Strasbourg		89·6	42	—	—	—	—	e 42·7	—
Copenhagen		91·7	34	—	—	—	—	45·7	—
Pulkovo		99·8	27	—	—	—	—	e 48·7	—
Ekaterinburg		114·1	20	—	—	—	—	46·7	—
Baku		120·2	38	—	—	—	—	e 65·7	—
Tashkent		129·9	25	—	—	e 34 40	?	e 56·7	70·6

Additional readings Georgetown iZ = +10m.39s. Tucson eEN = +17m.56s. Fordham iE = +15m.53s., LEN = +16·9m. Ottawa e = +18m.16s., eLN? = +21·7m.

Nov. 8d. Readings also at 2h. (Taihoku), 5h. (near Mizusawa), 6h. (near Lick and near Samarkand), 8h. (near Manila), 9h. (Taihoku (3)), 10h. (Ekaterinburg, Irkutsk, near Kobe, and Sumoto), 11h. (near Manila), 15h. (Almata, near Andijaa, Samarkand, and near Manila), 16h. (Andijan, Samarkand, and Taihoku), 19h. (Andijan).

Nov. 9d. 1h. 40m. 15s. Epicentre 50°·0N. 174°·0W. (as on 1913 April 30d.).

$A = -\cdot639$, $B = -\cdot067$, $C = +\cdot766$; $D = -\cdot105$, $E = +\cdot995$; $G = -\cdot762$, $H = -\cdot080$, $K = -\cdot643$.

		Δ	Az.	P.	O−C.	S.	O−C.	L.	M.
		°	°	m. s.	s.	m. s.	s.	m.	m.
Honolulu T.H.	E.	31·4	151	—	—	e 11 30	−28	—	15·6
Victoria		32·5	75	6 37	−16	—	—	14·4	15·4
Berkeley	Z.	38·3	89	—	—	—	—	e 18·2	—
Lick		39·0	89	e 7 34	−12	e 13 34	−18	e 16·8	19·2
Irkutsk		48·5	306	8 55	− 2	15 53	− 7	22·8	—
Tucson		49·1	87	8 54	− 7	—	—	22·1	—
Zi-ka-wei	Z.	50·8	275	e 9 13	+ 1	e 16 39	+10	—	—
Chicago		57·3	63	—	—	e 17 50	0	e 27·9	31·1
Florissant		57·6	69	i 9 54	− 2	e 17 46	− 8	—	—
Scoresby Sund		57·8	11	—	—	—	—	31·8	—
Toronto		60·5	56	10 16	0	e 18 32	+ 2	29·6	—
Ivigtut		60·6	27	i 10 17	+ 1	—	—	—	—
Ottawa		61·2	52	i 10 22	+ 2	i 18 43	+ 5	e 29·8	—
Ekaterinburg		64·0	331	i 10 43	+ 5	i 19 20	+ 7	28·8	36·5
Charlottesville	E.	64·9	60	—	—	e 19 15	− 9	e 31·8	—
Georgetown	Z.	65·1	59	i 10 42	− 4	19 28	+ 2	e 33·3	42·2
Fordham		65·4	56	8 46	?	i 19 39	+ 9	32·0	36·8
Harvard		65·7	52	e 10 46	− 3	i 19 37	+ 4	—	—
Almata		68·1	314	11 12	+ 7	20 16	+13	—	—
Pulkovo		68·5	347	i 11 11	+ 3	—	—	—	—
Andijan		72·6	315	11 39	+ 5	21 3	+ 6	—	—
Tashkent		73·3	316	i 11 41	+ 3	i 21 31	+ 7	e 32·8	48·7
Copenhagen		74·1	357	—	—	—	—	37·8	—
Samarkand		75·6	318	11 56	+ 3	21 39	+ 6	—	—
Hamburg	Z.	76·3	358	i 11 58	+ 1	—	—	—	—
De Bilt		77·9	0	12 7	+ 1	22 1	+ 2	e 37·8	—
Kew		78·4	4	—	—	—	—	e 39·8	—
Uccle		79·2	1	12 14	0	—	—	e 40·8	—
Hohenheim		81·2	358	e 12 25	− 1	e 22 37	0	—	—
Vienna	Z.	81·3	353	i 12 26	− 1	—	—	—	—
Strasbourg	Z.	81·4	359	i 12 21	− 6	—	—	—	—
Theodosia		81·6	340	i 12 29	+ 1	i 22 42	0	—	—
Simferopol		81·9	340	12 51	+21	—	—	—	—
Ravensburg		82·1	358	e 12 30	− 1	e 22 47	0	—	—
Sebastopol		82·4	340	i 12 32	0	22 50	0	—	—
Yalta		82·4	340	i 12 31	− 1	22 50	0	—	—
Zurich		82·6	358	e 12 32	− 2	e 22 51	− 2	—	—
Chur		83·0	358	i 12 35	− 1	e 22 46	[+ 3]	—	—
Neuchatel		83·0	0	i 12 34	− 2	e 22 54	− 3	—	—
Zagreb		83·8	353	e 12 40	− 1	e 23 0	− 7	—	—
Florence		86·1	356	i 12 49	− 5	23 16	−15	44·8	49·8
Hyderabad		87·4	295	12 58	− 3	23 40	− 5	—	58·2
Rome		87·9	356	13 0	− 4	—	—	—	—
Rocca di Papa		88·0	356	i 12 57	− 8	23 33	−19	—	—
Bombay		89·6	300	13 9	− 5	23 51	−19	45·9	50·5
Ksara		92·1	336	e 13 27	− 1	e 23 56	[+15]	—	—
Granada		92·4	8	i 13 34	+ 5	—	—	e 44·8	48·8

Additional readings: Honolulu T.H. iE = +13m.20s. = SR_1 −4s., eN = +14m.12s., MN = +21·2m. Victoria LN = +14·1m. Berkeley eN = +16m.21s. = SR_1 +10s., eE = +16m.33s., eZ = +24m.59s., eN = +25m.1s., eE = +25m.17s. Lick eLEN = +17·2m., MN = +20·0m. Tucson PR_1 = +10m.48s., LN = +21·9m. Chicago eE = +21m.52s. and +24m.16s. MN = +36·0m. Florissant iPR₁Z = +12m.6s., ePR₁ = +13m.18s. Charlottesville eN = +33m.45s. Georgetown PR_1Z? = +12m.21s., PR_2Z = +14m.46s., iZ = +28m.7s., and +30m.26s. Fordham i = +16m.3s. and +20m.51s. = [S] +15s., LEN = +26·5m., MN = +42·8m. Rocca di Papa e = +12m.42s. Ksara eN = +25m.42s. = PS +10s. Granada i = +17m.19s. = PR_1 −3s.

Nov. 9d. Readings also at 0h. (Wellington), 1h. (Andijan and La Paz), 2h. (La Paz, Berkeley, and near Lick), 3h. (2) and 4h. (La Paz) 6h. (Andijan and Samarkand), 7h. (Tananarive), 9h. (Sucre and near La Paz), 12h. (Sebastopol, Simferopol, Theodosia, and near Yalta) 14h. (near La Paz and Sucre), 15h. (Suva), 20h. (Matuyama), 21h. (Andijan).

Nov. 10d. Readings at 0h. (Port au Prince), 1h. (La Plata and near Wellington), 4h. (Ksara), 7h. (Belgrade), 8h. (Adelaide, Melbourne, Riverview, Suva, Wellington, Manila, Ekaterinburg, Irkutsk, and Tashkent), 9h. (Florissant, Ottawa, and Toronto), 12h. (near Samarkand and Andijan), 14h. (Apia, Neuchatel, Zurich, Andijan, and near Samarkand), 15h. (Ksara), 16h. (Samarkand), 17h. (Apia and Suva), 21h. (near Manila), 23h. (La Paz and near Wellington).

Nov. 11d. 7h. 36m. 15s. Epicentre 36°·8N. 26°·5E. (as on 1929 Mar. 27d.).

$A = +\cdot717$, $B = +\cdot357$, $C = +\cdot599$; $D = +\cdot446$, $E = -\cdot895$; $G = +\cdot536$, $H = +\cdot267$, $K = -\cdot801$.

	Δ	Az.	P.	O−C.	S.	O−C.	L.	M.
	°	°	m. s.	s.	m. s.	s.	m.	m.
Helwan	8·0	148	i 1 57	− 4	i 3 19	−18	—	3·4
Taranto	8·1	300	1 4	−59	2 34	−66	—	2·8
Ksara	8·2	108	i 2 1	− 3	i 3 26	−16	4·4	—
Trenta	8·4	291	i 1 55	−12	3 35	−12	—	—
Messina	8·8	282	2 8	− 5	—	—	—	—
Catania	9·1	278	e 2 27	+ 9	3 4	−62	e 3·9	4·2
Mineo	9·4	276	3 35	?S	(3 35)	−38	—	—
Yalta	9·6	35	e 2 22	− 2	—	—	—	—
Simferopol	10·0	33	e 2 30	0	—	—	—	—
Theodosia	10·6	36	2 40	+ 2	—	—	—	—
Rocca di Papa	11·8	299	e 2 23	−33	(e 5 3)	−11	e 5·0	6·4
Moncalieri	16·3	306	e 3 39	−17	—	—	—	—
Zurich	16·9	314	i 4 0	− 4	—	—	—	—
Neuchatel	17·7	311	i 4 8	− 5	e 7 25	− 8	—	—
Strasbourg	18·0	317	e 4 45?	+28	—	—	—	—
Kucino	20·5	19	e 5 3	+16	—	—	—	—
Ekaterinburg	30·2	38	e 6 37	+ 7	11 50	+13	—	—
Tashkent .	33·2	68	—	—	e 12 27	0	—	—

Additional readings: Rocca di Papa i = +2m.50s. Tashkent e = +13m.51s. $=SR_1-27s$.

Nov. 11d. Readings also at 2h. (Ekaterinburg and La Paz), 3h. (Bombay and Tashkent), 5h. and 6h. (Bombay), 7h. (near Manila), 10h. (Bombay), 11h. (Florissant), 12h. (Bombay, Scoresby Sund, Chicago, Ottawa, Toronto, Tucson, near Manzanillo, and Tacubaya), 13h. (Wellington), 14h. (Apia and Taihoku), 16h. (near Manila), 19h. (near Akita and Mizusawa), 21h. (La Paz, Rocca di Papa, Ekaterinburg, Kucino, near Almata, Samarkand, and Andijan), 22h. (Almata and Andijan and Matuyama), 23h. (Andijan).

Nov. 12d. 20h. 7m. 15s. Epicentre 18°·5S. 70°·0W.

$A = +\cdot324$, $B = -\cdot891$, $C = -\cdot317$; $D = -\cdot940$, $E = -\cdot342$; $G = -\cdot109$, $H = +\cdot298$, $K = -\cdot948$.

	Δ	Az.	P.	O−C.	S.	O−C.	L.	M.
	°	°	m. s.	s.	m. s.	s.	m.	m.
La Paz	2·7	42	i 0 42	0	i 1 11	− 3	1·3	1·4
Sucre	4·5	97	i 1 14	+ 4	i 2 10	+ 6	2·3	3·0
La Plata	19·6	149	4 33	− 3	8 7	− 8	—	—
Suva E.	103·4	245	—	—	—	—	e 48·4	—
Ekaterinburg	127·1	31	—	—	—	—	94·8	—
Irkutsk	145·9	6	—	—	—	—	e 84·7	—

Suva gives also eN = +49m.39s.

Nov. 12d. Readings also at 0h. (Batavia), 1h. (Hyderabad), 2h. (Matuyama), 4h. (Lick), 8h. (Matuyama), 12h. (La Paz and Wellington), 16h. (near Tacubaya), 20h. (near Apia), 23h. (Samarkand, Andijan, Taihoku, and Wellington).

Nov. 13d. 0h. 34m. 25s. Epicentre 1°·7S. 122°·7E. (as on 1927 Aug. 4d.).

$A = -\cdot540$, $B = +\cdot841$, $C = -\cdot030$; $D = +\cdot842$, $E = +\cdot540$; $G = +\cdot016$, $H = -\cdot025$, $K = -1\cdot000$.

		Δ	Az.	P.	O−C.	S.	O−C.	L.	M.
		°	°	m. s.	s.	m. s.	s.	m.	m.
Amboina		5·8	110	i 1 34	+ 4	—	—	i 2·7	—
Manila		16·3	354	e 3 45	−11	e 7 13	+11	8·7	—
Hong Kong		25·4	341	5 31	−11	9 59	−12	—	16·1
Phu-Lien		27·5	326	5 35	−28	—	—	10·6	—
Adelaide		36·7	157	i 7 21	− 7	e 15 10	?SR_1	e 23·6	25·6
Riverview		41·3	144	e 8 5	0	e 14 40	+15	22·2	30·7
Sydney	E.	41·3	144	16 47	?SR_1	22 53	?L	27·7	30·6
Melbourne		41·5	153	—	—	i 14 45	+17	e 19·7	29·0
Colombo		43·6	283	6 24	−119	15 54	+58	—	32·1
Bombay		53·1	297	e 9 20	− 7	16 21	−36	25·5	33·6
Irkutsk		56·2	348	e 9 43	− 4	i 17 25	− 9	e 25·6	—
Wellington	E.	61·3	138	—	—	(18 35?)	− 5	18·6	—
Tashkent		64·7	319	—	—	—	—	e 22·6	32·8
Ekaterinburg		76·7	330	i 12 1	+ 2	e 21 47	+ 2	36·6	45·1
Baku		78·2	313	e 12 24	+16	e 22 32	?PS	40·6	48·6
Honolulu T.H.	E.	80·8	69	—	—	—	—	e 36·0	39·6
Ksara		88·3	305	e 13 19	+12	24 4	+ 9	41·6	—
Kucino		88·5	326	—	—	e 23 53	− 5	e 43·9	—
Copenhagen		102·7	328	—	—	—	—	55·6	—
Scoresby Sund		107·5	350	—	—	—	—	67·6	—
Strasbourg		107·6	321	—	—	—	—	e 57·6	—
De Bilt		107·9	325	—	—	—	—	e 57·6	72·4
Uccle		108·9	324	—	—	—	—	e 57·6	—
Kew		111·2	326	—	—	—	—	e 57·6	—
Granada		119·3	311	—	—	—	—	e 75·6	—
Florissant	E.	132·2	35	—	—	—	—	e 66·6	e 73·8
Toronto	N.	133·7	20	—	—	e 52 48	?	72·6	—
Ottawa		134·4	16	—	—	—	—	71·6	—
Georgetown	Z.	138·7	22	—	—	—	—	e 73·6	—

Additional readings: Adelaide $iSR_2 = +21$m.35s., MN = +28·5m. Riverview MN = +30·6m. Honolulu T.H. eLN = +39·2m. De Bilt MZ = +72·2m. Ottawa eE? = +47m.35s.?, eLE? = +56·6m., LN = +69·6m.

Nov. 13d. 1h. 29m. 30s. Epicentre 29°·2N. 140°·5E.

$A = -\cdot674$, $B = +\cdot555$, $C = +\cdot488$; $D = +\cdot636$, $E = +\cdot772$; $G = -\cdot376$, $H = +\cdot310$, $K = -\cdot873$.

		Δ	Az.	P.	O−C.	S.	O−C.	L.	M.
		°	°	m. s.	s.	m. s.	s.	m.	m.
Nagoya		6·7	334	e 1 50	+ 8	3 19	+17	—	3·4
Osaka		6·9	323	1 44	− 1	(3 12)	+ 5	3·2	3·7
Sumoto		7·0	319	1 49	+ 3	3 14	+ 4	—	3·3
Kobe		7·1	322	1 46	− 2	(3 14)	+ 1	3·2	3·3
Toyooka		8·0	325	i 1 58	− 3	(3 32)	− 5	3·5	3·6
Mizusawa	E.	9·9	3	2 32	+ 3	4 27	+ 1	—	—
	N.	9·9	3	2 29	0	4 29	+ 3	—	—
Akita		10·5	358	2 36	− 1	(4 39)	− 4	4·7	4·7

Additional readings: Osaka MZ = +4·0m. Sumoto MN = +3·2m, MZ = +3·7m., MN = +3·8m. Kobe

Nov. 13d. Readings also at 0h. (Florence), 4h. (near Manzanillo and Tacubaya), 6h. (near Wellington), 10h. (near Koti and near Malaga), 13h. (Manila), 14h. (near Akita), 17h. (Andijan and Samarkand), 18h. (Andijan, Samarkand, Ekaterinburg, and Tashkent), 20h. (near Batavia), 21h. (Samarkand), 22h. (near Tacubaya).

Nov. 14d. 15h. 34m. 48s. Epicentre 39°·0N. 24°·8E. (as on 1925 Mar. 17d.).

$A = +·705$, $B = +·326$, $C = +·629$; $D = +·419$, $E = -·908$; $G = +·571$, $H = +·264$, $K = -·777$.

		Δ	Az.	P.	O−C.	S.	O−C.	L.	M.
		°	°	m. s.	s.	m. s.	s.	m.	m.
Taranto		6·0	286	1 31	− 1	2 1	−43	—	2·2
Belgrade		6·6	333	e 1 54	+13	e 3 18	+18	—	3·9
Trenta		6·6	275	e 1 22	−19	1 52	−68	—	—
Catania		7·8	262	e 3 11	?S	e 4 0	?	—	4·7
Mineo		8·2	261	3 24	?S	(3 24)	−18	—	—
Zagreb		9·4	319	2 27	+ 5	e 4 21	+ 8	—	4·8
Budapest		9·4	336	4 16	?S	(4 16)	+ 3	—	—
Rocca di Papa		9·6	291	e 1 39	−45	e 3 42	−36	—	6·8
Rome		9·8	291	e 2 42	+15	—	—	—	4·7
Graz		10·5	323	i 2 49	+12	e 4 37	− 6	—	5·3
Vienna	Z.	11·1	330	e 3 46	+60	—	—	—	—
Florence		11·2	300	e 2 12	−35	4 33	−26	—	6·7
Chur		13·7	310	e 3 21	− 1	e 5 4	−57	—	—
Ravensburg		14·1	310	—	—	e 5 57	−13	—	—
Zurich		14·5	311	e 2 12?	−81	—	—	—	—
Hohenheim		14·8	316	—	—	e 6 12?	−15	—	—
Strasbourg		15·6	314	—	—	e 6 12?	−34	—	—
Uccle		18·6	316	—	—	—	—	e 9·2	—

Additional readings: Belgrade ePSE = +2m.18s., eE = +3m.24s., eSR_1E = +3m.44s., MN = +4·1m. Zagreb PNE = +2m.33s., MN = +5·9m. Rocca di Papa e = +6m.6s.

Nov. 14d. 20h. 43m. 30s. Epicentre 0°·7S. 119°·7E. (as on 1929 Jan. 7d.).

$A = -·495$, $B = +·869$, $C = -·012$; $D = +·869$, $E = +·495$; $G = +·006$, $H = -·011$, $K = -1·000$.

		Δ	Az.	P.	O−C.	S.	O−C.	L.	M.
		°	°	m. s.	s.	m. s.	s.	m.	m.
Manila		15·3	5	e 3 38	− 5	i 6 27	−12	—	—
Hong Kong		23·6	347	5 15	− 9	9 36	0	—	10·9
Phu-Lien	E.	25·0	330	e 5 35	− 3	—	—	—	—
Adelaide		38·6	153	e 7 49	+ 6	i 12 50	−56	e 15·4	—
Melbourne		43·5	150	—	—	i 15 10	+15	—	24·0
Riverview		44·4	142	e 7 51	−38	i 14 11	−56	e 20·2	22·1
Bombay		50·0	297	11 1	$?PR_1$	16 24	+ 5	e 21·3	—
Irkutsk		54·5	349	i 11 24	?	19 59	?	29·5	—
Andijan		59·3	321	e 10 13	+ 6	—	—	—	—
Tashkent		61·9	320	i 10 27	+ 3	i 18 46	− 1	e 30·5	37·6
Samarkand		62·6	318	e 10 35	+ 6	—	—	—	—
Ekaterinburg		74·2	331	i 11 38	− 5	i 20 58	−18	29·5	—
Baku		75·2	314	—	—	e 22 28	+60	e 39·5	—
De Bilt		105·3	325	—	—	—	—	e 55·5	—
La Paz		161·2	156	19 57	[−12]	—	—	—	—

Additional readings: Adelaide iPR_2 = +8m.43s. Riverview iSR_1 = +17m.29s., MN = +22·7m. Tashkent e = +19m.45s. Ekaterinburg e = +21m.49s. = [S] +6s. Baku e = +26m.28s.

Nov. 14d. Readings also at 2h. (Samarkand), 9h. (near Taranto), 10h. (La Paz), 14h. (Port au Prince), 15h. (Andijan and near Samarkand), 16h. (Andijan and Samarkand), 17h. (Andijan), 20h. (Mizusawa).

Nov. 15d. 18h. 50m. 25s. Epicentre 8°·0N. 143°·0E.

A = −·791, B = +·596, C = +·139; D = +·601, E = +·799; G = −·111, H = +·084, K = −·990.

A correction for focal depth 0·010 has been applied.

		Corr. for Focus	Δ	Az.	P.	O−C.	S.	O−C.	L.	M.
		°	°	°	m. s.	s.	m. s.	s.	m.	m.
Amboina		−0·3	18·8	232	i 4 8	−15	i 7 45	− 6	—	—
Manila		−0·4	22·6	289	5 2	− 5	i 9 10	+ 1	i 11·4	13·9
Isigakizima		−0·5	24·4	314	5 23	− 4	10 5	+23	—	—
Muroto		−0·5	26·5	343	e 5 51	+ 3	+10 33	+11	e 12·1	—
Taihoku	E.	−0·5	26·6	312	e 5 35	−14	(10 14)	−10	10·2	—
Koti		−0·5	27·0	342	e 5 3	−50	9 35	−57	—	—
Sumoto		−0·5	27·4	346	5 55	− 2	10 35	− 4	—	13·1
Nagasaki		−0·6	27·6	335	e 5 57	− 1	e 10 36	− 5	—	12·0
Osaka		−0·6	27·6	346	5 53	− 5	(10 44)	+ 3	10·7	13·5
Kobe		−0·6	27·7	346	i 5 57	− 2	10 35	− 8	12·3	16·6
Nagoya		−0·6	27·8	349	e 6 5	+ 5	12 39	?L	(12·7)	14·8
Tokyo		−0·6	27·8	354	5 57	− 3	10 38	− 7	—	—
Hukuoka		−0·6	28·1	337	5 54	− 9	(10 44)	− 6	10·7	14·7
Toyooka		−0·6	28·5	346	e 7 5	+58	i 10 56	− 1	i 12·7	18·3
Zi-ka-wei		−0·7	30·7	324	i 6 41	+13	11 53	+19	14·4	22·8
Hong Kong		−0·7	31·2	300	6 24	− 9	11 34	− 9	—	14·3
Mizusawa		−0·7	31·2	358	6 23	−10	11 37	− 6	18·0	—
Akita		−0·7	31·8	357	6 29	−10	11 42	−11	16·8	21·5
Sapporo		−0·8	35·1	358	7 2	− 5	12 34	−10	—	—
Phu-Lien		−0·8	37·4	295	i 7 17	−10	e 12 52	−26	16·6	20·5
Batavia	Z.	−0·8	38·8	250	—	—	—	—	19·2	—
Sydney	E.	−0·8	42·5	170	7 17	−52	14 5	−26	22·7	23·8
Riverview		−0·8	42·5	170	e 7 50	−19	i 14 12	−19	e 21·0	24·5
Adelaide		−0·8	43·1	185	e 7 51	−22	i 14 13	−26	i 18·9	25·6
Suva	E.	−0·8	43·6	129	8 29	+12	—	—	i 19·1	20·6
	N.	−0·8	43·6	129	i 8 35	+18	i 14 41	− 4	19·6	25·6
Melbourne		−0·9	45·8	178	i 8 30	− 2	15 0	−14	21·3	25·6
Perth		−0·9	47·6	211	8 35	−10	15 35	− 2	23·2	30·4
Apia		−0·9	49·9	115	9 23	+23	16 17	+11	23·6	26·6
Calcutta	E.	−1·0	54·3	293	(8 54)	−34	(16 39)	−21	(28·0)	(28·8)
	N.	−1·0	54·3	293	(8 48)	−40	(16 26)	−34	(27·8)	(28·5)
Irkutsk		−1·0	54·4	332	9 33	+ 4	i 16 56	− 5	27·6	34·9
Wellington	E.	−1·1	57·3	150	i 9 50	+ 3	i 17 15	−21	i 28·8	29·6
	N.	−1·1	57·3	150	i 9 48	+ 1	i 17 16	−20	27·6	27·6
Christchurch		−1·1	58·1	154	—	—	—	—	29·5	32·3
Honolulu T.H.	E.	−1·1	58·5	70	9 59?	+ 4	? 18 15	+24	26·2	—
Colombo		−1·2	62·6	275	10 24	+ 3	18 54	+13	31·9	39·7
Hyderabad		−1·2	63·4	286	10 41	+15	19 4	+13	32·2	43·0
Agra	E.	−1·2	64·1	298	10 11	−20	18 51	− 9	e 33·8	36·3
Dehra Dun		−1·2	64·4	300	12 35?	?	19 35	+32	26·7	35·6
Kodaikanal		−1·2	64·7	278	(e 10 5)	−30	—	—	(i 27·6)	44·2
Almata		−1·2	67·1	315	10 2	−48	—	—	29·1	—
Bombay		−1·2	68·7	289	11 11	+10	18 59	−57	29·6	32·9
Andijan		−1·3	70·2	311	11 20	+10	20 37	+24	35·6	—
Tashkent		−1·3	72·5	312	i 11 32	+ 8	—	—	—	49·7
Samarkand		−1·3	74·2	310	11 43	+ 8	21 15	+14	35·6	—
Sitka	N.	−1·3	78·8	34	—	—	e 22 13	[− 2]	32·5	—
Ekaterinburg		−1·3	79·1	327	e 12 7	+ 1	22 2	+ 4	32·6	44·6
Victoria		−1·4	86·5	42	12 52	+ 3	23 30	+10	36·4	45·8
Baku		−1·4	87·2	312	12 53	+ 1	23 31	+ 3	41·1	—
Berkeley	E.	−1·4	88·8	52	e 12 59	− 2	e 23 27	[+ 6]	43·1	—
	N.	−1·4	88·8	52	e 13 5	+ 4	e 23 47	+ 2	41·3	—
Lick		−1·4	89·4	52	e 13 2	− 3	23 35	−17	e 40·0	49·3
Kucino		−1·4	91·8	327	13 13	− 5	23 50	[+11]	40·7	50·5

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.
Pulkovo		−1·4	94·2	333	13 20	−11	24 31	−12	39·6	66·5
Helsingfors		−1·4	96·4	334	13 31	−12	24 54	−12	45·6	—
Theodosia		−1·4	96·6	319	e 13 36	− 8	24 17	[+11]	—	—
Simferopol		−1·4	97·4	319	e 13 43	− 6	—	—	—	—
Yalta		−1·4	97·5	319	13 41	− 9	—	—	—	—
Tananarive		−1·4	97·7	253	—	—	24 57	? Σ	e 46·7	51·9
Ksara		−1·4	99·5	308	e 13 52	− 9	24 16	[− 5]	52·1	59·6
Upsala		−1·4	99·6	336	e 17 23	[−22]	e 24 21	[− 1]	e 47·6	56·6
Scoresby Sund		−1·4	100·8	355	13 53	−14	24 39	[+11]	45·6	—
Konigsberg		−1·4	101·1	330	e 17 23	[−27]	26 38	—	—	60·2
Denver		−	101·3	47	—	—	—	—	e 42·1	e 49·6
Bergen		−	103·9	340	e 18 35?	[+34]	—	—	e 52·6	60·6
Helwan		−	104·4	305	14 10	−22	i 24 47	[+ 2]	—	61·4
Copenhagen		−	104·4	335	14 11	−21	24 52	[+ 7]	45·6	—
Budapest		−	105·7	325	e 18 35?	[+28]	28 5	?PS	47·1	61·6
Belgrade		−	106·3	322	e 14 40	− 1	e 24 2	[−51]	e 48·6	59·7
Hamburg		−	106·8	334	e 17 55	[−16]	—	—	e 50·6	57·6
Vienna		−	106·8	326	e 17 52	[−19]	(25 7)	[+11]	e 49·6	70·6
Jena		−	107·8	330	e 18 59	?PR$_1$	—	—	e 51·6	56·6
Cheb		−	107·9	330	e 19 1	?PR$_1$	e 28 29	?PS	51·6	64·6
Graz		−	108·0	325	e 21 9	?	—	—	49·6	72·6
Gottingen		−	108·1	332	e 18 5	[−10]	25 5	[+ 3]	e 58·2	67·1
Zagreb		−	108·4	324	—	—	—	—	e 52·1	55·6
Dyce		−	108·8	341	19 5	?PR$_1$	i 28 30	?PS	50·8	56·5
Laibach	N.	−	109·1	325	—	—	—	—	e 51·2	—
Feldberg	N.	−	109·8	332	e 19 6	?PR$_1$	e 28 23	?PS	—	57·6
De Bilt		−	110·0	334	—	—	—	—	e 51·6	58·9
Edinburgh		−	110·2	340	—	—	i 25 25	[+14]	50·6	58·1
Entebbe		−	110·3	274	19 5?	?PR$_1$	—	—	—	58·1
Ivigtut		−	110·3	5	—	—	25 17	[+ 6]	45·6	—
Hohenheim		−	110·3	330	—	—	e 25 5	[− 6]	55·6	69·2
Karlsruhe		−	110·5	330	37 35?	?	48 9	?	e 60·6	—
Ravensburg		−	110·7	330	—	—	—	—	e 49·6	65·0
Treviso		−	110·7	325	e 19 25	?PR$_1$	e 29 15	?PS	52·6	72·6
Padova		−	111·0	325	20 35?	?	29 20	?PS	e 52·6	56·6
Uccle		−	111·2	334	e 19 29	?PR$_1$	—	—	51·6	59·4
Strasbourg		−	111·2	330	e 14 45	−18	35 17	?SR$_1$	52·6	65·1
Chur		−	111·4	329	e 19 35?	?PR$_1$	—	—	e 56·0	—
Zurich		−	111·5	329	—	—	—	—	e 49·6	—
Stonyhurst		−	111·6	337	e 19 49	?PR$_1$	—	—	e 53·0	59·6
Florissant		−	111·9	41	e 18 16	[−12]	—	—	e 46·6	e 58·3
Chicago	N.	−	112·1	38	—	—	27 6	−41	46·2	—
Bidston		−	112·2	337	19 29	?PR$_1$	28 52	?PS	49·4	66·2
Florence		−	112·3	324	e 15 21	+13	28 55	?PS	58·6	63·6
Piacenza		−	112·4	326	18 35	[+ 6]	29 7	?PS	48·6	68·3
Neuchatel		−	112·6	330	e 19 30	?PR$_1$	e 30 4?	?	—	—
Rocca di Papa		−	112·6	321	i 19 40	?PR$_1$	e 29 17	?PS	e 54·9	68·5
Rome		−	112·7	321	e 18 55	[+25]	—	—	—	—
Kew		−	112·7	336	—	—	—	—	54·6	58·5
Oxford		−	112·8	337	e 19 32	?PR$_1$	i 29 3	?PS	e 51·6	58·9
Messina		−	112·8	316	20 4	?PR$_1$	—	—	—	—
Tacubaya		−	112·9	65	20 5	?PR$_1$	29 26	?PS	52·6	—
Besançon		−	113·0	330	—	—	—	—	54·6	—
Livorno		−	113·0	324	e 20 55	?	—	—	—	—
Catania		−	113·4	316	e 18 6	[−26]	—	—	e 56·6	75·6
Paris		−	113·5	333	—	—	—	—	40·6	67·6
Monćalieri		−	113·5	327	16 25	?	27 45	−13	44·3	64·0
		−	113·5	327	e 17 55	[−37]	e 29 25	?PS	44·6	76·3
Ann Arbor	E.	−	114·1	35	—	—	—	—	51·6	60·3
Toronto	N.	−	115·7	31	e 19 50	?PR$_1$	i 27 39	−37	51·1	64·4
Ottawa		−	116·3	28	e 19 38	?PR$_1$	e 27 46	−34	e 47·0	61·1
Bagnères		−	118·7	330	—	—	(e 27 35?)	? Σ	e 27·6	—

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.
Barcelona		−	118·9	326	—	—	e 36 43	?SR_1	e 56·0	63·7
Charlottesville	N.	−	119·9	36	—	—	e 24 43	[−59]	e 59·3	—
Georgetown	Z.	−	120·2	35	e 18 17	[−36]	—	—	e 43·6	65·9
Tortosa	N.	−	120·2	328	e 21 30	?	—	—	54·6	80·8
Fordham		−	120·6	31	e 20 25	?PR_1	e 25 53	[+ 7]	48·5	59·6
Harvard		−	120·8	28	e 20 35?	?PR_1	—	—	e 54·6	—
Algiers		−	121·6	322	—	—	—	—	49·6	73·6
Alicante		−	122·6	327	e 21 6	?PR_1	—	—	e 59·1	—
Cape Town		−	122·9	234	—	—	i 28 45	?	—	—
Toledo		−	123·3	331	—	—	e 31 2	?PS	e 55·2	64·6
Almeria		−	124·6	327	20 52	?PR_1	33 42	?	60·2	62·7
Granada		−	125·1	328	i 19 5	[− 1]	—	—	62·6	75·2
Malaga		−	125·5	328	e 20 36	?PR_1	e 33 44	?	43·6	65·3
San Fernando		−	127·0	330	20 55	?PR_1	33 18	?	59·6	74·5
La Plata		−	147·0	148	19 43	[− 8]	—	—	60·9	—
La Paz		−	148·4	109	19 49	[− 4]	27 9	[+32]	70·8	85·0
Sucre		−	150·4	115	i 19 59	[+ 3]	27 57	?	72·1	80·0
Rio de Janeiro	E.	−	164·0	159	e 21 10	[+59]	31 5	?Σ	46·3	—
	N.	−	164·0	159	e 20 58	[+47]	31 7	?Σ	46·4	—

Additional readings and notes: Amboina iE = +4m.25s. Taihoku SE = +7m.33s. Koti PR_1 = +5m.38s., PR_2 = +6m.1s., eSR_1N = +11m.9s., iS_cSN = +15m.46s. Sumoto MN = +12·9m., MZ = +14·0m. Nagasaki eSN = +10m.43s., MN = +11·1m. Osaka MN = +14·0m. MZ = +16·5m., Kobe PR_1 = +6m.58s., MZ = +16·6m., MN = +17·7m. Nagoya MN_1 = +18·4m. Hukuoka eS = +9m.8s. Toyooka ePR_1E = +7m.43s., iPR_1N = +7m.50s., iSN = +10m.58s., MN = +20·6m. Zi-ka-wei PR_2Z = +7m.51s., iN = +20m.33s., and +21m.21s. Hong Kong MN = +13·7m. Mizusawa LN = +15·5m. Akita MN = +21·0m., MZ = +21·3m. Phu-Lien iSR_2? = +15m.53s., MN = +16·8m. Batavia iZ = +8m.30s. = PR_1 − 28s. Sydney SR_2E = +18m.11s. Riverview iP = +7m.54s. and +8m.0s., iPR_1 = +9m.36s., P_cP = +9m.44s., PS = +14m.26s., iSR_1 = +17m.22s., S_cS = +17m.42s., MZ = +21·4m. T_e = 18h.50m.3s. Adelaide iP = +7m.55s. and +8m.1s., i = +9m.36s. = PR_1 − 13s., +10m.27s. = PR_2 + 6s., +14m.25s., +15m.41s., and +17m.33s. = SR_1 − 1s. Suva PR_1N = +9m.35s., iPR_1E = +9m.59s., iSR_1E = +16m.59s., SR_2N = +18m.35s. Perth S = +13m.35s., SR_1 = +18m.35s. Apia PR_2? = +12m.0s., SR_1 = +20m.23s. Calcutta readings have been *increased* by 2m. Wellington iPR_1E = +12m.22s., iPR_2N = +13m.4s., iPR_2E = +13m.21s., iSR_1N = +21m.57s., iSR_1E = +22m.12s.; T_eN = 18h.50m.47s.: T_eE = 18h.50m.54s. Honolulu T.H. PR_1E = +12m.24s., eN = +12m.59s., iSN = +18m.11s., LN = +24·0m. Hyderabad MN = +46·0m. Kodaikanal P and L have been *increased* by 10m. Sitka eSR_1N = +26m.52s. Victoria LN = +35·6m.; T_e = 18h.50m.27s. Berkeley ePZ = +13m.0s., eN = +24m.49s. = PS − 3s., eE = +24m.51s., +29m.3s., and +32m.27s., eN = +36m.41s., eZ = +41m.43s. Lick eN = +13m.12s., eE = +17m.7s. = PR_1 + 15s., and = +19m.17s. = PR_2 + 13s., eSEN = +24m.1s., ePSN = +25m.1s., ePSE = +25m.5s., eN = +26m.44s., eSR_1E = +29m.27s., eN = +29m.47s. and +31m.29s., eSR_2N = +36m.59s. Pulkovo S_cP_cS = +23m.54s. Helsingfors PR_1 = +17m.26s., S_cP_cSE = +24m.10s., $S_cP_cP_cS$ = +24m.38s. = Σ − 6s., PS = +25m.54s., PPS = +26m.41s., e$P_cP_cP_cP$ = +30m.52s., SR_I = +31m.31s., e = +33m.11s., eSR_2 = +35m.30s., e = +37m.49s., SR_2 = +38m.54s. Tananarive ePR_1 = +17m.36s., eE = +18m.0s., ePR_2 = +19m.56s., S_cP_cS = +24m.16s., PSE = +25m.55s., PPSN = +26m.55s., eN = +29m.0s., $P_cP_cP_cPN$ = +29m.55s., iSR_1E = +31m.48s., eE = +32m.15s. Ksara EN = +17m.21s. = [P] − 24s., E = +19m.17s., N = +19m.23s., and +20m.59s., E = +21m.4s. Upsala SR_1 = +32m.4s., SR_2 = +36m.17s., MN = +51·9m. Scoresby Sund PR_1 = +18m.5s., eE = +25m.17s. = Σ − 3s., PS = +27m.10s., SR_1 = +32m.47s. Konigsberg eN = +18m.11s. = PR_1 − 10s., eE = +20m.24s., eN = +21m.17s. = PR_2 + 11s., eE = +21m.26s., eSR_1N = +22m.26s., eEN = +27m.6s. = PS − 12s. eE = +27m.23s. and +32m.54s. = SR_1 + 3s., MZ = +54·6m. Copenhagen P'Z = +17m.26s., PR_1 = +18m.28s., S_cP_cS = +24m.52s., $S_cP_cP_cS$ = +25m.35s., PS = +27m.43s., SR_1 = +33m.21s. Budapest MN = +56·6m. Belgrade ePR_1E = +18m.19s., eE = +21m.22s., +23m.31s., and +25m.30s. = Σ − 20s., ePSE = +27m.20s. Hamburg eN = +27m.35s. Vienna P' = +18m.54s. = PR_1 − 4s., PR_1 = +21m.15s., S_cP_cPcS = +28m.20s., PPS = +34m.18s. = SR_1 + 16s., PSS = +40m.16s., [S] is given as PR_2 Jena eN = +28m.5s. = PS − 29s., eEZ = +28m.25s., eN = +34m.35s. = SR_1 + 19s., eEZ = +35m.35s., eN = +38m.35s., eLZ = +53·6m., MN = +56·1m., MZ = +64·6m. Cheb eSR_1 = +34m.31s., MN = +58·6m. Graz e = +28m.17s.

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=PS −19s. ? = +34m.19s. =SR_1 +1s. e = +34m.41s. Gottingen eN = +56m.21s., eLZ = +64·9m. Zagreb e = +27m.35s. ? and +34m.5s. = SR_1 −17s. Feldberg eE = +35m.3s., ME = +58·0m. De Bilt ePR_1Z = +19m.14s., eEZ = +28m.37s. =PS −21s., eN = +28m.46s., MN = +60·3m., MZ = +64·4m. Edinburgh i = +29m.14s. =PS +14s., +34m.47s. =SR_1 +3s. and +35m.19s. Ivigtut +26m.59s. Hohenheim ePR_1 = +19m.5s., ePR_2E = +22m.5s., ePS = +28m.55s., ePPSN = +29m.56s., eSR_1 = +35m.10s., eE = +39m.5s., MN = +66·6m. Ravensburg ePR_1 = +19m.35s. ?, eN = +23m.55s., ePS = +28m.50s., ePPS = +29m.50s., eSR_1 = +35m.10s., eE = +38m.55s., eN = +39m.50s., and +43m.30s., MN = +66·6m. Uccle i = +28m.52s. =PS −19s., and +35m.17s. =SR_1 +19s., MN = +61·1m. Strasbourg P′ = +18m.50s., PR_1 = +19m.23s., PS = +28m.50s., MN = +64·8m., MZ = +68·0m. Stonyhurst e = +29m.17s. =PS +1s., eL = +35m.24s. Florissant eP = +14m.36s. =P −31s., eE = +15m.6s., eP′Z = +19m.12s. =PR_1 −19s., PR_1 = +19m.21s., eEN = +27m.6s., and +27m.8s., ePSEN = +28m.46s., iPSE = +29m.3s., eE = +30m.41s., +31m.46s., and +33m.21s. Chicago PR_1N = +19m.43s., PR_1E = +19m.46s., e$S_cP_cP_c$SN = +25m.36s., PSN = +28m.55s., PSE = +28m.59s., SR_1N = +34m.57s., SR_1E = +35m.7s., SR_2E = +39m.5s., LE = +47·6m. Piacenza MN = +75·1m. Rocca di Papa i = +30m.21s., L = +58·4m. Rome i = +19m.46s. =PR_1 +10s. Kew iPR_1 = +19m.34s., ePS = +29m.1s., SR_1 = +35m.29s., MN = +57·5m., MZ = +63·4m. Oxford i = +35m.24s. = SR_1 +6s., e = +38m.30s., MN = +60·0m. Besançon e = +29m.14s. = PS −17s., e = +35m.27s. =SR_1 +7s. Paris ePR_1Z = +19m.40s., MN = +61·6m. Moncalieri (first line) MN = +67·6m. Ann Arbor e?N = +19m.47s. =PR_1 +2s., eN = +21m.59s., e?E = +23m.35s., e?EN = +27m.29s., eE = +29m.23s. =PS −20s., e = +29m.47s., eE = +43m.53s., MN = +51·9m. Toronto iN = +29m.35s. =PS −25s. and +47m.5s., ME = +61·7m. Ottawa e = +19m.54s., eN = +26m.35s. = Σ −16s., iN = +29m.38s., iE = +32m.18s., i = +36m.5s. =SR_1 +4s., eE = +40m.35s., eL? = +52·6m., MN = +64·6m. Barcelona MN = +61·8m. Charlottesville ePSN = +29m.57s., eSR_1N = +35m.55s., eSR_2N = +42m.51s. Georgetown ePZ = +14m.4s., iZ = +20m.27s. =PR_1 +1s., PR_1Z = +21m.0s., S_cP_cPZ = +22m.24s., e$S_cP_cP_c$SZ = +24m.4s. =PR_1 +17s., eZ = +26m.42s., e$S_cP_cP_cP_c$SZ = +27m.14s., iPSZ = +30m.30s., PR_2Z = +33m.10s., iZ = +40m.4s., +41m.11s., and +44m.12s. Tortosa ME = +67·1m. Fordham e = +28m.17s., iEN = +30m.18s., i = +32m.28s., eEN = +37m.3s. =SR_1 +7s., eE = +37m.58s., eEN = +41m.38s., eLN = +43·6m., MN = +67·6m. Toledo PR_1 = +20m.54s., PR_2NE = +26m.8s. Almeria PS = +31m.42s. Granada PR_1 = +22m.0s., SPP = +23m.37s., PR_2 = +25m.36s., G = +37m.5s. Malaga MN = +67·0m. San Fernando MN = +82·9m. La Paz iP′N = +19m.54s., PR_1N = +24m.4s., S_cP_cSP = +33m.41s., iE = +38m.0s., SR_1N = +42m.49s., iE = +44m.39s., SR_2E = +48m.19s., SR_2N = +48m.41s., MN = +89·2m. Sucre PR_1? = +23m.53s., i = +26m.41s., S_cP_cSP = +33m.59m., i = +35m.50s., SR_1 = +42m.47s., SR_2 = +47m.59s., L_q = +62·2m.

Nov. 15d. Readings also at 0h. (Wellington and near Manila), 2h. (near Andijan and Samarkand), 5h. (Taihoku, Simferopol, Theodosia, and Yalta), 6h. (Almata, Andijan (2), and Samarkand (2)), 7h. (Florence), 9h. (Ekaterinburg), 11h. (Tucson), 12h. (Ekaterinburg and Ksara), 14h. (Ekaterinburg, Baku, Ksara, and Yalta), 18h. (Catania and Mineo), 19h. (near Wellington), 21h. (Tananarive, Andijan, and near Samarkand), 22h. (Samarkand).

Nov. 16d. 13h. 3m. 36s. Epicentre 35°·0N. 78°·0E. (as on 1926 Aug. 6d.).

A = +·170, B = +·801, C = +·574; D = +·978, E = −·208; G = +·119, H = +·561, K = −·819.

	Δ	Az.	P.	O−C.	S.	O−C.	L.	M.
	°	°	m. s.	s.	m. s.	s.	m.	m.
Andijan	6·9	321	1 32	−13	(2 32)	−35	2·5	3·9
Almata	8·3	355	1 57	− 9	(3 21)	−24	3·4	4·1
Tashkent	9·3	315	e 2 24	+ 4	(4 12)	+ 2	4·2	4·4
Samarkand	9·9	301	—	—	—	—	i 3·5	3·9
Baku	22·8	292	e 5 46	+31	e 9 27	+ 6	—	—
Ekaterinburg	24·8	337	5 32	− 4	e 9 51	− 8	—	—

Tashkent gives also i = +3m.19s.

Nov. 16d. 22h. 48m. 30s. Epicentre 27°·5N. 106°·0E.

A = −·244, B = +·853, C = +·462; D = +·961, E = +·276; G = −·127, H = +·444, K = −·887.

Very doubtful.

		Δ	Az.	P.	O−C.	S.	O−C.	L.	M.
		°	°	m. s.	s.	m. s.	s.	m.	m.
Phu-Lien		6·7	176	1 44	+ 2	e 3 3	+ 1	3·2	—
Hong Kong		9·1	123	—	—	e 4 5	− 1	5·9	6·8
Irkutsk		24·8	357	e 5 23	−13	e 10 7	+ 8	e 13·5	—
Bombay		31·5	264	e 9 37	?	—	—	—	17·5
Tashkent		33·0	306	—	—	e 12 6	−18	e 17·3	19·8
Ekaterinburg		43·3	327	i 5 41	?	e 14 8	−44	21·5	—
Baku		47·5	301	—	—	—	—	e 24·5	—
Kucino		55·4	321	—	—	—	—	e 28·2	—
Adelaide		69·7	151	—	—	—	—	e 57·9	61·8
Riverview		74·8	142	—	—	—	—	e 54·0	55·4
Suva	N.	83·6	115	—	—	—	—	e 41·1	45·1
Apia		89·7	105	—	—	—	—	e 41·8	51·0
Christchurch		93·6	138	—	—	—	—	e 49·7	54·1
Wellington	E.	93·7	135	—	—	—	—	e 47·6	—

Additional readings: Hong Kong MN = +6·3m. Adelaide MN = +60·7m. Riverview e = +51m.36s. Suva iE = +42m.36s. and +44m.48s., iN = +44m.6s.

Nov. 16d. Readings also at 8h. (Andijan), 10h. (Florissant and Tucson), 11h. (Ann Arbor, Chicago, Fordham, Georgetown, Victoria, Toronto, Ottawa, Ivigtut, Scoresby Sund, Kobe, and near Sumoto), 13h. (Wellington), 15h. (Ekaterinburg, Wellington, and Suva), 16h. (Ekaterinburg and near Toyooka), 17h. (Baku), 18h. (La Paz), 19h. (St. Louis and Taihoku), 23h. (La Paz).

Nov. 17d. 3h. 43m. 5s. Epicentre 6°·5N. 126°·0E.

(as on 1927 April 16d.).

A = −·584, B = +·804, C = +·113; D = +·809, E = +·588; G = −·006, H = +·092, K = −·994.

Batavia gives epicentre as 6°·6N. 126°·7E., and Manila gives 7°·3N. 126°·2E.

		Δ	Az.	P.	O−C.	S.	O−C.	L.	M.
		°	°	m. s.	s.	m. s.	s.	m.	m.
Manila	E.	9·5	330	2 34	+11	i 4 19	+ 3	—	6·3
Amboina		10·4	168	i 2 56	+20	i 5 18	+38	—	—
Taihoku	E.	19·0	347	e 4 12	−17	—	—	8·1	—
Hong Kong		19·5	326	4 38	+ 3	8 15	+ 2	—	10·4
Batavia		22·9	237	i 5 20	+ 4	i 10 1	?SR_1	12·9	17·0
Phu-Lien		23·6	309	i 5 23	− 1	9 36	0	11·9	16·2
Zi-ka-wei	E.	25·0	351	5 37	− 1	9 53	−10	—	—
Nagasaki		26·5	7	e 6 14	+21	e 10 22	−10	11·7	12·3
Hukuoka		27·4	8	e 6 21	+19	10 47	− 1	—	13·0
Muroto		27·8	51	6 10	+ 4	—	—	—	—
Koti		28·0	13	e 6 6	− 2	(10 59)	0	11·4	—
Sumoto		29·0	15	6 5	−13	—	—	13·7	21·6
Kobe		29·4	15	6 7	−15	11 20	− 4	e 13·7	23·9
Osaka		29·5	16	6 25	+ 2	12 4	−22	14·4	15·4
Toyooka	E.	30·2	15	e 7 8	?PR_1	i 11 33	− 4	—	—
	N.	30·2	15	e 7 0	+30	i 11 35	− 2	i 14·5	—
Nagoya		30·4	18	e 6 18	−14	7 22	?PR_1	—	11·6
Tokyo		31·8	21	6 33	−12	13 6	+61	—	—
Mizusawa	E.	35·4	21	7 2	−15	12 32	−29	—	—
	N.	35·4	21	7 1	−16	12 34	−27	17·1	—

Continued on next page.

		Δ	Az.	P.	O−C.	S.	O−C.	L.	M.
		°	°	m. s.	s.	m. s.	s.	m.	m.
Akita		35·6	20	e 7 11	− 7	12 44	−20	17·0	17·8
Perth		39·6	194	i 7 45	− 6	13 40	−20	16·9	—
Calcutta	E.	39·7	299	7 49	− 3	14 34	+32	—	—
	N.	39·7	299	7 52	0	14 42	+40	—	—
Adelaide		42·9	166	i 8 21	+ 4	i 14 51	+ 4	i 20·1	25·3
Colombo		45·9	273	8 34	− 5	15 14	−13	23·5	27·1
Sydney	E.	46·8	151	8 43	− 3	14 43	−55	19·1	19·7
Riverview		46·8	151	i 8 36	−10	i 15 43	+ 5	e 23·4	28·1
Hyderabad		47·7	289	8 49	− 3	15 13	−37	22·4	31·2
Melbourne		47·7	160	e 8 44	− 8	15 54	+ 4	25·1	27·3
Kodaikanal		48·2	278	—	—	—	—	i 34·7	45·6
Irkutsk		49·1	344	i 8 54	− 7	15 50	−17	25·9	33·9
Dehra Dun		50·9	306	9 45	+33	16 35	+ 5	21·3	36·9
Bombay		53·2	289	9 34	+ 7	17 16	+17	28·1	35·1
Almata		56·5	320	9 55	+ 6	18 5	+25	—	—
Suva	E.	57·2	117	i 10 49	+56	i 18 19	+30	28·7	30·9
Andijan		58·5	315	—	—	18 14	+ 9	—	—
Tashkent		61·1	316	i 10 31	+11	i 18 38	+ 1	28·9	40·0
Samarkand		62·2	313	10 31	+ 5	—	—	24·9	—
Apia		65·0	109	10 49	+ 4	19 44	+19	30·7	33·4
Christchurch		65·4	145	11 8	+21	19 44	+14	31·3	—
Wellington	E.	65·4	141	i 11 10	+23	i 19 48	+18	31·8	33·6
	N.	65·4	141	i 11 6	+19	i 19 54	+24	30·9	40·7
Ekaterinburg		71·2	330	i 11 27	+ 3	20 36	− 4	27·9	42·3
Honolulu T.H.	E.	74·8	69	i 11 47	− 1	i 21 41	+17	33·6	—
	N.	74·8	69	e 12 14	+26	i 21 38	+14	e 29·4	—
Baku		75·2	312	i 11 53	+ 3	i 21 30	+ 2	36·4	46·9
Tananarive	E.	81·3	250	12 45	+18	i 23 14	+36	39·5	58·1
	N.	81·3	250	—	—	i 23 9	+31	41·4	—
Kucino		83·6	326	12 38	− 2	22 53	−12	48·8	53·0
Theodosia		85·8	317	12 56	+ 4	23 48	+20	—	—
Ksara		86·5	305	12 57	+ 1	23 25	−11	40·9	—
Yalta		86·7	316	e 13 0	+ 3	—	—	—	—
Simferopol		86·8	316	13 0	+ 2	23 56	+17	—	—
Pulkovo		87·2	331	i 12 53	− 7	23 25	−18	41·9	52·1
Sebastopol		87·2	316	e 13 6	+ 6	24 4	+21	—	—
Helsingfors		89·8	331	e 13 5	−10	e 23 53	−19	e 39·4	—
Helwan		90·8	300	e 13 11	− 9	24 0	−22	—	63·5
Upsala		93·4	333	e 13 22	−12	24 14	−35	e 41·9	59·4
Konigsberg		93·4	326	e 13 39	+ 5	i 24 21	−28	e 42·3	60·7
Entebbe		93·4	272	13 24	−10	24 22	−27	46·4	49·7
Belgrade		96·3	317	e 15 48	+117	e 26 58	+99	e 49·2	61·1
Budapest		96·4	319	13 40	−11	24 35	[+31]	e 43·9	64·9
Copenhagen		97·5	329	13 43	−14	25 28	− 3	40·9	—
Vienna		97·9	320	e 13 45	−14	24 28	[+16]	—	68·9
Victoria	E.	98·6	40	14 4	+ 1	24 39	[+22]	45·4	46·9
	N.	98·6	40	14 11	+ 8	24 36	[+19]	40·8	—
Bergen		98·7	335	e 18 23	?PR_1	—	—	e 50·9	60·9
Graz		98·9	321	e 18 11	?PR_1	25 39	− 6	45·9	67·0
Zagreb		99·0	318	e 13 22	−43	e 24 20	[+ 1]	e 46·6	59·5
Cheb		99·7	325	e 23 1	?	e 32 56	?SR_4	e 45·9	65·9
Taranto		99·7	315	18 5	?PR_1	24 24	[+ 2]	80·9	—
Hamburg		99·7	327	e 13 55	−14	i 24 55	? Σ	e 45·9	58·9
Jena	E.	99·8	325	e 14 55	+45	e 24 25	[+ 2]	e 46·9	53·7
	N.	99·8	325	—	—	e 23 49	[−34]	e 44·9	48·4
Laibach	N.	99·8	320	—	—	—	—	e 49·7	—
Scoresby Sund		100·0	350	18 7	?PR_2	24 57	[+33]	—	—
Gottingen		100·5	327	—	—	e 24 27	[+ 1]	e 47·4	63·9
Treviso		101·5	320	e 14 55	+37	e 24 40	[+ 9]	49·9	—
Padova		101·8	320	24 53	?[S]	26 11	− 2	—	—
Feldberg	N.	102·0	326	e 18 49	?PR_1	e 25 49	−26	—	62·9
Hohenheim	E.	102·1	325	—	—	e 25 6	[+32]	59·9	67·9
	N.	102·1	325	—	—	i 26 14	− 2	e 46·9	65·4

Continued on next page.

		Δ	Az.	P.	O−C.	S.	O−C.	L.	M.
		°	°	m. s.	s.	m. s.	s.	m.	m.
Catania		102·2	311	e 15 43	?	e 24 47	[+12]	e 52·0	—
Ravensburg		102·3	324	—	—	i 26 15	− 3	e 46·9	66·9
Strasbourg		102·4	321	e 14 7	−15	i 26 20	+ 1	41·9	61·3
Karlsruhe		102·5	325	14 19	− 4	26 20	0	e 56·9	—
Rocca di Papa		102·6	315	e 16 47	?	i 24 5	[−31]	e 50·4	—
Berkeley	E.	102·8	49	—	—	e 25 7	? Σ	e 46·7	—
Chur		102·8	322	e 14 8	−16	e 24 39	[+ 2]	—	—
Florence		102·8	318	14 10	−14	26 15	− 7	55·9	60·9
De Bilt		102·9	327	e 14 8	−17	e 25 14	? Σ	e 44·9	54·8
Zurich		103·1	323	e 17 18	[−40]	e 26 30	+ 5	—	—
Piacenza		103·3	320	18 1	[+ 2]	25 5	? Σ	38·6	79·2
Lick		103·4	49	e 18 17	[+18]	e 25 12	? Σ	e 46·9	58·5
Dyce		103·7	334	e 15 14	+45	i 25 14	? Σ	33·1	50·1
Uccle		104·0	326	e 18 34	?PR_1	i 25 18	? Σ	43·9	55·5
Neuchatel		104·3	324	e 14 55?	+24	e 25 55?	? Σ	—	—
Moncalieri		104·6	320	e 18 31	?PR_1	i 26 22	−16	41·8	61·9
Besançon		104·8	321	—	—	e 26 33	− 7	96·9	—
Edinburgh		105·0	333	—	—	25 20	? Σ	46·9	58·5
Stonyhurst		105·9	331	e 19 15	?PR_1	i 25 27	[+35]	e 47·9	59·9
Kew		106·1	328	e 14 19	−21	e 25 22	[+30]	45·9	60·0
Paris		106·1	324	e 14 55?	+15	e 26 55?	+ 2	51·9	56·9
Oxford		106·4	328	e 19 7	?PR_1	e 24 59	[+ 5]	e 42·4	66·7
Bidston		106·4	331	19 16	?PR_1	25 24	? Σ	45·5	61·5
Cape Town		108·1	235	—	—	i 25 46	? Σ	—	—
Barcelona		109·9	319	—	—	e 25 58	? Σ	e 51·9	65·9
Tortosa	N.	111·2	319	—	—	e 29 16	?PS	e 49·9	77·0
Algiers		111·4	313	—	—	29 1	?PS	48·9	63·9
Alicante		113·2	316	e 20 3	?PR_1	—	—	e 36·1	—
Tucson		113·5	50	e 19 37	?PR_1	e 27 39	?	51·2	—
Toledo		114·7	320	—	—	e 29 48	?PS	e 53·6	66·8
Almeria		115·2	315	e 19 2	[+23]	—	—	59·2	62·4
Granada		115·9	316	i 20 2	?PR_1	—	—	60·6	73·2
Malaga		116·7	316	e 19 37	[+54]	e 29 37	?PS	35·9	—
San Fernando		118·0	318	16 44	?	30 29	?PS	57·7	90·7
Chicago	N.	122·8	29	—	—	—	—	51·4	—
Florissant	E.	123·5	33	e 19 6	[+ 4]	e 26 7	[+12]	52·4	e 60·4
Ann Arbor	N.	124·2	25	—	—	—	—	e 55·9	70·7
Ottawa		124·7	18	e 21 19	?PR_1	—	—	e 56·4	64·9
Toronto	N.	124·9	20	e 21 15	?PR_1	—	—	i 64·9	66·2
Harvard		128·7	15	e 21 55?	?	e 39 10	?	—	—
Fordham	E.	129·3	20	—	—	e 39 15	?	63·3	64·9
Georgetown	Z.	129·8	21	i 21 58	?PR_1	—	—	e 63·0	—
Charlottesville		130·0	25	—	—	—	—	e 53·9	—
Port au Prince		149·1	35	e 20 4	[+10]	—	—	—	—
La Plata		151·4	173	19 43	[−15]	—	—	62·9	—
Rio de Janeiro	E.	160·5	211	e 21 18	?	32 26	?	54·1	—
	N.	160·5	211	e 21 25	?	32 27	?	54·6	—
La Paz		162·9	127	i 20 14	[+ 4]	27 11	[+18]	68·9	81·8
Sucre		163·4	140	e 20 14	[+ 4]	—	—	72·9	83·6

Additional readings and note: Manila MN = +6·0m. Hong Kong MN = +9·0m. Batavia iP = +5m.24s., i = +5m.39s. = PR_1 − 3s. Phu-Lien MN = +18·5m. Zi-ka-wei SR_1E = +10m.21s. Nagasaki MN = +13·6m. Koti i = +6m.49s. = PR_1 − 3s., eLN = +13·2m.; S is given as SR_1. Sumoto MZ = +14·9m., MN = +15·0m. Kobe PZ = +6m.6s., PR_1 = +7m.7s., MN = +14·9m., MZ = +15·2m. Toyooka iPR_1N = +8m.18s. Nagoya MN = +7·7m. Akita PR_1 = +8m.52s. Perth P = +8m.15s., PR_1 = +9m.45s. Adelaide i = +8m.30s., iPR_1 = +10m.8s., i = +10m.55s., +15m.11s. and +15m.29s., iSR_1 = +17m.40s., MN = +27·1m. Riverview iP = +8m.50s., PS = +15m.55s., SR_1 = +19m.10s., MN = +27·6m., MZ = +28·6m. Hyderabad MN = +30·8m. Melbourne iP = +8m.58s., PR_1 = +10m.53s., SR_1 = +18m.55s. Suva LN = +26·9m. Wellington PR_1E = +13m.28s., PR_2E = +15m.48s., SR_1N = +23m.53s., iSR_1E = +24m.11s., iSR_2E = +27m.44s.; T_gN = 3h.43m.17s.: T_gE = 3h.43m.33s. Honolulu

Continued on next page.

T.H. $eSR_1N = +26m.7s.$ **Tananarive** $P_cP = +12m.59s.$, $eE = +14m.21s.$, $+17m.24s.$, and $+22m.33s.$ $=[S]+1s.$, $PSE = +24m.3s.$, $SR_1E = +28m.51s.$, $eE = +33m.24s.$, $SR_1N = +34m.57s.$ **Pulkovo** $S_cP_cS = +23m.15s.$ **Helsingfors** $[S] = +23m.33s.$, $S_cP_cP_cSN = +23m.48s.$, $S_cPP_cSE = +23m.49s.$, $eSN = +23m.56s.$, $iSE = +23m.57s.$, $iSN = +24m.1s.$, $iS_cS = +24m.10s.$, $PSE = +24m.42s.$, $PSN = +24m.44s.$ **Upsala** $i = +24m.50s.$ $=S+1s.$, $eLN = +40{\cdot}9m.$, $MN = +47{\cdot}5m.$ **Konigsberg** $ePR_1Z = +16m.48s.$, $ePR_1EN = +17m.57s.$, $eEN = +18m.26s.$, $eE = +18m.55s.$, $eN = +19m.5s.$, $ePR_1E = +19m.22s.$, $eE = +19m.38s.$, $eEN = +20m.42s.$, $eN = +22m.47s.$, $eEN = +23m.25s.$, $eZ = +23m.29s.$, $eS_cP_cSN = +23m.42s.$, $eE = +23m.50s.$, $eEN = +24m.1s.$, $eE = +24m.39s.$, $ePSN = +24m.58s.$, $ePPSE = +25m.52s.$, $eE = +26m.16s.$, $ePPSN = +26m.29s.$, $eN = +26m.58s.$, $eE = +27m.33s.$, $eN = +29m.15s.$, $eSR_1 = +30m.16s.$, $eE = +31m.15s.$, $MN = +43{\cdot}8m.$ **Entebbe** $PR_1 = +17m.6s.$; $T_o = 3h.43m.14s.$ **Belgrade** $eN = +18m.3s.$, $eNE = +23m.56s.$ $=[S]-8s.$, $eE = +36m.35s.$, $MN = +57{\cdot}5m.$ **Budapest** $i = +25m.20s.$ $=S+0s.$, $MN = +63{\cdot}4m.$ **Copenhagen** $S_cP_cS? = +24m.45s.$ $= \Sigma - 6s.$, $SR_1 = +32m.13s.$ **Vienna** $iPZ = +13m.47s.$, $PR_1 = +17m.52s.$, $iEN = +22m.35s.$, $S_cP_cP_cS = +24m.47s.$, $PS = +27m.14s.$, $P_cP_cP_cP = +29m.15s.$, $PPS = +33m.25s.$ **Graz** $MN = +63{\cdot}9m.$ **Zagreb** $eNE = +14m.19s.$, $eNW = +14m.22s.$, $ePR_1NW = +18m.7s.$, $ePR_2 = +20m.13s.$, $ePR_2 = +22m.18s.$, $e = +24m.32s.$, $ePS = +25m.32s.$, $eNE = +26m.36s.$, $eNW = +26m.41s.$, $e = +28m.2s.$, $eSR_2NE = +36m.25s.$, $eSR_2NW = +37m.16s.$, $MNW = +54{\cdot}6m.$ **Cheb** $ePR_1? = +24m.58s. = +8s.$, $MN = +63{\cdot}9m.$ **Hamburg** $MN = +51{\cdot}9m.$ **Jena** $eN = +24m.55s.$ $= \Sigma - 12s.$, $eLZ = +50{\cdot}9m.$, $MZ = +63{\cdot}9m.$ **Gottingen** $iN = +25m.56s. = S-5s.$ **Ravensburg** $eS_cP_cS = +24m.55s.?$ $=[S]+20s.$, $ePPSE = +28m.31s.$, $ePPP_2E = +38m.25s.$ $=SR_2+19s.$, $L = +57{\cdot}9m.$ **Strasbourg** $ePR_1 = +18m.11s.$, $ePR_2 = +21m.14s.$, $PS = +27m.40s.$, $SR_1 = +33m.28s.$, $SR_2 = +38m.25s.$, $MZ = +66{\cdot}4m.$, $MN = +69{\cdot}4m.$ **Rocca di Papa** $i = +18m.14s.$ $=PR_1-16s.$, $L = +51{\cdot}9m.$ **Berkeley** $eE = +27m.33s.$ $=PS-2s.$ and $+32m.23s.$ **Florence** $i = +18m.27s.$ $=PR_1-5s.$ **De Bilt** $ePR_1Z = +18m.27s.$, $MN = +59{\cdot}0m.$, $MZ = +68{\cdot}9m.$ **Lick** $eE = +27m.46s. = PS+4s.$ and $+32m.47s.$ $=SR_1-33s.$ **Uccle** $i = +33m.48s.$ $=SR_1+20s.$, $MN = +54{\cdot}3m.$ **Besançon** $eE = +21m.55s.?$ $=SR_2+18s.$, $SE = +28m.12s.$ $=PS+13s.$, $e = +50m.55s.?$ **Edinburgh** $i = +28m.11s.$ $=PS+10s.$ and $+35m.7s.$ **Stonyhurst** $eL = +34m.55s.?$ **Kew** $e = +28m.10s.$ $=PS-4s.$, $LZ = +54{\cdot}9m.$, $MN = +52{\cdot}9m.$, $MZ = +70{\cdot}0m.$ **Oxford** $i = +25m.27s.$, $e = +27m.57s.$ $=PS-21s.$, and $+34m.27s.$, $MN = +67{\cdot}9m.$ **Barcelona** $eS = +39m.19s.$ **Tortosa** $eE = +22m.12s.$, $eSE = +29m.14s.$ $=PS+3s.$ **Algiers** $ePR_1 = +20m.7s.$, $SR_1 = +34m.55s.?$ **Tucson** $eE = +29m.11s.$, $eN = +29m.12s.$ $=PS-24s.$, $eSR_1N = +35m.8s.$, $eSR_1E = +35m.15s.$, $eLN = +46{\cdot}3m.$ **Toledo** $PR_1NE = +19m.42s.$ **Almeria** $PR_1 = +22m.5s.$, $PS = +30m.0s.$ **Granada** $i = +22m.48s.$ $=PR_2+22s.$, $PS = +30m.15s.$, $G = +37m.4s.$ **San Fernando** $SR_2 = +45m.19s.$, $SR_2 = +49m.44s.$, $MN = +96{\cdot}2m.$ **Chicago** $PSN = +30m.4s.$, $PSE = +30m.41s.$, $SR_1N = +37m.11s.$, $SR_1E = +37m.49s.$, $SR_2E = +42m.43s.$ **Florissant** $eP'N = +19m.8s.$, $iP'E? = +19m.23s.$, $eE = +20m.13s.$, $PR_1E = +20m.45s.$, $eN = +21m.13s.$, $eE = +21m.16s.$, $PR_2 = +23m.25s.$, $iS_cP_cSE = +26m.25s.$, $iPSE = +29m.37s.$, $iSR_1E = +37m.28s.$ **Ann Arbor** $eN = +30m.49s.$ and $+38m.1s.$, $eE = +48m.13s.$, $eL?E = +55{\cdot}2m.$ **Ottawa** $eN = +31m.13s.$ $=PS-18s.$, $e = +38m.7s.$ $=SR_1+21s.$, $eE? = +47m.55s.?$, $eLN? = +57{\cdot}4m.$, $MN = +65{\cdot}9m.$ **Toronto** $iN = +31m.10s.$ $=PS-23s.$, $eN = +38m.13s.$ $=SR_1+25s.$ **Fordham** $LN = +62{\cdot}9m.$, $MN = +71{\cdot}4m.$ **Charlottesville** $iPR_1N = +21m.55s.$, $ePSE = +34m.17s.$, $ePSN = +33m.35s.$, $eSR_1N = +37m.47s.$, $eSR_1E = +39m.15s.$, $eSR_2E = +43m.55s.$, $eLN = +58{\cdot}5m.$ **Port au Prince** $i = +21m.26s.$ **La Paz** $S_cP_cS = +23m.59s.$, $PR_1N = +24m.39s.$, $PR_1E = +24m.47s.$, $S_cP_cSP = +31m.34s.$, $iEN = +36m.9s.$ and $+38m.42s.$, $SR_1E = +45m.13s.$, $iE = +47m.1s.$, $SR_2N = +51m.4s.$, $SR_2E = +51m.31s.$ **Sucre** $PR_1 = +24m.58s.$, $S_cP_cSP = +31m.30s.$, $PPS = +35m.27s.$, $SR_1 = +45m.43s.$, $L_q = +67{\cdot}9m.$

Nov. 17d. Readings also at 0h. (Baku, Ekaterinburg, Kucino, Tashkent, and Florissant), 4h. (Hohenheim, Ravensburg, near Chur, and Zurich), 5h. (near Algiers), 6h. (Colombo, Samarkand, and Trenta), 8h. (Taihoku, Trenta, and near Taranto), 9h. (Taihoku), 11h. (Toyooka), 12h. (Manila and Apia), 13h. (Andijan), 14h. (near Manila), 18h. (near Taihoku), 19h. (Ekaterinburg, Tashkent, Manila, and near Samarkand), 20h. (Toledo), 22h. (Samarkand).

Nov. 18d. 5h. 40m. 21s. Epicentre 4°·0N. 128°·0E. (as on 1929 July 24d.).

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

		Δ	Az.	P.	O−C.	S.	O−C.	L.	M.
		°	°	m. s.	s.	m. s.	s.	m.	m.
Manila		12·6	327	i 3 7	0	i 5 25	− 9	i 6·6	9·0
Taihoku	E.	21·9	346	—	—	—	—	e 9·6	—
Hong Kong		22·7	325	5 9	− 4	i 9 21	+ 2	—	13·9
Batavia	Z.	23·5	244	5 46	+23	—	—	18·6	—
Phu-Lien		26·7	311	e 5 51	− 4	e 11 5	+30	14·6	16·2
Koti		30·0	10	—	—	—	—	e 18·6	—
Sumoto		31·0	11	e 6 17	−21	e 16 23	?L	(e 16·4)	21·0
Osaka		31·4	11	10 9	?	—	—	15·7	19·4
Kobe		31·4	11	e 6 35	− 7	—	—	e 17·4	20·2
Adelaide		40·2	166	e 9 4	?PR_1	—	—	23·2?	27·5
Sydney	E.	43·7	151	14 51	?S	(14 51)	− 7	28·2	28·8
Melbourne		44·7	161	12 7	?	—	—	—	31·8
Colombo		48·0	275	8 58	+ 4	16 18	+24	27·5	34·3
Hyderabad		50·3	290	10 9	+60	17 19	+56	27·4	36·8
Kodaikanal		50·5	281	e 18 9	?	—	—	—	—
Irkutsk		52·1	343	e 9 23	+ 2	e 16 48	+ 3	31·6	32·4
Andijan		61·7	315	e 10 17	− 6	—	—	—	—
Christchurch		62·2	145	—	—	—	—	—	51·1
Tashkent		64·2	315	e 10 39	0	19 39	+24	30·6	40·6
Samarkand		65·4	314	e 11 3	+16	—	—	—	—
Baku		78·4	312	e 12 22	+13	22 50	+45	40·6	51·8
Kucino		86·7	325	—	—	—	—	e 54·6	64·8
Ksara	E.	89·5	305	e 13 35	+22	e 24 24	+15	—	—
Pulkovo		90·4	330	14 5	+47	—	—	44·6	56·4
Copenhagen		100·7	329	—	—	25 39?	−23	49·6	—
Scoresby Sund		102·8	350	—	—	—	—	61·6	—
De Bilt	E.	106·1	326	—	—	e 29 3	?PS	e 53·6	58·0
Strasbourg		106·3	324	—	—	—	—	e 19·6	—
Uccle		107·2	327	—	—	—	—	e 53·6	—
Edinburgh		108·1	333	—	—	—	—	e 66·6	—
Paris		109·2	325	—	—	—	—	e 65·6	—
Kew		109·3	328	—	—	—	—	e 52·6	—
Barcelona		113·1	318	—	—	—	—	e 33·2	—
Granada		119·0	316	—	—	—	—	e 69·6	74·6
San Fernando		121·2	317	—	—	—	—	—	91·0
La Paz		159·8	129	21 13 [+65]	—	—	—	87·2	—

Additional readings: Manila MN = +8·4m.; T_g = 5h.40m.35s. Hong Kong S = +9m.12s. Batavia P = +5m.49s. Sumoto MN = +20·0m., MZ = +20·3m. Kobe ePZ = +6m.30s., MZ = +19·7m. Adelaide MN = +39·2m. Hyderabad MN = +34·6m. De Bilt eLN = +51·6m., MN = +57·2m., MZ = +67·9m. Kew eLZ = +69·6m.

Nov. 18d. 20h. 31m. 45s. Epicentre 44°·55N. 55°·95W.

A = +·399, B = −·590, C = +·702; D = −·829, E = −·560; G = +·393, H = −·581, K = −·713.

		Δ	Az.	P.	O−C.	S.	O−C.	L.	M.
		°	°	m. s.	s.	m. s.	s.	m.	m.
Harvard		11·2	264	i 2 47	0	i 4 55	− 4	—	—
Fordham		13·7	261	e 3 24	+ 2	i 5 43	−18	—	10·3
Ottawa		14·0	281	i 3 29	+ 3	i 5 58	−10	i 6·3	9·8
Georgetown		16·7	258	i 4 9	+ 8	i 7 19	+ 8	—	8·3
Toronto	E.	16·8	275	i 4 6	+ 4	i 7 15	+ 2	8·3	—
	N.	16·8	275	4 8	+ 6	i 7 7	− 6	—	9·0
Charlottesville		18·1	256	4 21	+ 3	i 7 54	+12	—	—
Ann Arbor		20·2	274	i 4 51	+ 8	e 8 33	+ 6	i 9·4	13·4
Chicago		23·2	274	e 5 24	+ 5	i 9 36	+ 7	—	—
St. Louis		26·2	269	i 5 49	− 1	e 10 6	−20	i 13·3	14·1

Continued on next page.

		Δ	Az.	P.	O−C.	S.	O−C.	L.	M.
		°	°	m. s.	s.	m. s.	s.	m.	m.
Florissant		26·2	269	i 5 49	− 1	i 10 6	−20	i 13·3	14·1
Port au Prince		29·4	213	e 6 25	+ 3	i 11 31	+ 7	e 15·5	17·0
Scoresby Sund		30·8	20	6 34	− 2	11 38	−10	—	—
Saskatoon		33·8	302	i 7 14	+11	i 12 39	+ 1	15·5	19·7
Edinburgh		34·6	51	7 26	+16	12 30	−19	—	20·9
Dyce		35·1	49	e 7 21	+ 7	12 36	−21	15·4	20·4
Stonyhurst		35·2	56	e 7 11	− 4	i 12 44	−14	17·8	19·7
Denver		36·2	280	e 7 3	−21	i 12 57	−16	e 15·3	17·6
Oxford		36·3	59	i 7 22	− 2	i 12 58	−16	e 18·3	20·3
Merida		36·4	241	7 12	−13	12 54	−22	15·4	26·0
Kew		36·9	59	e 7 25	− 4	i 13 8	−14	15·3	23·1
Toledo		38·0	79	e 7 34	− 4	i 13 27	−11	e 15·5	22·1
San Fernando		38·1	85	i 7 40	+ 1	i 13 25	−14	17·6	23·6
Paris		38·8	63	e 7 46	+ 2	e 13 42	− 7	17·3	21·3
Bergen		38·8	44	i 7 41	− 3	13 39	−10	16·7	20·5
Malaga		39·2	84	7 47	− 1	i 13 49	− 5	17·3	21·8
Granada		39·6	84	i 7 48	− 3	i 13 51	− 9	i 20·4	21·1
Bagnères		39·8	72	e 7 44	− 9	i 13 51	−12	24·2	—
Uccle		40·0	59	i 7 51	− 4	i 13 50	−17	17·3	23·2
De Bilt		40·1	57	7 53	− 3	13 56	−12	e 20·3	23·5
Almeria		40·5	82	i 7 59	0	i 14 5	− 9	20·2	21·8
Puy de Dôme		40·6	66	e 7 48	−12	i 14 8	− 7	20·3	—
Tortosa	E.	40·8	75	i 8 1	0	i 14 8	−10	—	23·5
	N.	40·8	75	i 8 2	+ 1	i 14 7	−11	17·7	24·7
Alicante		41·3	79	i 8 6	+ 1	i 14 18	− 7	e 18·7	24·7
Barcelona		41·7	73	8 1	− 8	i 14 19	−12	e 18·6	24·5
Besançon		42·1	63	8 8	− 4	14 25	−11	19·3	21·6
Hamburg		42·5	53	8 12	− 3	i 14 35	− 7	21·6	27·0
Chihuahua		42·6	268	(8 42)	+27	(14 33)	−10	(18·3)	(23·6)
Grenoble		42·6	66	e 8 23	+ 8	14 38	− 5	20·3	—
Strasbourg		42·7	60	i 8 15	− 1	i 14 35	− 9	19·3	24·8
Neuchatel		42·7	63	i 8 15	− 1	i 14 38	− 6	—	—
Feldberg	E.	42·9	59	8 15	− 2	e 14 54	+ 7	e 24·5	26·8
	N.	42·9	59	8 17	0	e 14 40	− 7	—	26·4
Karlsruhe		43·0	60	8 24	+ 6	14 48	0	e 23·3	25·7
Marseilles		43·1	69	i 8 2	−17	14 53	+ 4	20·3	—
Gottingen	E.	43·1	55	e 8 19	0	i 14 40	− 9	22·6	29·4
	N.	43·1	55	e 8 19	0	i 14 42	− 7	—	26·8
	Z.	43·1	55	i 8 16	− 3	i 14 46	− 3	23·3	29·4
Copenhagen		43·3	50	8 18	− 2	14 44	− 8	—	—
Hohenheim		43·6	60	i 8 21	− 2	i 14 48	− 8	21·5	26·0
Zurich		43·6	63	i 8 22	− 1	i 14 52	− 4	—	—
Tacubaya		43·7	250	8 22	− 2	13 21	−97	15·0	—
Tucson		43·9	275	8 23	− 2	i 14 52	− 9	22·1	—
Moncalieri		44·0	66	i 8 20	− 6	i 14 41	−21	19·6	30·3
		44·0	66	i 8 25	− 1	i 14 38	−24	18·8	25·2
Ravensburg		44·2	62	i 8 30	+ 3	i 14 58	− 7	i 22·8	27·8
Jena	E.	44·3	56	i 8 26	− 2	i 14 57	− 9	e 20·3	27·8
	N.	44·3	56	i 8 28	0	e 14 55	−11	e 19·3	24·8
Algiers		44·4	79	8 28	− 1	i 15 2	− 5	21·3	28·3
Upsala		44·9	42	i 8 32	0	i 15 6	− 8	e 20·3	27·9
Victoria		45·0	301	8 35	+ 2	15 9	− 6	24·3	25·3
Cheb		45·0	57	e 8 37	+ 4	e 15 16	+ 1	e 19·3	24·8
Piacenza		45·2	65	8 35	+ 1	15 15	− 3	19·4	25·3
Innsbruck		45·5	60	e 8 38	+ 1	i 15 17	− 4	e 21·8	26·4
Livorno		46·3	65	10 43	†PR_1	16 15	+43	—	—
Padova		46·5	64	e 8 40	− 4	i 15 35	0	e 23·3	28·3
Treviso		46·6	64	i 8 46	+ 2	i 15 34	− 2	24·3	31·3
Florence		46·8	67	e 8 43	− 3	15 36	− 2	—	—
Laibach	N.	47·9	60	e 8 54	+ 1	e 15 50	− 3	e 19·6	29·3
Graz		48·0	59	i 8 54	0	—	—	22·3	27·4
Konigsberg		48·0	49	i 8 56	+ 2	i 15 53	− 1	e 24·6	29·7
Vienna		48·1	57	e 8 54	− 1	i 15 57	+ 2	21·3	28·3

Continued on next page.

		Δ	Az.	P.	O−C.	S.	O−C.	L.	M.
		°	°	m. s.	s.	m. s.	s.	m.	m.
Helsingfors	Z.	48·4	40	i 8 58	+ 2	15 55	− 4	25·3	—
Rome		48·4	68	i 9 1	+ 5	i 16 0	+ 1	e 24·8	27·8
Rocca di Papa		48·7	68	8 59	+ 1	i 16 0	− 2	e 19·8	27·7
Sitka	N.	48·7	315	—	—	e 16 3	+ 1	i 25·0	30·6
Lick	N.	48·8	286	e 9 2	+ 3	e 16 10	+ 6	25·0	—
Zagreb		48·9	61	e 9 6	+ 7	e 16 6	+ 1	e 22·3	27·6
Berkeley		49·0	287	9 4	+ 4	e 16 9	+ 3	—	—
Casamicciola		49·9	68	9 8	+ 2	16 14	− 4	23·6	—
Naples	E.	50·1	68	e 9 12	+ 4	e 16 22	+ 2	25·3	31·8
Budapest		50·1	57	9 13	+ 5	i 16 24	+ 4	22·3	29·8
Pulkovo		51·0	40	i 9 20	+ 7	i 16 33	+ 2	22·8	28·7
Bari		51·7	66	9 29	+11	16 40	0	32·4	—
Mineo		52·2	73	9 7	−14	—	—	—	—
Trenta		52·2	69	e 9 38	+17	e 16 50	+ 4	—	32·3
Belgrade	E.	52·2	60	e 9 29	+ 8	i 16 50	+ 4	e 22·0	30·0
Taranto		52·3	67	9 34	+12	19 15	? Σ	26·9	43·1
Messina		52·3	73	9 40	+18	—	—	—	—
Catania		52·4	72	9 29	+ 7	i 16 56	+ 7	e 28·1	33·3
Kucino		56·7	42	i 10 0	+10	i 17 50	+ 8	24·9	35·0
Sebastopol		60·2	55	10 27	+14	i 18 44	+18	—	—
Simferopol		60·3	54	10 27	+13	18 44	+17	—	—
Yalta		60·6	54	i 10 29	+13	i 18 48	+17	—	—
Theodosia		61·0	54	i 10 34	+15	i 18 58	+22	29·3	36·0
La Paz	N.	62·0	194	i 10 33	+ 8	i 18 55	+ 7	30·1	34·4
Sucre		64·2	190	e 10 44	+ 5	i 19 19	+ 4	31·3	35·8
Ekaterinburg		65·6	33	i 11 0	+11	i 19 46	+14	28·3	33·7
Helwan		67·8	70	i 11 16	+13	i 20 9	+ 9	—	43·6
Ksara	N.	68·2	63	11 19	+14	i 20 22	+18	30·3	—
Rio de Janeiro	E.	68·4	168	e 12 25	+78	21 10	+63	33·6	39·6
	N.	68·4	168	e 12 27	+80	21 8	+61	33·6	40·7
Baku		72·2	50	i 11 44	+13	i 21 8	+16	35·8	40·8
Santiago		79·2	193	e 12 17	+ 3	22 5	− 9	26·9	—
La Plata		79·4	181	12 19	+ 4	22 16	0	37·7	—
Tashkent		81·1	39	i 12 15	−11	i 22 15	−21	36·3	56·3
Samarkand		81·4	41	e 12 36	+ 9	22 48	+ 9	34·2	—
Irkutsk		81·7	13	i 12 37	+ 8	i 22 47	+ 4	41·3	48·7
Almata		82·7	33	12 44	+10	23 8	? Σ	40·3	—
Honolulu T.H.	E.	83·2	295	12 45	+ 8	i 23 4	+ 5	e 40·3	—
	N.	83·2	295	12 51	+14	i 23 5	+ 6	40·0	—
Andijan		83·3	38	12 44	+ 6	23 8	+ 8	34·2	—
Entebbe		88·8	90	13 11	+ 2	24 6	+ 5	45·3	54·3
Dehra Dun		94·2	39	13 45	+ 6	24 55	− 3	38·1	55·3
Akita	N.	94·5	349	—	—	—	—	—	61·9
Mizusawa	E.	94·9	348	36 54	?	—	—	—	—
Agra	E.	96·9	40	e 13 24	−30	24 58	? Σ	e 50·9	65·3
Toyooka		99·2	352	—	—	—	—	e 59·3	63·3
Kobe		99·8	352	e 18 18	?PR_1	—	—	e 57·3	—
Osaka		100·1	352	e 26 8	?S	(e 26 8)	+11	47·3	60·7
Sumoto		100·5	352	—	—	e 59 7	?	—	62·9
Bombay		101·3	49	14 10	− 7	25 22	? Σ	49·6	65·3
Koti		101·4	353	—	—	—	—	e 57·3	—
Hukuoka		101·4	355	e 15 9	+52	e 27 35	?PS	e 42·8	68·4
Nagasaki		102·5	356	e 54 15	?	—	—	e 59·9	—
Cape Town		103·4	125	—	—	—	—	—	67·9
Johannesburg		104·1	113	—	—	—	—	56·3	—
Hyderabad		105·4	44	17 8	[−58]	28 3	?PS	49·0	58·5
Taihoku	E.	110·4	2	—	—	e 26 15?	? Σ	—	—
Kodaikanal		110·9	49	e 24 27	?S	e 24 27	[−47]	i 62·6	77·4
Hong Kong		112·5	10	19 44	?PR_1	e 27 15	−35	e 45·3	66·4
Tananarive		112·6	92	—	—	25 36	[+16]	—	68·4
Phu-Lien		112·7	16	e 19 42	?PR_1	e 35 11	?SR_1	60·3	67·3
Colombo		115·3	50	19 4	[+25]	35 44	?SR_1	63·1	71·8
Apia		118·0	278	—	—	—	—	58·5	67·9

Continued on next page.

		Δ	Az.	P.	O−C.	S.	O−C.	L.	M.
		°	°	m. s.	s.	m. s.	s.	m.	m.
Manila		120·8	4	e 19 25	[+31]	—	—	e 56·6	78·1
Batavia		138·8	28	i 20 3	[+25]	—	—	e 64·3	—
Christchurch		145·6	255	19 53	[+ 4]	—	—	74·6	—
Riverview		156·6	288	20 21	[+17]	—	—	e 71·3	93·2
Sydney	E.	156·6	288	20 21	[+17]	39 15	?	83·5	87·2
Melbourne		163·0	286	e 20 5	[− 5]	—	—	78·7	83·8
Adelaide		165·3	306	e 20 52	[+40]	i 35 42	?	e 69·2	101·6
Perth		165·8	30	e 20 25	[+13]	32 21	?	—	—

Additional readings and note: Fordham iP = +3m.24s., i = +3m.31s. = PR_1 + 2s., +3m.41s., +3m.46s., +3m.58s., and +5m.57s. = SR_1 − 15s. Ottawa iPR_1 = +3m.37s., MZ = +8·8m., MN = +9·3m.; T_0 = 20h.32m.10s. Toronto iN = +4m.15s. = PR_1 + 1s., and +4m.23s.: T_0 = 20h.32m.12s. Charlottesville eE = +7m.27s., eN = +7m.40s. Ann Arbor MN = +12·3m. Chicago iP = +5m.30s., iE = +9m.3s., eE = +10m.18s. = SR_1 + 0s., eN = +10m.39s. St. Louis i = +6m.22s. = PR_1 − 6s., and +6m.30s., iS = +10m.23s., iE = +10m.29s., iN = +11m.9s., and +11m.30s. = SR_1 − 2s. Florissant iE = +5m.54s., +6m.7s., and +6m.15s., iPR_1 = +6m.22s., iPR_2EN = +6m.30s. iPR_2E = +6m.33s., iPR_2E = +6m.36s., iEN = +10m.23s., iSN? = +10m.25s., iSR_1N = +11m.9s., iSR_2N = +11m.30s. Saskatoon iE = +13m.59s. = SR_1 − 33s., SR_2 = +14m.38s., iN = +17m.30s.; T_0 = 20h.32m.9s. Edinburgh i = +14m.59s. = SR_1 + 9s. Stonyhurst iP = +7m.17s., i? = +7m.32s. and +8m.4s., PR_1 = +8m.21s., PR_2 = +8m.43s., i? = +9m.6s. and +10m.12s., SR_1 = +15m.3s., SR_2 = +15m.44s. Denver iEN = +7m.29s., iPR_2E = +7m.47s., iPR_2E = +7m.54s., iE = +12m.6s., and +12m.15s., iSR_1E = +14m.7s. Oxford eLN = +15·6m. Kew PR_1EZ = +9m.20s., LNZ = +15·9m., MN = +19·8m., MZ = +19·9m. Toledo iP = +7m.39s., i = +7m.53s., MNW = +21·3m. Paris MN = +20·2m. Bergen PR_1 = +8m.4s. Malaga iPZ = +7m.50s., iN = +8m.17s., MZ = +21·9m. Granada i = +7m.51s., PR_1 = +9m.32s., i = +15m.13s., and +15m.59s., MZ = +23m.9s., MN = +24·9m. Bagnères iP = +7m.49s. Uccle PR_1 = +10m.0s., iSR_1 = +16m.55s., MZ = +23·1m., MN = +23·4m. De Bilt eLN = +17·3m., MZ = +23·4m., MN = +24·2m. Almeria i = +8m.12s., PR_1 = +9m.29s., PR_2 = +10m.25s., SR_1 = +15m.9s., MZ = +22·3m. Puy de Dôme iSN = +14m.11s. Alicante MZ = +25·5m. Barcelona i = +8m.23s., PR_1 = +9m.45s., SR_1 = +17m.42s., SR_2 = +17m.48s., MN = +23·1m. Hamburg PR_1 = +10m.15s., iSE = +14m.36s., eSR_1Z = +17m.41s., MNZ = +28·0m. Chihuahua readings have been *increased* by 2m. Strasbourg PR_1 = +8m.45s., PR_2 = +10m.25s., SR_1 = +16m.45s., SR_2 = +18m.15s., MN = +24·5m. Feldberg iN = +8m.36s., iE = +8m.37s., eE = +14m.22s., eE = +17m.56s. = SR_1 + 8s. Karlsruhe MN = +25·3m. Marseilles SN = +14m.58s., PR_1 = +18m.10s. = SR_1 + 18s. Gottingen iZ = +8m.35s., iEN = +8m.36s., iN = +20m.27s., iE = +20m.33s., iN = +21m.26s. Hohenheim i = +8m.39s., eN = +9m.47s. = PR_1 − 19s., iPR_2 = +10m.29s., i = +11m.5s. and +15m.6s., iSR_1 = +18m.9s., iSR_2N = +19m.0s., eN = +19m.59s., iL = +22·8m., MN = +25·2m. Tucson iPR_1 = +10m.27s., eSN = +14m.57s., eN = +15m.21s., SR_1E = +18m.17s., eSR_2E = +20m.47s., LN = +21·6m. Moncalieri i = +24m.4s. and +25m.17s. Ravensburg i = +8m.45s., iPR_1 = +10m.5s., iPR_2 = +10m.36s., iE = +16m.20s., iSR_1 = +18m.15s., eN = +20m.45s., MN = +26·8m. Jena iPN = +8m.44s., $iPEZ$ = +8m.46s., PR_1Z = +10m.24s., eSZ = +14m.58s., iPS = +15m.15s., iSR_1N = +18m.3s., iSR_1EZ = +18m.15s. Algiers SR_1 = +18m.15s. Victoria SN = +15m.17s.; T_0 = 20h.31m.53s. Upsala iSR_1 = +18m.25s., MN = +29·8m. Cheb ePR_2 = +10m.38s., eSR_1 = +18m.27s. = SR_1 − 3s. Piacenza MN = +25·8m. Innsbruck i = +8m.56s., PR_2? = +10m.38s. = PR_1 + 8s., SR_1 = +18m.42s. Treviso MN = +27·3m. Florence iP = +9m.6s. Laibach eN = +9m.13s., iN = +10m.2s., eN = +11m.9s. Graz iP = +9m.12s., PR_1 = +11m.6s., P_0S = +16m.12s., iSR_1 = +19m.30s., MN = +29·0m. Konigsberg eE = +8m.57s., i = +9m.2s., +9m.10s., and +9m.16s., iEZ = +9m.31s. and +9m.48s., iNZ = +10m.8s., iP_0PEZ = +10m.17s., iN +10m.25s., iEZ = +10m.30s., iPR_1E = +10m.48s., iEZ = +10m.53s., i = +11m.10s. and +11m.18s., eE = +11m.25s., ePR_2EN = +11m.36s., ePR_2Z = +11m.42s., e = +11m.56s., eEZ = +12m.12s., and +12m.41s., eN = +13m.30s., eEZ = +13m.49s., eP_0SEN? = +14m.26s., eEN = +14m.44s., eEZ = +15m.25s., eEN = +15m.35s., iSZ = +15m.56s., iPS = +16m.9s., iPPS = +16m.16s., eEN = +16m.36s., iEN = +17m.49s., eEN = +18m.12s., iS_cP_cSN = +18m.48s., eSR_1N = +19m.21s., iN = +20m.21s., eSR_2N = +20m.36s., eLN = +23·1m. Vienna iP = +8m.56s., PR_1 = +10m.49s., i = +12m.39s., PS = +16m.13s., i = +17m.42s., S_cS = +18m.39s., SR_1 = +19m.35s. Rocca di Papa i = +9m.3s., L = +24·3m., MN = +31·8m. Sitka ePR_1N = +11m.7s., e?N = +18m.15s., eSR_1N = +19m.47s. Lick eN = +11m.0s. = PR_1 − 4s., eE = +11m.3s., eN = +19m.38s. = SR_1 − 6s., and +27m.7s. Zagreb i = +9m.27s., iNW = +9m.33s., iNE = +9m.36s., and

Continued on next page.

+9m.50s., iNW = +10m.42s., iNE = +11m.11s., i = +11m.34s., eNE = +11m.55s., eNW = +11m.57s., eNE = +13m.7s., iSNE = +16m.7s., eNW = +16m.19s., eNE = +16m.34s., iNE = +16m.44s., eNW = +16m.54s., e = +17m.31s., eNE = +18m.50s., eNW = +18m.53s., e = +19m.50s. = SR_1 + 4s., eNE = +21m.2s., eNW = +21m.4s., MNW = +27·9m. Berkeley eZ = +10m.58s., eEN = +11m.2s., eE = +12m.16s., eSZ = +16m.10s., eSN = +16m.11s., eE = +19m.36s. = SR_1 − 12s., eZ = +19m.37s., eN = +19m.46s., eZ = +20m.50s., +22m.56s., eE = +23m.19s., eZ = +24m.31s., eE = +25m.7s. e = +31m.7s. Belgrade iPZ = ePN = +9m.28s., iZ = +9m.32s., iZ = +19m.20s., MN = +30·7m. Catania MNW = +32·0m. La Paz iN = +11m.15s., PR_1N = +13m.16s., PR_2N = +14m.30s., SR_1N = +23m.55s., i = +26m.45s., ME = +37·5m. ; T_o = 20h.31m.54s. Sucre i = +10m.57s., PR_1 = +13m.28s., PR_2 = +14m.52s. Ksara iSN = +20m.23s. Kobe ePR_1 = +24m.40s. Osaka eS = +37m.43s. Sumoto e = +48m.29s., MNZ = +64·3m. Hyderabad LN = +49·8m., MN = +62·6m. Hong Kong MN = +69·8m. Tananarive PR_1E = +19m.57s., PR_1N = +20m.0s., PR_2E = +22m.18s., PR_2E = +24m.22s., E = +26m.39s. and +29m.9s., PSN = +29m.17s., PSE = +29m.21s., E = +29m.43s., PPSE = +30m.15s., E = +30m.54s., PPPSE = +31m.21s., N = +34m.33s. and +35m.15s., iSR_1 = +35m.39s., E = +35m.48s., PPSSN = +36m.2s., E = +36m.6s., and +36m.51s., N = +39m.57s., E = +40m.7s., and +40m.42s., SR_2N = +40m.48s., E = +42m.54s., +46m.37s., and +48m.51s., N = +58m.48s., MN = +65·0m. Phu-Lien ePR_1 = +29m.15s. = PS − 13s., MN = +72·3m. Apia +65m.27s. Manila PR_1 = +20m.49s., iEN = +30m.37s. = PS − 15s., PPSN = +31m.49s., SR_2? = +42m.8s. = SR_2 − 24s., eLN = +57·2m., MN = +75·3m. Batavia i = +23m.21s. Riverview i = +23m.21s., PR_2 = +31m.3s., PS_cP_cS? = +34m.39s., PPPS? = +39m.39s., SR_1 = +51m.3s. MZ = +88·2m., MN = +92·2m. Melbourne iS_cP_cP = +23m.55s., iPR_1 = +25m.22s., i = +31m.35s., eSR_1 = +45m.48s., iSR_2 = +52m.20s. Adelaide i = +25m.29s. and +39m.2s., iSR_1 = +46m.23s., iSR_2 = +52m.15s., MN = +105·4m. Perth PR_1 = +25m.0s., PR_2 = +27m.45s.

Nov. 18d. 22h. 44m. 40s. Epicentre 27°·6S. 66°·3W. (as on 1927 Feb. 16d.).

A = +·356, B = −·811, C = −·463 ; D = −·916, E = −·402 ; G = −·186, H = +·424, K = −·886.

	Δ	Az.	P.	O−C.	S.	O−C.	L.	M.
	°	°	m. s.	s.	m. s.	s.	m.	m.
Santiago	7·0	211	i 1 35	−11	2 29	−41	3·1	—
Sucre	8·6	7	i 2 17	+ 7	i 3 39	−14	4·0	4·8
La Plata	10·2	137	2 31	− 2	4 18	−17	4·9	—
La Paz	11·2	350	2 50	+ 3	i 4 50	− 9	5·6	7·2

La Paz gives also iSN = +4m.52s.

Nov. 18d. 23h. 1m. 48s. Epicentre 44°·55N. 55°·95W. (as at 20h.).

		Δ	Az.	P.	O−C.	S.	O−C.	L.	M.
		°	°	m. s.	s.	m. s.	s.	m.	m.
Halifax	E.	5·4	274	e 1 29	+ 6	i 2 27	− 1	i 3·2	3·7
	N.	5·4	274	e 1 32	+ 9	i 2 27	− 1	i 2·9	3·6
Fordham		13·7	261	—	—	i 6 15	+14	—	8·2
Ottawa		14·0	281	—	—	i 5 56	−12	e 6·4	9·3
Toronto	N.	16·8	275	i 4 20	+18	—	—	i 8·8	9·6
Ann Arbor		20·2	274	—	—	i 8 30	+ 3	e 10·8	—
Chicago	N.	23·2	274	—	—	—	—	e 11·9	—
Florissant		26·2	269	e 5 36	−14	e 9 43	−43	—	—
Granada		39·6	84	—	—	—	—	e 15·2	21·9
Hamburg	Z.	42·5	53	i 8 1	−14	—	—	—	—
Tucson		43·9	275	—	—	—	—	e 22·4	—
Victoria		45·0	301	—	—	—	—	19·2	—
Vienna	Z.	48·1	57	e 7 43	−72	—	—	—	—
Theodosia		61·0	54	i 10 21	+ 2	—	—	—	—
Samarkand		81·4	41	e 12 21	− 6	—	—	—	—
Andijan		83·3	38	e 12 32	− 6	—	—	—	—

Additional readings : Halifax iN = +2m.56s. Ottawa MN = +7·6m. Ann Arbor e?N = +9m.0s., eN = +9m.24s., eL?N = +14·4m. Florissant ePZ = +5m.37s., ePR_1EZ = +6m.10s., eEN = +10m.14s. Vienna iPZ = +7m.45s., PR_2Z? = +12m.7s.

Nov. 18d. Readings also at 0h. (Ekaterinburg), 2h. (Batavia, Ekaterinburg, Irkutsk, Lick, Tashkent, and near Manila), 3h. (Uccle), 4h. (Baku, Ekaterinburg, Irkutsk. Tashkent, Batavia, and Manila), 5h. (De Bilt and Uccle), 6h. (near Tortosa), 10h. (near Koti), 12h. (near Manila and near Samarkand), 14h. (near Manila), 16h. (Apia), 18h. (near Amboina and near Lick), 19h. (near Manila), 21h. (Sucre and near La Paz), 23h. (Andijan, Chicago, and La Paz).

Nov. 19d. 2h. 1m. 18s. Epicentre 44°·55N. 55°·95W. (as on 18d.).

		Δ	Az.	P.	O−C.	S.	O−C.	L.	M.
		°	°	m. s.	s.	m. s.	s.	m.	m.
Halifax		5·4	274	e 1 29	+ 6	e 2 26	− 2	i 3·2	—
Fordham		13·7	261	—	—	—	—	9·7	—
Ottawa	N.	14·0	281	—	—	e 6 6	− 2	7·7	—
Toronto	N.	16·8	275	—	—	—	—	9·0	9·3
Ann Arbor		20·2	274	—	—	—	—	e 11·0	—
Florissant	E.	26·2	269	e 6 13	+23	e 10 38	+12	—	14·7
Neuchatel		42·7	63	i 8 11	− 5	—	—	—	—
Zurich		43·6	63	i 8 4	−19	—	—	—	—
La Paz		62·0	194	e 9 45	−40	—	—	—	—

Additional readings and note: Ottawa LE = +9·2m. Ann Arbor eN = +11m.18s., eE = +11m.42s. Neuchatel, Zurich, and La Paz readings may not be connected with this shock.

Nov. 19d. Readings also at 6h. (near Almata, Andijan, and Samarkand), 7h. (near Kobe and Sumoto), 10h. (Andijan), 13h. (La Paz), 14h. (near Andijan), 16h. (Toyooka, Sumoto, Kobe, Osaka, near Mizusawa, and Nagoya), 17h. (near Taihoku), 19h. (Mizusawa), 20h. (Bombay), 22h. (Kobe, near Osaka, and Nagoya).

Nov. 20d. 5h. 54m. 32s. Epicentre 34°·0N. 134°·8E. (as on 1929 Oct. 26d.).

A = −·584, B = +·588, C = +·559; D = +·710, E = +·705: G = −·394, H = +·397, K = −·829.

In Geophys. Mag., Vol. IV, No. 4, epicentre 34°·1N. 135°·1E. is given.

		Δ	Az.	P.	O−C.	S.	O−C.	L.	M.
		°	°	m. s.	s.	m. s.	s.	m.	m.
Sumoto		0·4	11	i 0 5	− 1	0 10	− 1	—	0·2
Wakayama		0·4	52	−0 1	− 7	0 1	−10	—	—
Kobe		0·7	25	0 10	− 1	(0 18)	− 2	0·3	0·4
Osaka		0·9	38	0 11	− 3	(0 20)	− 5	0·3	1·7
Muroto		0·9	215	0 20	+ 6	0 37	+12	—	0·7
Siomisaki		1·0	125	0 14	− 1	0 25	− 3	—	—
Koti		1·1	250	i 0 24	+ 7	i 0 39	+ 8	—	0·8
Toyooka	E.	1·6	0	i 0 25	+ 1	(i 0 43)	− 2	i 0·7	0·8
Matuyama		1·7	264	e 0 34	+ 8	i 0 36	−12	—	1·1
Nagoya		2·1	57	i 0 31	− 2	0 57	− 1	—	1·0
Gihu		2·1	49	0 32	− 1	0 58	0	—	—
Hukuoka		3·7	269	1 11	+13	2 5	?L	(2·1)	2·6
Nagasaki		4·3	254	e 1 12	+ 5	2 29	+31	—	2·8
Tokyo		4·4	63	1 10	+ 2	2 5	+ 4	—	—
Mizusawa	E.	7·2	43	1 50	+ 1	3 50	+35	—	—
Zi-ka-wei	N.	11·6	260	—	—	—	—	e 6·3	—
Phu-Lien		28·2	249	—	—	—	—	15·5	—
Irkutsk		28·4	319	—	—	—	—	14·5	—
Baku		65·3	303	—	—	—	—	e 34·5	—

Additional readings: Osaka MZ = +0·8m., MN = +1·8m. Koti i = +25s. and +26s., iS° = +44s. Matuyama iSZ = +38s., MZ = +1·3m. Nagoya MZ = +1·4m. Hukuoka MN = +2·3m. Nagasaki iP = +1m.35s., MNZ = +2·7m. Mizusawa SN = +3m.48s.

Nov. 20d. 19h. 56m. 58s. Epicentre 27°·5N. 55°·0E. (as on 1929 Oct. 29d.).

A = +·509, B = +·727, C = +·462; D = +·819, E = −·574; G = +·265, H = +·378, K = −·887.

	Δ	Az.	P.	O−C.	S.	O−C.	L.	M.
	°	°	m. s.	s.	m. s.	s.	m.	m.
Baku	13·5	343	3 44	+24	e 5 56	0	e 7·7	11·7
Samarkand	15·7	36	e 3 43	− 5	—	—	—	—
Ksara	17·6	297	4 17	+ 5	10 19	?	11·4	—
Bombay	18·5	114	e 4 23	0	7 53	+ 2	9·9	—
Andijan	19·2	44	e 4 39	+ 8	—	—	—	—
Helwan	20·9	282	8 42	?S	(8 42)	0	—	—
Almata	23·7	43	e 5 21	− 4	—	—	—	—
Yalta	23·8	321	e 5 28	+ 2	—	—	—	—
Simferopol	24·1	322	e 5 23	− 6	—	—	—	—
Sebastopol	24·2	321	e 5 27	− 3	—	—	—	—
Ekaterinburg	29·6	6	—	—	—	—	19·0	—
Entebbe	35·0	225	—	—	—	—	18·0	20·0
Irkutsk	44·0	41	—	—	—	—	24·0	—

Additional readings: Ksara LN = +12·2m. Helwan S = +14m.29s.

Nov. 20d. Readings also at 1h. (Mizusawa and Nagoya), 3h. (near Andijan, Samarkand, and near Tacubaya), 4h. (La Paz and La Plata), 7h. (Feldberg, Bombay, and Hong Kong), 10h. (2) and 15h. (near Lick), 17h. (Hong Kong and Taihoku), 22h. (near Lick (2)).

Nov. 21d. Readings at 0h. (Baku), 3h. (Suva and near Lick), 5h. (near Tananarive), 11h. (near Baku), 13h. (Samarkand), 17h. (near Oaxaca, Tacubaya, and Vera Cruz), 20h. (Ekaterinburg), 22h. (Bombay), 23h. (near La Paz, Sucre, and near Santiago).

Nov. 22d. Readings at 1h. (near Lick and near Mizusawa), 2h. (Andijan and near La Paz), 4h. (Nagoya, near Kobe, Sumoto, and near Manila), 5h. (Andijan, near Almata, near Oaxaca, Tacubaya, and Vera Cruz), 8h. (Sucre, La Plata, La Paz, near Santiago, Samarkand, Wellington, Trenta, Rocca di Papa, Zagreb, near Naples, Casamicciola, and Taranto), 9h. (Samarkand, Andijan, and Zurich), 10h. (near Manila), 12h. (La Paz and Sucre), 13h. (La Paz and near Sucre), 15h. (Adelaide, Melbourne, Riverview, and near Wellington), 16h. (near Granada), 17h. (Bagnères), 18h. (Phu-Lien), 19h. (Almata, Andijan, and Uccle), 22h. (near Sucre), 23h. (Ksara, Perth, and near La Paz).

Nov. 23d. 0h. 1m. 38s. Epicentre 5°·3S. 136°·2E. (given by Batavia).

A = −·719, B = +·689, C = −·092; D = +·692, E = +·722; G = +·067, H = −·064, K = −·996.

		Δ	Az.	P.	O−C.	S.	O−C.	L.	M.
		°	°	m. s.	s.	m. s.	s.	m.	m.
Amboina		8·2	281	1 33	−31	3 35	− 7	—	—
Manila		25·0	323	i 5 32	− 6	i 9 48	−15	i 12·3	—
Batavia	E.	29·3	267	e 6 16	− 5	—	—	—	—
Adelaide		29·8	176	e 6 21	− 5	i 11 17	−14	i 15·1	16·8
Riverview		31·7	155	e 6 39	− 5	e 11 45	−18	e 16·5	18·4
Sydney	E.	31·7	155	6 40	− 4	11 52	−11	17·4	18·4
Melbourne		33·5	168	e 6 52	− 9	12 10	−22	17·2	18·6
Taihoku	N.	33·5	335	7 59	+58	—	—	14·4	—
Hong Kong		35·0	323	6 56	−17	12 31	−24	e 15·2	18·7
Phu-Lien		39·1	314	e 7 31	−16	e 13 37	−16	17·9	—
Zi-ka-wei	N.	39·1	340	e 7 34	−13	13 22	−31	—	—
Kobe		40·0	359	7 32	−23	13 37	−30	e 18·9	19·8
Osaka		40·0	359	7 33	−22	(13 41)	−26	13·7	15·0
Suva	E.	43·1	111	—	—	i 13 40	−69	—	—

Continued on next page.

		Δ	Az.	P.	O−C.	S.	O−C.	L.	M.
		°	°	m. s.	s.	m. s.	s.	m.	m.
Mizusawa		44·6	7	8 22	− 8	14 21	−49	17·8	—
Wellington	E.	49·8	142	9 2	− 4	i 16 2	−14	23·4	32·1
	N.	49·8	142	i 9 12	+ 6	i 16 5	−11	22·4	34·3
Christchurch		49·9	146	9 4	− 2	16 18	0	24·7	—
Colombo		57·6	282	10 6	+10	18 6	+12	31·9	35·8
Kodaikanal		60·6	285	e 20 10	?	—	—	—	—
Hyderabad		61·4	295	10 31	+10	18 51	+10	33·3	41·4
Irkutsk		63·6	340	10 35	− 1	i 19 5	− 3	29·4	34·3
Bombay		66·9	295	11 7	+10	20 1	+12	35·2	46·6
Almata		72·1	320	11 37	+ 6	21 3	+12	—	—
Andijan		74·0	315	11 51	+ 9	21 23	+ 9	—	—
Tashkent		76·6	316	i 12 0	+ 1	i 21 48	+ 4	e 34·4	47·6
Samarkand		77·7	314	12 8	+ 3	22 1	+ 4	—	—
Ekaterinburg		86·6	329	e 12 49	− 8	i 23 25	−12	41·4	50·4
Tananarive	E.	87·1	251	e 13 0	0	i 23 54	+12	—	53·6
Baku		90·7	312	e 13 16	− 4	i 24 16	− 5	43·9	59·7
Sitka		93·6	34	i 23 41	?S	(i 23 41)	[− 9]	e 37·6	41·6
Kucino		99·0	326	e 13 50	−15	25 12	−34	47·3	58·6
Victoria		100·9	40	24 40	?S	(24 40)	[+12]	45·8	55·3
Theodosia		101·4	317	e 24 42	?S	(e 24 42)	[+11]	—	—
Yalta		102·2	316	e 24 45	?S	(e 24 45)	[+10]	—	—
Pulkovo		102·5	331	14 5	−18	25 44	? Σ	48·4	61·5
Entebbe		103·7	270	18 37	[+37]	—	—	—	34·4
Helsingfors		105·0	331	—	—	e 25 58	? Σ	e 48·4	—
Upsala	N.	108·6	332	—	—	e 26 30	? Σ	e 51·4	65·9
Konigsberg		108·9	326	—	—	—	—	e 57·7	66·4
Ksara		111·5	303	e 17 43	[−43]	—	—	e 53·4	—
Budapest		112·0	319	—	—	e 28 22?	?	—	—
Tucson		112·2	56	—	—	e 28 50	?	—	50·5
Copenhagen		112·8	330	19 34	?PR_1	27 10	−42	52·4	—
Scoresby Sund		113·3	352	19 40	?PR_1	26 37	? Σ	68·4	—
Graz		114·5	320	—	—	—	—	e 68·4	—
Hamburg		115·0	329	—	—	—	—	e 48·4	63·4
Cheb		115·2	323	e 19 44	?PR_1	e 29 25	?PS	e 59·4	71·4
Gottingen	N.	116·0	326	—	—	—	—	e 55·1	63·6
Feldberg	N.	117·5	326	—	—	e 27 53	?	—	70·4
Rocca di Papa		118·1	315	e 19 46	?PR_1	—	—	e 68·4	73·0
De Bilt		118·3	328	—	—	e 30 17	?PS	e 53·4	59·1
Strasbourg		118·6	323	(e 20 22?)	?PR_1	—	—	e 20·4	—
Uccle		119·4	327	—	—	e 36 22?	?SR_1	e 55·4	—
Dyce		119·7	335	—	—	25 53	[+10]	e 49·1	—
Edinburgh		120·0	335	—	—	e 30 22?	?PS	—	—
Kew		121·5	330	—	—	—	—	e 57·4	—
Paris		121·5	325	—	—	—	—	e 67·4	—
Oxford		121·8	331	—	—	—	—	e 56·4	74·4
Ivigtut		124·0	2	—	—	37 16	?SR_1	64·4	—
Florissant		126·2	44	e 19 44	[+35]	—	—	e 60·4	64·4
Ann Arbor	N.	128·8	36	—	—	—	—	e 63·6	—
Toronto		130·5	32	e 21 22?	?PR_1	—	—	e 64·5	71·4
Ottawa		131·2	29	e 21 22	?PR_1	—	—	e 63·4	—
Granada		131·4	317	—	—	—	—	73·4	—
Charlottesville	E.	134·5	38	—	—	—	—	e 64·4	—
Georgetown	Z.	134·9	36	i 21 46	?PR_1	—	—	e 55·6	72·0
Fordham		135·4	32	i 22 49	?PR_1	—	—	e 58·9	78·4
La Plata		137·7	162	—	—	—	—	74·2	—
La Paz		147·5	132	19 56	[+ 4]	—	—	74·4	86·0
Sucre		147·8	140	e 19 53	[0]	—	—	74·4	86·4
Rio de Janeiro	E.	151·8	181	—	—	e 41 43	?SR_1	e 76·2	—

For Notes see next page.

NOTES TO Nov. 23d. 0h. 1m. 38s.

Additional readings: Manila $PR_1E = +6m.5s.$, $PR_2 = +6m.15s.$, $SR_1 = +10m.52s.$ Batavia $iE = +7m.26s.$ Adelaide $i = +12m.47s. = SR_1 - 13s.$, and $+13m.12s.$, $MN = +19{\cdot}8m.$ Riverview $eS = +11m.55s.$, $+12m.22s.$, and $+15m.23s.$, $MZ = +21{\cdot}4m.$, $MN = +22{\cdot}6m.$; $T_0 = 0h.1m.34s.$ Melbourne $SR_1 = +14m.59s.$ Hong Kong $PR_1 = +8m.33s.$, $MN = +17{\cdot}1m.$ Kobe $MZ = +20{\cdot}7m.$ Osaka $MN = +14{\cdot}7m.$ Suva $iPR_1E = +8m.52s.$ Mizusawa $SN = +14m.23s.$ Wellington $iSR_1N = +19m.30s.$, $SR_1E = +19m.57s.$, $T_0E = 0h.1m.16s.$, $T_0N = 0h.2m.4s.$ Tananarive $eE = +23m.27s. = [S] - 15s.$ Sitka $iSE = +30m.28s.$ Kucino $PR_1 = +17m.44s.$, $S_0P_0S = +24m.26s.$ Victoria $SE = +32m.40s. = SR_1 - 9s.$ Pulkovo $PR_1 = +18m.41s.$, $S_0P_0S = +24m.40s.$ Copenhagen $PR_1 = +19m.34s.$, $PS = +31m.26s.$, $SR_1 = +35m.10s.$ Upsala $ME = +65{\cdot}7m.$ Konigsberg $e = +58m.22s.$? Ksara $eP'N = +21m.25s.$, $ePR_2E = +24m.45s.$ Scoresby Sund $PS = +29m.5s.$, $SR_1 = +34m.58s.$ Rocca di Papa $e = +11m.34s.$ and $+31m.22s.$ De Bilt $MN = +59{\cdot}6m.$, $MZ = +76{\cdot}1m.$ Kew $eLZ = +68{\cdot}4m.$ Florissant $iZ = +20m.5s.$, $+20m.54s. = PR_1 - 12s.$, and $+23m.21s.$, $iNZ = +27m.58s. = \Sigma + 7s.$, $iN = +30m.54s.$, $iZ = +30m.58s.$, $iN = +37m.47s.$, $iZ = +37m.54s.$ Toronto $eN = +22m.35s.$ and $+38m.39s. = SR_1 - 17s.$, $eE = +38m.52s. = SR_1 - 4s.$ Ottawa $i = +22m.40s.$ and $+28m.26s. = \Sigma + 5s.$, $e = +38m.41s.$, $i = +41m.24s.$ Charlottesville $eN = +70m.22s.$ Georgetown $eZ? = +13m.53s.$, $i = +22m.53s.$ Fordham $eN = +28m.41s. = \Sigma - 5s.$ and $+39m.41s.$, $LZ = +70{\cdot}9m.$ La Paz $iP' = +20m.1s.$, $PR_1N = +24m.1s.$, $LN = +72{\cdot}4m.$, $MN = +89{\cdot}8m.$ Sucre $iP' = +19m.58s.$, $PR_1 = +23m.36s.$

Nov. 23d. Readings also at 3h. and 5h. (Lick), 7h. (Almata, near Andijan, Samarkand, and Tashkent), 11h. (Apia), 12h. (La Plata, La Paz, and Sucre), 15h. (Port au Prince), 17h. (Baku, Tashkent, Hong Kong, and Kucino), 19h. (Fordham, Florissant, and near Oaxaca (2)), 20h. (Tucson, near Tacubaya (2), and Vera Cruz (2)), 21h. (Victoria).

Nov. 24d. Readings at 2h. (La Paz and Sucre), 3h. (near Irkutsk), 4h. (near Taihoku), 6h. (La Paz and Sucre), 8h. (Andijan), 9h. (Lick), 10h. (near Irkutsk), 12h. (Nagasaki), 13h. (Ksara), 15h. (Batavia), 16h. (near Chur and Zurich), 17h. (Baku, Tashkent, and La Paz), 18h. (Ann Arbor, Wellington, and near La Paz (2)), 21h. (near Lick), 22h. (Apia and La Paz).

Nov. 25d. Readings at 1h. (Andijan, Samarkand, and near Taihoku), 4h. (Lick), 8h. (Ekaterinburg, Tashkent, Hong Kong, and Irkutsk), 9h. (Apia and Wellington), 10h. (Ekaterinburg and Irkutsk), 11h. (Samarkand), 13h. (Riverview and Melbourne), 14h. (Tucson, near Oaxaca, Tacubaya, and Vera Cruz), 16h. (near Andijan and Samarkand), 18h. (Ekaterinburg and La Paz), 21h. (Apia, Irkutsk, and Ekaterinburg).

Nov. 26d. Readings at 0h. (Ekaterinburg and La Paz), 1h. (Taihoku), 4h. (La Paz), 8h. (Andijan, Tucson, near Berkeley, and Lick), 11h. (Andijan, Samarkand, and Melbourne), 13h. (near Kobe, Osaka, and Nagoya), 16h. (La Paz), 18h. (Taihoku, Suva, and Wellington), 19h. (near Tacubaya), 20h. (La Paz), 22h. (Suva and Taihoku), 23h. (Wellington).

Nov. 27d. Readings at 1h. (La Paz), 2h., 4h., and 5h. (Bombay), 6h. (near La Paz and Sucre), 7h. (Florissant and La Paz), 8h. (Baku, Irkutsk, Kucino, Pulkovo, Scoresby Sund, and Ottawa), 10h. (Apia), 11h. and 12h. (Bombay), 20h. (Florissant).

Nov. 28d. Readings at 7h. (Wellington (2)), 8h. (Baku, Ekaterinburg, Tashkent, Taihoku, Victoria, Ottawa, and Toronto), 11h. and 12h. (Rocca di Papa), 16h. (Entebbe and Tashkent), 17h. (Ekaterinburg), 19h. (Yalta, Tucson, near Amboina, Victoria, near Berkeley (2), and Lick (3)), 20h. (Andijan, Samarkand, Taihoku, Ottawa, Toronto, and near Manila), 22h. (Wellington), 23h. (near Amboina).

Nov. 29d. Readings at 0h. (near Amboina (3)), 6h. (Samarkand), 7h. (near Almeria), 10h. (Batavia), 12h. (La Paz and Santiago), 18h. (Andijan), 19h. (Tashkent).

Nov. 30d. Readings at 1h. (Taihoku and Wellington), 2h. (Wellington), 4h. (Bombay), 6h. (near Akita and Mizusawa), 9h. (La Paz and near Tananarive), 12h. (near Santiago), 13h. (La Paz and Mizusawa), 17h. (La Paz and near Santiago), 18h. (La Paz), 20h. (Samarkand and Taihoku), 21h. (Baku, Ekaterinburg, Irkutsk, Ksara, Tashkent, Taihoku, and Catania), 22h. (Strasbourg, Uccle, Zurich, near Neuchatel, and near Mizusawa).

Dec. 1d. Readings at 0h. (La Paz, Phu-Lien, and near Manila (2)), 1h. (Entebbe and near La Paz), 2h. (Baku, Ekaterinburg, Tashkent, Entebbe (10), and Granada), 3h. (Andijan and Samarkand), 4h. and 6h. (2) (Entebbe), 8h. (Zagreb and near Mostar), 10h. (Almata and Andijan), 11h. (Samarkand), 13h. (near Andijan), 14h. and 21h. (La Paz), 23h. (Bagnères).

Dec. 2d. Readings at 1h. (near Sumoto and near Wellington), 3h. (Wellington), 5h. (La Paz), 11h. (Entebbe), 14h. (Andijan), 15h. (near Batavia), 23h. (near La Paz).

Dec. 3d. 7h. 35m. 12s. Epicentre 3°·2S. 135°·6E. (as on 1929 May 7d.).

$A = -\cdot 713$, $B = +\cdot 699$, $C = -\cdot 056$; $D = +\cdot 700$, $E = +\cdot 714$; $G = +\cdot 040$, $H = -\cdot 039$, $K = -\cdot 998$.

		Δ	Az.	P.	O−C.	S.	O−C.	L.	M.
		°	°	m. s.	s.	m. s.	s.	m.	m.
Amboina		7·4	266	—	—	i 12 8?	?	—	—
Manila		23·0	321	e 5 9	− 8	i 9 22	− 3	—	—
Batavia		28·8	263	i 5 32	−44	i 11 29	+16	—	—
Adelaide		31·9	176	e 6 38	− 8	i 13 16	+69	18·4	19·9
Hong Kong		33·0	322	e 6 31	−25	11 51	−33	14·4	17·3
Riverview		33·9	158	e 6 50	−14	e 12 10	−29	i 21·0	22·5
Sydney	E.	33·9	158	12 18	?S	(12 18)	−21	21·4	21·8
Perth		34·2	211	6 48	−19	—	—	—	—
Melbourne		35·6	168	—	—	e 13 23	+19	22·0	22·2
Phu-Lien	E.	37·2	313	4 48?	?	—	—	—	—
Kobe	N.	37·9	0	—	—	—	—	—	20·7
Wellington	E.	51·8	144	—	—	e 16 48?	+ 7	31·8	—
Christchurch		52·0	147	—	—	e 20 20	?SR_1	e 22·0	35·4
Irkutsk		61·4	340	10 22	+ 1	i 18 38	− 3	28·8	—
Bombay		65·5	294	11 3	+15	e 19 51	+20	34·7	—
Almata		70·1	320	11 18	0	20 30	+ 3	—	—
Andijan		72·1	315	11 33	+ 2	20 54	+ 3	—	—
Tashkent		74·7	315	e 15 44	?	i 24 20	?	—	39·6
Samarkand		75·8	314	11 51	− 3	21 29	− 6	—	—
Ekaterinburg		84·5	329	i 12 36	− 9	23 0	−14	39·8	—
Baku		88·8	312	i 13 11	+ 2	i 23 51	−10	43·8	—
Kucino		97·0	326	—	—	e 32 0	?SR_1	46·4	59·5
Victoria	E.	99·7	41	—	—	—	—	46·8	49·2
Ksara	E.	99·8	305	e 23 49	?S	(e 23 49)	[−34]	—	—
Copenhagen		110·7	330	—	—	—	—	66·8	—
De Bilt		116·2	329	—	—	—	—	e 59·8	—
Kew		119·3	331	—	—	—	—	e 70·8	—
Florissant		125·7	43	—	—	—	—	e 64·3	67·8
Toronto		129·1	31	—	—	—	—	64·8	—
Ottawa		129·7	26	—	—	—	—	e 65·8	—
La Paz		149·4	131	e 19 51	[− 4]	—	—	—	—
Sucre		149·8	138	e 20 11	[+15]	—	—	—	—

Additional readings: Manila iE = +10m.12s., SR_1 = +10m.24s. Batavia i = +12m.24s. = SR_1 − 12s. Adelaide iSR_1 = +17m.23s., i = +17m.48s., MN = +20·4m. Hong Kong P = +7m.8s. Riverview i = +16m.28s., +17m.14s., and +18m.40s., iZ = +18m.53s., and +18m.55s., MN = +21·5m. Sydney S = +16m.18s., SR_1 = +19m.0s. Melbourne iP = +14m.51s., iS = +19m.28s. Wellington iLN = +28·8m. Ksara SE = +34m.51s. Florissant eZ = +48m.18s. Ottawa eE = +70m.48s. ?

Dec. 3d. Readings also at 0h. (near Taihoku), 3h. (Entebbe), 4h. (Taihoku and Wellington (2)), 5h. (Wellington), 6h. (Samarkand), 8h. (Kobe), 9h. (near Manila), 12h. (near Andijan and Samarkand), 14h. (near Kobe and Sumoto), 21h. (near Nagasaki), 22h. (Malaga and near Granada).

Dec. 4d. Readings at 0h. (near Santiago), 2h. (Batavia), 4h. (Wellington), 5h. (Suva), 6h. (La Paz, La Plata, Santiago, Sucre, Rio de Janeiro, Georgetown, Ottawa, Toronto, Adelaide, Victoria, Christchurch, Wellington, Melbourne, Sydney, Ekaterinburg, Irkutsk, Tashkent, Nagasaki, and Zi-ka-wei), 7h. (La Paz, La Plata, Sucre, Santiago, Rio de Janeiro, Florissant, Adelaide, Wellington, Sydney, Baku, Ekaterinburg, Kucino, Irkutsk, Tashkent, and Bombay), 8h. (Georgetown, Ottawa, Toronto, Melbourne, Ekaterinburg, Irkutsk, and Tashkent), 9h. (Baku), 11h. (Batavia), 12h. (Victoria, near Berkeley, and Lick), 14h. (Andijan and Yalta), 15h. (Nagasaki), 16h. (Samarkand), 19h. (Ekaterinburg and Tashkent).

Dec. 5d. 6h. 29m. 31s. Epicentre 37°·3N. 4°·0W. (as on 1929 Sept. 30d.).

$A = +\cdot793$, $B = -\cdot055$, $C = +\cdot606$.

	Δ	Az.	P.	O−C.	S.	O−C.	L.	M.
	°	°	m. s.	s.	m. s.	s.	m.	m.
Granada	0·3	110	i 0 6	+ 1	i 0 11	+ 3	—	0·5
Malaga	0·7	210	0 9	− 2	0 14	− 6	—	—
Almeria	1·4	110	e 0 22	+ 1	0 39	0	—	—
Toledo	2·5	0	—	—	—	—	e 1·4	—

Additional readings: Granada iP = +6s., iS = +13s., and +16s., MNZ = +0·4m. Almeria $PR_1 = +27$s., P = +30s., $PR_2 = +41$s., $SR_1 = +45$s., $SR_2 = +54$s. Toledo i = +1m.37s. and +1m.45s.

Dec. 5d. Readings also at 0h. (La Paz), 5h. and 6h. (Wellington), 7h. (Andijan and near Almata), 12h. (Ekaterinburg, Tashkent, Entebbe, Hong Kong, and Zi-ka-wei), 13h. (Entebbe and near Manila), 14h. (Entebbe (4)), 15h. (Florissant, Ottawa, Toronto, Hong Kong, and Batavia (2)), 16h. (Adelaide, Hong Kong, and Andijan), 18h. (Tucson), 22h. (Baku, Taihoku (3), La Paz, La Plata, and near Santiago).

Dec. 6d. 4h. 15m. 55s. Epicentre 36°·1N. 140°·0E. (as on 1929 April 23d.).

$A = -\cdot619$, $B = +\cdot519$, $C = +\cdot589$.

	Δ	Az.	P.	O−C.	S.	O−C.	L.	M.
	°	°	m. s.	s.	m. s.	s.	m.	m.
Nagoya	2·7	249	e 0 32	−10	0 57	−17	1·5	1·7
Mizusawa	3·0	16	0 41	− 6	1 30	+ 7	—	—
Akita	3·6	1	e 1 1	+ 5	(1 49)	+10	1·8	2·0
Osaka	3·9	250	0 58	− 3	—	—	2·2	2·8
Toyooka	4·2	264	i 1 9	+ 4	i 1 52	− 3	2·3	2·6
Kobe	4·3	251	1 9	+ 2	1 57	− 1	2·3	2·5
Sumoto	4·5	248	e 1 31	+21	—	—	—	—

Additional readings: Nagoya MN = +1·6m. Osaka MN = +2·4m., MZ = +2·5m. Toyooka MN = +2·7m. Kobe MNZ = +2·6m.

Dec. 6d. 11h. 37m. 24s. Epicentre 65°·7S. 50°·0W. (given by La Paz).

A = +·265, B = −·315, C = −·911; D = −·766, E = −·643; G = −·586, H = +·698, K = −·412.

		Δ	Az.	P.	O−C.	S.	O−C.	L.	M.
		°	°	m. s.	s.	m. s.	s.	m.	m.
La Plata		31·1	348	6 27	−12	11 32	−21	16·4	—
Rio de Janeiro		43·0	9	e 8 16	− 2	(13 48)	−60	13·8	—
Sucre		47·8	340	i 8 54	+ 1	i 15 54	+ 3	23·6	27·4
Cape Town		50·6	86	e 13 6	?	i 15 42	−44	—	—
La Paz		50·7	337	i 9 11	0	i 16 29	+ 2	23·0	27·8
Wellington		67·5	216	—	—	—	—	—	52·6
Tananarive	E.	75·8	104	—	—	e 20 58	−37	28·2	30·8
Melbourne		75·9	192	—	—	i 23 57	?	39·6	41·6
Adelaide		79·1	188	—	—	e 23 51	?	e 43·9	51·6
Riverview		79·2	198	—	—	e 24 18	?	e 49·8	52·3
Perth		81·8	168	22 36?	?S	(22 36?)	− 8	—	—
Entebbe		86·9	83	14 36?	?	—	—	—	41·6
Georgetown	Z.	106·7	339	—	—	—	—	e 54·0	—
Florissant		109·1	328	e 19 8	?PR_1	e 28 38	?PS	e 54·6	61·1
Harvard		109·3	344	—	—	—	—	e 53·1	—
Chicago	E.	111·3	331	—	—	—	—	64·0	—
Toronto		111·7	338	—	—	28 36?	+53	—	—
Colombo		111·8	124	—	—	—	—	43·4	54·4
Ottawa		112·8	341	—	—	e 28 36	+44	35·0	—
Ksara		118·8	70	—	—	—	—	56·6	—
Bombay		120·4	111	e 22 36?	?	—	—	—	—
Strasbourg		122·5	40	—	—	—	—	e 55·6	—
Kew		123·2	34	—	—	—	—	e 43·6	—
Uccle		123·7	37	—	—	—	—	e 45·6	—
De Bilt	E.	125·0	38	—	—	—	—	e 46·6	—
Victoria		127·1	307	—	—	—	—	—	72·0
Baku		130·1	79	e 19 41	[+23]	—	—	e 52·9	72·4
Copenhagen		130·2	40	—	—	—	—	52·6	—
Phu-Lien	E.	132·6	149	—	—	—	—	—	97·6
Scoresby Sund		137·5	13	—	—	—	—	52·6	—
Pulkovo		138·8	49	—	—	e 37 30	?	62·6	—
Ekaterinburg		147·4	71	e 23 37	?PR_1	e 38 46	?	55·1	77·4
Irkutsk		161·4	124	—	—	e 47 36?	?SR_1	74·6	—

Additional readings: Sucre iPR_1 = +10m.39s., iSR_1 = +19m.16s. La Paz iSN = +16m.36s., PSE = +16m.56s., MN = +29·6m. Tananarive eE = +19m.37s., eN = +19m.40s., and +22m.55s., E = +23m.49s., N = +24m.47s. E = +27m.16s. = SR_1 +2s., N = +27m.20s. = SR_1 +6s., LN = +28·0m. Adelaide iSR_1 = +30m.10s., MN = +50·9m. Riverview MN = +52·9m. Florissant iNZ = +19m.23s., iN = +29m.18s., eEN = +34m.23s. = SR_1 −8s., eLZ = +56·6m. Chicago eN = +63·0m. De Bilt eL = +57·6m. Baku e = +29m.51s., and +30m.40s.

Dec. 6d. 16h. 46m. 38s. Epicentre 54°·0S. 29°·6W. (as on 1929 Oct. 2d.).

A = +·511, B = −·290, C = −·809; D = −·494, E = −·869; G = −·704, H = +·400, K = −·588.

		Δ	Az.	P.	O−C.	S.	O−C.	L.	M.
		°	°	m. s.	s.	m. s.	s.	m.	m.
La Plata		27·5	303	6 7	+ 4	10 52	+ 2	13·6	—
Rio de Janeiro	E.	32·7	335	e 7 50	+56	—	—	13·4	20·0
Santiago		35·4	289	e 7 18	+ 1	e 12 58?	− 3	16·3	—
Cape Town		39·0	79	7 28	−18	i 13 28	−14	28·4	—
Sucre		44·4	309	8 21	− 8	i 15 2	− 5	21·9	26·0
La Paz		47·9	308	i 8 43	−10	i 15 48	− 5	24·4	28·9
Johannesburg		50·3	80	8 58	−11	16 10	−13	22·4	—
Tananarive		67·3	91	e 11 2	+ 2	i 19 57	+ 3	30·0	35·0
Entebbe		74·1	66	11 42	− 1	22 12	+57	—	62·6
Wellington	E.	82·4	198	—	—	e 20 44	?	43·4	46·4

Continued on next page.

		Δ °	Az. °	P. m. s.	O−C. s.	S. m. s.	O−C. s.	L. m.	M. m.
Melbourne		88·1	175	—	—	i 24 2	+ 9	41·3	50·2
Perth		89·0	150	23 22?	?S	(23 22?)	[0]	—	—
Adelaide		90·5	170	e 12 26?	−53	i 23 22	[− 9]	e 42·7	58·0
Riverview		92·2	181	—	—	e 23 45	[+ 4]	e 46·7	51·0
Sydney	E.	92·2	181	23 52	?S	(23 52)	[+11]	44·4	52·4
San Fernando		92·7	20	—	—	24 19	−23	47·6	57·6
Malaga		93·3	21	—	—	—	—	e 43·1	—
Almeria		93·9	22	19 23	?	27 2	?	47·6	51·2
Granada		93·9	21	—	—	i 25 54	?PS	47·8	53·9
Algiers		95·0	27	e 14 52	+69	i 24 56	−10	e 46·4	52·4
Alicante		95·7	24	—	—	e 23 1	?	e 51·8	—
Toledo		96·4	20	—	—	—	—	e 43·9	50·9
Tortosa	N.	98·3	24	—	—	—	—	e 49·4	55·8
Helwan		98·9	50	e 13 30	−35	i 24 23	[+ 5]	—	60·5
Catania		99·3	34	—	—	e 24 16	[− 4]	e 51·0	65·6
Georgetown		101·5	325	e 17 34	[−18]	i 27 59	?PS	57·2	—
Fordham		102·2	327	e 18 19	[+24]	25 52	−25	e 55·9	61·9
Rocca di Papa		102·3	30	e 18 16	[+21]	24 44	[+ 9]	e 50·3	68·6
Harvard		102·7	330	—	—	i 33 22?	?SR_1	53·4	—
Florence		103·8	30	e 18 22	[+22]	—	—	51·4	53·4
Moncalieri		104·0	27	e 18 58	?PR_1	—	—	—	—
Ksara	N.	104·4	51	18 25	[+22]	24 51	[+ 6]	31·0	—
Piacenza		104·5	26	—	—	—	—	—	57·7
Treviso		105·8	27	—	—	—	—	56·4	59·4
Paris		106·3	23	—	—	—	—	e 52·4	63·4
St. Louis	E.	106·4	315	—	—	—	—	e 54·4	—
Florissant		106·5	315	e 18 52	[+42]	i 26 24	−33	e 49·4	53·9
Toronto		106·5	325	e 19 6	?PR_1	i 24 55	[+ 1]	60·0	—
Ottawa		106·9	329	e 19 22?	?PR_1	i 25 7	[+11]	59·4	—
Colombo		106·9	100	16 1	?	24 56	[0]	44·2	56·3
Zagreb		107·1	31	—	—	—	—	—	54·4
Ravensburg		107·1	25	—	—	—	—	—	58·4
Strasbourg		107·3	24	—	—	—	—	e 43·4	—
Chicago	E.	107·9	319	—	—	e 25 9	[+ 8]	e 52·7	—
	N.	107·9	319	—	—	e 24 57	[− 4]	e 55·7	—
Graz		108·1	30	—	—	—	—	e 54·4	59·4
Kodaikanal		108·2	95	e 24 52	?S	(e 24 52)	[−10]	e 63·4	70·7
Kew		108·3	17	—	—	—	—	e 43·4	—
Uccle		108·6	21	—	—	e 26 52	−23	e 52·4	61·5
Vienna		109·4	30	—	—	—	—	e 56·4	61·4
Budapest		109·5	31	—	—	—	—	e 55·4	61·4
Cheb		109·9	28	—	—	e 24 22?	?	e 55·4	60·4
De Bilt		110·0	21	—	—	e 28 54	?PS	e 50·4	59·1
Gottingen	N.	110·6	24	—	—	—	—	e 55·3	58·9
Edinburgh		112·0	14	—	—	—	—	—	63·4
Hamburg		112·5	23	—	—	—	—	e 55·4	61·4
Bombay		112·5	86	19 10	[+40]	28 58	?	48·0	60·4
Yalta		112·5	42	e 28 46	?	—	—	—	—
Theodosia		113·4	42	e 29 10	?PS	—	—	—	—
Dyce		113·5	14	—	—	25 24	[0]	—	67·9
Hyderabad		114·6	91	19 37	?PR_1	29 17	?	48·2	57·1
Copenhagen		115·0	24	—	—	29 36	?	55·4	—
Baku		116·2	55	—	—	25 44	[+11]	55·2	75·5
Ivigtut		116·2	350	—	—	—	—	55·4	—
Konigsberg		116·4	29	—	—	—	—	e 63·4	—
Upsala	N.	119·9	24	—	—	e 30 17	?PS	e 57·4	67·0
Helsingfors		122·2	27	—	—	—	—	e 60·9	—
Kucino		122·8	37	—	—	—	—	58·4	75·9
Pulkovo		123·4	30	—	—	26 20	?PR_2	58·4	71·1
Dehra Dun		124·2	83	27 52	? Σ	—	—	—	62·4
Calcutta	E.	124·4	96	16 54	+51	26 20	?PR_2	43·5	—
Scoresby Sund		124·6	3	—	—	25 22?	?	55·4	—

Continued on next page.

		Δ °	Az. °	P. m. s.	O−C. s.	S. m. s.	O−C. s.	L. m.	M. m.
Samarkand		124·6	67	e 19 3	[− 2]	—	—	63·4	—
Tashkent		127·0	67	i 19 33	[+22]	—	—	e 59·4	75·0
Andijan		128·2	70	e 19 36	[+22]	—	—	63·4	—
Victoria	E.	129·1	300	21 30	?PR_1	—	—	69·9	74·8
Almata		132·6	70	e 19 47	[+23]	—	—	—	—
Ekaterinburg		132·7	46	e 19 22	[− 2]	26 20	[+ 4]	64·4	77·1
Phu-Lien	N.	133·1	117	21 22?	?PR_1	—	—	62·4	—
Manila		134·3	137	e 22 22?	?PR_1	—	—	—	—
Hong Kong		138·2	124	21 19	?	—	—	e 53·9	80·7
Irkutsk		152·8	75	e 19 44	[−16]	—	—	76·4	88·3
Vladivostok		163·7	125	e 20 34	[+23]	—	—	88·4	94·9

Additional readings: Cape Town iPR_1 = +8m.58s. Sucre i = +8m.24s., PR_1 = +10m.19s., SR_1 = +17m.25s. La Paz i = +16m.9s., iPSN = +16m.12s., PSE = +16m.30s., i = +18m.34s., SR_2 = +20m.38s., MN = +29·8m. Johannesburg PR_1 = +10m.52s., PR_2 = +11m.46s., SR_1 = +18m.58s. Tananarive EN = +15m.0s., E = +16m.42s., N = +19m.58s., E = +20m.34s. and +21m.3s., iS_cSN = +21m.6s., SR_1E = +24m.36s., SR_1N = +24m.39s., eN = +28m.14s., eE = +28m.18s., LN = +31·6m., MN = +34·8m. Melbourne ePR_1? = +16m.47s., SR_1 = +29m.59s. Adelaide eSR_1 = +29m.46s., MN = +54·0m. Riverview ePR_1 = +16m.40s., ePR_2 = +20m.29s., eS = +24m.5s., ePPS = +25m.34s., eP_cSS_cP = +28m.4s., eSR_1 = +30m.31s., e$P_cP_cP_cP$ = +31m.5s., eSR_2 = +34m.50s., eL? = +38·1m., MN = +59·4m. San Fernando MN = +58·1m. Almeria PS = +25m.43s., MZ = +52·0m. Algiers PS = +24m.6s. Toledo MNW = +50·7m. Fordham eE = +22m.37s., eN = +24m.37s. = [S] +2s., e = +33m.1s. = SR_1 − 5s., eE = +36m.45s., eZ = +49m.15s. Rocca di Papa iP = +18m.20s. Florissant eZ = +19m.29s., iZ = +20m.56s., eEN = +24m.49s. = [S] − 6s., iN = +25m.4s. and +25m.54s. = Σ +3s., eEN = +38m.12s., eE = +45m.4s., MZ = +59·1m. Toronto iN = +28m.22s. = PS +3s. Ottawa iE = +26m.22s., eN = +28m.22s. = PS − 1s., iE = +34m.6s. = SR_1 +2s., eE = +38m.4s. Chicago eE = +34m.12s. = SR_1 − 5s., eN = +61m.42s. Kew eLZ = +57·4m. Uccle i = +28m.37s. = PS − 5s., SR_1 = +34m.25s. Cheb MN = +58·4m. De Bilt eN = +35m.6s., MZ = +61·8m., MN = +62·1m. Gottingen eLE = +55·9m., ME = +60·4m. Hyderabad MN = +56·2m. Copenhagen +35m.46s. = SR_1 +0s. Baku PR_1 = +19m.44s., PS = +29m.47s., SR_1 = +36m.34s. Upsala ME = +67·8m. Kucino PR_1 = +20m.44s., PS = +30m.40s., SR_1 = +37m.22s. Pulkovo PR_1 = +20m.43s., PS = +30m.46s., SR_1 = +37m.34s. Tashkent i = +21m.7s. = PR_1 − 3s., e = +22m.23s. and +28m.49s. Ekaterinburg iPR_1 = +21m.46s., iSR_1 = +39m.16s. Irkutsk P_cP_cS = +23m.14s., $S_cP_cP_cS$ = +30m.29s., PPS = +37m.46s., SR_1 = +43m.40s. Vladivostok e = +30m.29s. and +34m.9s.

Dec. 6d. 20h. 20m. 59s. Epicentre 54°·0S. 29°·6W. (as at 16h.).

		Δ °	Az. °	P. m. s.	O−C. s.	S. m. s.	O−C. s.	L. m.	M. m.
La Plata		27·5	303	6 6	+ 3	10 55	+ 5	15·1	—
Rio de Janeiro	E.	32·7	335	e 8 1	?PR_1	—	—	13·4	20·7
Santiago		35·4	289	e 7 15	− 2	12 57?	− 3	16·0	—
Cape Town		39·0	79	i 7 39	− 7	13 35	−17	—	—
Sucre		44·4	309	i 8 28	− 1	i 15 8	+ 1	23·4	26·1
La Paz		47·9	308	i 8 48	− 5	i 15 54	+ 1	25·0	27·6
Johannesburg		50·3	80	9 7	− 2	16 19	− 4	22·5	—
Tananarive		67·3	91	11 7	+ 7	i 20 6	+12	33·4	35·6
Entebbe		74·1	66	11 51	+ 8	22 21	? Σ	—	49·8
Wellington		82·4	198	—	—	i 22 40	−10	42·0	51·0
Melbourne		88·1	175	e 18 31	?	24 33	?PS	40·6	50·5
Perth		89·0	150	23 51	?S	(23 51)	−12	—	—
Adelaide		90·5	170	e 12 56?	−23	e 23 39	[+ 8]	44·0?	58·2
Riverview		92·2	181	—	—	e 21 49	?	e 45·1	54·3
Sydney	E.	92·2	181	24 31	?S	(24 31)	− 6	47·8	55·0

Continued on next page.

	Δ	Az.	P.	O−C.	S.	O−C.	L.	M.
	°	°	m. s.	s.	m. s.	s.	m.	m.
San Fernando	92·7	20	—	—	24 8	? Σ	46·2	57·7
Malaga	93·3	21	—	—	e 23 52	[+ 4]	e 46·6	—
Almeria	93·9	22	e 17 13	PR$_1$	24 11	[+20]	49·4	52·7
Granada	93·9	21	i 26 3	?PS	—	—	45·0	54·4
Algiers	95·0	27	—	—	i 25 3	− 3	45·0	49·5
Alicante	95·7	24	—	—	—	—	e 52·3	—
Toledo	96·4	20	—	—	e 24 23	[+19]	—	51·6
Tortosa N.	98·3	24	—	—	—	—	e 50·0	55·9
Helwan	98·9	50	e 13 51	−14	i 24 29	[+11]	—	60·3
Catania	99·3	34	—	—	e 24 30	[+10]	e 48·7	70·1
Georgetown Z.	101·5	325	i 17 41	[− 1]	—	—	e 56·7	—
Rocca di Papa	102·3	30	e 18 1	[+ 6]	i 24 55	[+20]	e 50·5	68·8
Harvard	102·7	330	—	—	e 24 42	[+ 5]	e 43·0	—
Florence	103·8	30	e 14 31	+ 2	18 31	?PR$_1$	50·0	53·5
Moncalieri	104·0	27	—	—	e 24 45	[+ 2]	—	51·0
Ksara	104·4	51	18 38	?PR$_1$	25 0	[+15]	30·0	—
Piacenza	104·5	26	—	—	—	—	—	56·5
Treviso	105·8	27	—	—	—	—	53·0	58·0
Paris	106·3	23	—	—	—	—	e 51·0	59·0
St. Louis	106·4	315	e 18 11	[+ 1]	—	—	—	54·0
Florissant	106·5	315	e 18 53	?PR$_1$	e 25 3	[+ 9]	e 49·0	54·0
Toronto	106·5	325	—	—	i 25 6	[+12]	62·0	—
Colombo	106·9	100	18 20	[+ 8]	25 5	[+ 9]	44·4	56·4
Ottawa	106·9	329	e 19 13	?PR$_1$	e 25 5	[+ 9]	60·0	—
Zagreb	107·1	31	—	—	—	—	e 53·0	57·0
Strasbourg	107·3	24	—	—	—	—	e 37·0	—
Belgrade	107·6	35	—	—	—	—	e 30·5	—
Chicago	107·9	319	—	—	e 25 11	[+10]	e 54·3	—
Graz	108·1	30	—	—	—	—	e 53·0	58·0
Kodaikanal	108·2	95	e 24 55	?S	(e 24 55)	[− 7]	e 67·4	69·8
Kew	108·3	17	—	—	—	—	e 39·0	—
Uccle	108·6	21	—	—	e 27 1?	−14	e 52·0	—
Vienna	109·4	30	—	—	—	—	e 58·0	60·0
Budapest	109·5	31	—	—	—	—	e 54·0	—
Cheb	109·9	28	—	—	e 27 1?	−26	e 55·0	60·0
De Bilt	110·0	21	—	—	e 28 59	?PS	e 50·0	59·0
Gottingen E.	110·6	24	—	—	—	—	e 55·0	60·0
Tucson	110·9	295	e 19 31	?PR$_1$	e 25 27	[+13]	—	55·5
Bombay	112·5	86	19 16	?PR$_1$	29 6	?PS	47·6	60·8
Hamburg	112·5	23	—	—	—	—	e 60·0	—
Dyce	113·5	14	—	—	29 29	?PS	58·0	68·0
Hyderabad	114·6	91	19 48	?PR$_1$	29 28	?PS	48·3	59·0
Copenhagen	115·0	24	—	—	29 42	?PS	57·0	—
Baku	116·2	55	—	—	25 52	[+19]	53·8	70·3
Ivigtut	116·2	350	—	—	—	—	57·0	—
Konigsberg	116·4	29	—	—	—	—	e 61·0	—
Upsala N.	119·9	24	—	—	e 30 25	?PS	e 61·0	66·7
Helsingfors	122·2	27	—	—	—	—	e 59·0	—
Kucino	122·8	37	—	—	26 10	[+17]	57·5	72·6
Pulkovo	123·4	30	—	—	—	—	59·0	73·8
Samarkand	124·6	67	e 19 14	[+ 9]	—	—	—	—
Scoresby Sund	124·6	3	—	—	—	—	63·0	—
Tashkent	127·0	67	19 14	[+ 3]	—	—	e 55·0	71·8
Andijan	128·2	70	e 19 25	[+11]	—	—	—	—
Victoria N.	129·1	300	22 46	?	39 16	?SR$_1$	62·4	65·4
Almata	132·6	70	e 21 21	?PR$_1$	—	—	—	—
Ekaterinburg	132·7	46	e 19 26	[+ 2]	26 51	[+35]	60·0	77·3
Phu-Lien N.	133·1	117	18 1?	[−84]	—	—	63·0	—
Manila	134·3	137	e 22 1?	?PR$_1$	—	—	—	—
Hong Kong	138·2	124	22 3	?PR$_1$	40 14	?SR$_1$	e 71·0	82·5
Irkutsk	152·8	75	e 20 4	[+ 4]	—	—	76·0	88·4
Vladivostok	163·7	125	e 24 14	?	31 32	? Σ	56·0	—

For Notes see next page.

NOTES TO DEC. 6d. 20h. 20m. 59s.

Additional readings: Cape Town i = +9m.7s. = PR_1 − 3s. Sucre PR_1 = +10m.8s., iSR_1 = +18m.20s. La Paz iSE = +15m.55s., iE = +16m.11s. = PS + 1s., PSN = +16m.22s., iE = +18m.40s., SR_2E = +20m.40s., MN = +36·1m. Johannesburg PR_1 = +11m.1s., PR_2 = +11m.55s., SR_1 = +19m.1s. Tananarive N = +13m.30s., E = +13m.42s., N = +15m.9s., E = +15m.15s., eN = +20m.8s., iS_cSN = +21m.12s., iS_cSE = +21m.13s., N = +28m.5s., E = +28m.27s., N = +29m.3s., E = +29m.30s., LN = +31·8m., MN = +35·0m. Melbourne SR_1 = +30m.16s. Adelaide eSR_1 = +29m.41s., MN = +53·9m. Riverview MN = +52·0m. San Fernando MN = +58·2m. Granada +26m.5s. Algiers PS = +24m.11s., MN = +52·0m. Rocca di Papa e = +15m.21s. = P + 59s. Harvard i = +33m.11s. = SR_1 + 0s. Ksara SN = +24m.39s. Florissant iZ = +21m.8s., eE = +26m.28s., eN = +26m.33s., iE = +33m.53s. = SR_1 − 6s., eEN = +38m.13s. Toronto iE = +26m.28s., eN = +33m.38s. = SR_1 − 21s. Ottawa iE = +26m.39s., e = +34m.9s., eE = +38m.38s., eL? = +41·0m., LN = +58·0m. Chicago eE = +26m.11s. = Σ + 12s., eE = +34m.21s. = SR_1 + 4s., eN = +54·5m. De Bilt eN = +35m.12s. = SR_1 + 30s., MZ = +61·8m., MN = +62·2m. Gottingen eLN = +56·4m., MN = +59·0m. Tucson MN = +61·2m. Hyderabad MN = +59·2m. Copenhagen +36m.1s. Baku iPR_1 = +19m.55s., PS = +29m.56s., SR_1 = +36m.25s. Kucino $S_cP_cP_cS$ = +27m.41s., PS = +30m.45s. Pulkovo PR_1 = +20m.50s., $S_cP_cP_cS$ = +27m.23s., S_cP_cSP = +31m.1s., SR_1 = +37m.1s. Tashkent PR_1 = +21m.15s., $S_cP_cP_cS$ = +28m.11s., SR_1 = +38m.25s. Ekaterinburg PR_1 = +21m.53s., P_cP_cS = +22m.51s., iSR_1 = +39m.25s. Hong Kong MN = +80·6m. Irkutsk P_cP_cS = +23m.30s., PPS = +38m.32s., SR_1 = +43m.43s. Vladivostok e = +34m.20s., i = +45m.19s. = SR_1 − 10s.

Dec. 6d. Readings also at 2h. (near Algiers), 4h. (near Tacubaya), 6h. (Hong Kong and near Batavia), 10h. (Bombay and near Taihoku), 11h. (Hong Kong, Phu-Lien, Andijan, Almata, Samarkand, Ekaterinburg, Vladivostok, and near Irkutsk), 12h. (Ekaterinburg, Samarkand, near Almata, Andijan, and near Sumoto), 13h. (near Lick), 14h. (Andijan and Samarkand), 15h. (Baku and Irkutsk), 16h. (Treviso), 19h. (Lick), 20h. (La Paz and St. Louis), 22h. (Florissant and Zagreb).

Dec. 7d. 9h. 54m. 45s. Epicentre 36°·0N. 92°·5E.

A = −·035, B = +·808, C = +·588; D = +·999, E = +·044; G = −·026, H = +·587, K = −·809.

		Δ	Az.	P.	O−C.	S.	O−C.	L.	M.
		°	°	m. s.	s.	m. s.	s.	m.	m.
Calcutta	E.	13·9	196	e 6 24	?S	(e 6 24)	+18	8·9	—
	N.	13·9	196	e 6 10	?S	(e 6 10)	+ 4	8·5	—
Almata		13·9	306	e 3 21	− 4	—	—	—	—
Andijan		16·4	291	e 4 11	+14	—	—	—	—
Irkutsk		18·3	24	—	—	e 7 56	+ 9	10·0	10·2
Tashkent		18·8	293	e 4 24	− 3	8 5	+ 7	—	12·8
Phu-Lien		19·6	137	—	—	—	—	10·2	—
Hong Kong		23·3	120	—	—	e 9 33	+ 2	—	14·5
Bombay		24·3	231	e 9 28	?S	(e 9 28)	−22	—	15·2
Ekaterinburg		29·7	324	e 6 12	−13	e 11 38	+ 9	12·8	—
Vladivostok		30·9	64	—	—	—	—	e 17·4	—
Baku		33·4	291	—	—	—	—	e 21·8	—

Additional readings: Calcutta SN = +7m.50s., SE = +8m.14s. Irkutsk e = +9m.30s.

Dec. 7d. Readings also at 0h. (Samarkand and near Andijan), 2h. (Nagoya), 4h. (Ksara), 8h. (Florissant, St. Louis, Taihoku, Zi-ka-wei, and near Tacubaya), 9h. (Taihoku and near Tacubaya), 11h. (Lick), 12h. (Tashkent and Vladivostok), 13h. (Manila), 14h. (Ekaterinburg and Irkutsk), 23h. (near Wellington).

Dec. 8d. Readings at 2h. (Koti), 4h. (near La Paz and Sucre), 7h. (Ekaterinburg, Irkutsk, Kucino, Andijan, Samarkand, and Entebbe), 8h. (Baku and Tashkent), 13h. (near Tacubaya and Vera Cruz), 14h. and 15h. (near Taihoku), 22h. (Andijan and La Paz),

Dec. 9d. 6h. 42m. 18s. Epicentre 18°·4N. 94°·3W. (as on 1920 April 19d.).

A = −·071, B = −·946, C = +·316 ; D = −·997, E = +·075 ;
G = −·024, H = −·315, K = −·949.

		Δ	Az.	P.	O−C.	S.	O−C.	L.	M.
		°	°	m. s.	s.	m. s.	s.	m.	m.
Oaxaca		2·7	240	(0 17)	−25	—	—	(0·7)	(0·8)
Puebla		3·8	281	1 1	+ 2	(1 37)	− 7	1·6	1·8
Tacubaya		4·9	282	1 18	+ 2	(1 59)	−15	2·0	2·2
Tucson		20·3	316	4 45	0	8 22	− 7	—	12·2
St. Louis		20·5	9	i 5 0	+13	e 8 48	+14	—	—
Florissant		20·7	9	e 4 44	− 5	i 8 32	− 6	—	—
Chicago	N.	24·0	12	i 5 49	+21	i 9 34	−10	—	—
Charlottesville	N.	24·0	32	—	—	e 10 6	+22	—	—
Georgetown	Z.	25·4	32	i 6 2	+20	—	—	—	—
Ann Arbor	E.	25·5	18	—	—	e 10 18	+ 5	—	—
Toronto		28·1	23	—	—	i 10 29	−32	—	—
Fordham		28·5	34	i 12 9	?SR_1	—	—	—	—
Ottawa		31·1	26	—	—	i 11 18	−35	—	—
La Paz		43·4	141	e 8 16	− 5	—	—	—	—

Additional readings and note: Oaxaca readings have been *increased* by 1m. St. Louis iN = +5m.32s., +5m.36s., and +8m.49s. Florissant iNZ = +5m.14s. = PR_1 +4s., iZ = +8m.57s. = SR_1 −20s., iEN = +9m.0s., iZ = +9m.20s. Chicago iE = +9m.29s. Ann Arbor e?N = +8m.12s., e?E = +9m.42s. Fordham iEN = +16m.11s.

Dec. 9d. 6h. 49m. 49s. Epicentre **4°·9N. 94°·8E.**

A = −·083, B = +·993, C = +·085 ; D = +·996, E = +·084 :
G = −·007, H = +·085, K = −·996.

		Δ	Az.	P.	O−C.	S.	O−C.	L.	M.
		°	°	m. s.	s.	m. s.	s.	m.	m.
Colombo		15·0	278	3 31	− 8	—	—	7·5	8·6
Batavia		16·4	133	3 55	− 2	i 9 18	?	9·6	—
Kodaikanal		18·0	288	i 4 41	+24	—	—	i 8·1	14·6
Calcutta	E.	18·7	341	4 45	+20	8 31	+36	13·2	14·7
	N.	18·7	341	4 41	+16	8 35	+40	—	—
Phu-Lien		19·6	35	i 4 46	+10	i 8 28	+13	10·2	13·8
Hyderabad		20·3	309	4 47	+ 2	8 47	+18	—	14·5
Hong Kong		25·6	45	5 41	− 3	10 11	− 3	12·6	15·7
Bombay		25·6	305	5 42	− 2	10 17	+ 3	13·5	17·9
Agra	E.	27·4	326	6 44	+42	11 24	+36	15·1	16·1
	N.	27·4	326	6 43	+41	11 33	+45	e 15·8	22·6
Manila		27·5	67	e 6 4	+ 1	11 16	+26	14·9?	21·4
Dehra Dun		30·0	330	6 31	+ 3	11 31	− 3	16·4	18·2
Taihoku		32·6	50	e 6 46	− 7	12 5	−13	16·2	—
Zi-ka-wei	E.	36·3	40	e 6 43	−41	12 41	−33	i 23·1	26·4
Andijan		40·7	334	7 57	− 4	—	—	17·4	—
Almata		41·5	340	i 8 1	− 6	14 18	−10	—	—
Perth		41·9	153	9 41	?PR_1	14 21	−13	i 16·8	21·0
Samarkand		42·9	329	i 8 9	− 8	—	—	17·5	—
Tashkent		43·0	331	i 8 14	− 4	i 14 41	− 7	—	37·3
Nagasaki		43·0	45	e 8 11	− 7	e 14 40	− 8	e 20·8	29·8
Hukuoka		43·8	45	e 8 41	+17	e 14 50	− 9	e 20·4	29·2
Koti		46·0	47	i 8 37	− 3	e 15 25	− 3	e 21·7	—
Sumoto		47·4	46	e 8 45	− 5	—	—	19·5	32·3
Kobe		47·7	47	8 50	− 2	15 47	− 3	22·0	29·2
Osaka		48·0	47	8 6	−48	15 46	− 8	22·7	29·9
Toyooka	E.	48·0	45	i 8 51	− 3	—	—	i 22·5	28·1
Irkutsk		48·0	8	8 53	− 1	i 15 55	+ 1	25·2	31·0
Vladivostok		50·4	35	9 12	+ 3	16 27	+ 3	25·5	33·4
Tokyo		51·6	48	9 24	+ 7	—	—	—	—

Continued on next page.

		Δ	Az.	P.	O−C.	S.	O−C.	L.	M.
		°	°	m. s.	s.	m. s.	s.	m.	m.
Kakioka		52·1	46	9 19	− 2	16 41	− 4	—	—
Tananarive		52·3	241	e 9 15	− 7	16 36	−12	26·2	31·2
Baku		53·6	319	i 9 34	+ 4	i 17 9	+ 5	25·9	41·2
Akita		53·6	44	9 34	+ 4	17 11	+ 7	e 27·6	35·6
Mizusawa	E.	54·0	45	9 38	+ 5	17 19	+10	—	—
	N.	54·0	45	9 41	+ 8	17 17	+ 8	24·9	—
Adelaide		57·3	138	e 9 59?	+ 5	i 17 50	0	26·3	35·0
Ekaterinburg		58·5	339	i 10 8	+ 6	i 18 14	+ 9	26·2	34·5
Ksara	E.	61·6	307	10 32	+ 9	18 58	+15	32·5	—
Entebbe		62·4	268	10 30	+ 2	19 0	+ 7	29·2	33·8
Melbourne		63·1	138	e 10 36	+ 3	19 5	+ 3	30·8	40·7
Helwan		64·6	300	i 10 46	+ 4	19 26	+ 6	—	39·0
Theodosia		65·2	319	i 10 53	+ 7	e 19 32	+ 5	—	—
Riverview		65·8	131	i 10 36	−14	i 19 30	− 5	e 30·8	39·5
Sydney	E.	65·8	131	20 29	?S	(20 29)	+54	38·7	39·7
Yalta		65·9	318	10 56	+ 6	e 19 40	+ 4	—	—
Simferopol		66·0	318	10 58	+ 7	—	—	—	—
Kucino		67·9	330	11 9	+ 6	20 5	+	32·1	38·0
Pulkovo		73·2	332	11 41	+ 4	21 5	+	39·2	45·8
Helsingfors		75·8	332	11 55	+ 1	e 21 36	+	e 38·2	—
Budapest		76·8	319	11 57	− 3	—	—	49·2	—
Konigsberg		76·9	325	—	—	—	—	e 41·2	—
Trenta		78·0	310	i 12 21	+14	e 22 1	+ 1	—	—
Vienna		78·6	320	i 12 12	+ 1	—	—	44·7	52·2
Zagreb		78·7	316	e 12 11	0	e 22 11?	+ 3	—	44·2
Catania		78·8	309	e 12 12	0	e 22 25	+15	—	—
Graz		79·1	318	i 12 14	0	e 22 8	− 5	44·2	67·1
Upsala		79·4	330	12 12	− 3	22 12	− 4	e 42·2	57·5
Naples	N.	79·7	311	e 13 22	+65	(20 11)	?	20·2	—
Laibach	N.	79·8	317	e 11 18	−60	—	—	e 55·3	—
Rocca di Papa		80·9	313	i 12 23	− 1	e 22 41	+ 7	e 41·8	67·5
Rome		81·0	313	i 12 26	+ 1	e 22 27	− 8	—	—
Cheb		81·4	320	—	—	e 23 11?	? Σ	e 42·2	53·2
Cape Town		81·5	235	—	—	—	—	41·9	46·5
Padova		81·5	316	e 12 28	0	i 14 21	?	—	—
Copenhagen		81·7	326	12 27	− 2	22 41	− 2	40·2	—
Florence		82·0	314	i 12 26	− 4	22 51	+ 5	44·2	48·2
Gottingen	N.	83·0	323	—	—	—	—	e 43·2	51·7
Hamburg		83·0	324	e 12 32	− 4	—	—	e 46·2	54·2
Piacenza		83·1	316	e 12 37	0	23 15	+17	—	58·0
Chur		83·2	317	i 12 37	0	e 22 51	− 8	—	—
Zurich		83·9	317	i 12 40	− 1	e 23 0	− 8	—	—
Strasbourg		84·4	319	e 12 11?	−33	—	—	50·2	—
Moncalieri		84·5	315	e 12 11?	−34	23 32	+18	50·7	68·2
Christchurch		84·7	136	12 41	− 5	23 14	− 2	40·2	—
Neuchatel		85·0	318	i 12 45	− 3	e 23 5	−14	—	—
Bergen		85·5	330	12 41	−10	—	—	—	50·2
Besançon		85·6	318	e 12 49	− 2	—	—	—	—
Wellington	E.	85·8	133	12 38	−14	i 23 2	−26	42·2	45·2
De Bilt		86·0	322	—	—	e 23 25	− 5	e 44·2	63·5
Uccle		86·5	320	e 12 50	− 6	23 28	− 8	e 41·2	—
Paris		87·8	319	—	—	—	—	e 51·2	62·2
Algiers		88·5	308	12 3	−65	23 29	−29	45·2	57·2
Kew	Z.	89·3	322	e 13 7	− 5	—	—	54·2	—
Oxford		89·9	322	—	—	—	—	e 44·2	59·1
Edinburgh		90·4	326	—	—	—	—	e 52·2	—
Almeria		92·8	308	—	—	25 51	?PS	—	55·2
Granada		93·7	308	—	—	—	—	e 53·2	57·2
Scoresby Sund		94·0	343	22 11?	?	—	—	—	—
San Fernando	E.	95·9	308	—	—	—	—	—	73·0
Honolulu T.H.	E.	104·3	66	—	—	—	—	e 58·2	—
Sitka	E.	106·0	25	i 25 21	?S	(i 25 21)	[+29]	e 51·6	69·3
Ivigtut		108·0	342	—	—	—	—	58·2	—

Continued on next page.

		Δ	Az.	P.	O−C.	S.	O−C.	L.	M.
		°	°	m. s.	s.	m. s.	s.	m.	m.
Victoria	E.	117·2	27	26 15?	?S	(26 15?)	[+39]	58·4	64·6
Ottawa		129·0	351	—	—	i 22 40	?	e 61·2	—
Harvard		131·0	346	e 20 19	[+58]	—	—	e 60·2	—
Toronto	N.	131·2	355	e 19 38	[+17]	—	—	65·2	—
Ann Arbor	N.	132·8	358	e 22 59	?	—	—	e 69·1	—
Fordham		133·1	349	i 19 25	[0]	—	—	e 68·2	91·2
Chicago	N.	133·3	3	—	—	i 22 58	?	e 64·7	79·6
Rio de Janeiro	E.	135·6	241	—	—	e 41 0	?	e 67·5	74·7
Georgetown	Z.	135·6	350	i 19 30	[− 1]	i 22 11?	?PR_1	e 73·7	85·6
Tucson		135·6	31	19 31	[0]	—	—	—	67·4
Florissant		136·0	5	i 19 31	[− 1]	—	—	e 69·2	75·2
St. Louis		136·3	5	e 19 58	[+25]	—	—	—	78·7
Charlottesville		136·6	352	e 22 11	?PR_1	—	—	e 65·2	—
La Plata		140·8	216	—	—	—	—	74·2	—
Sucre		155·9	232	e 19 55	[− 8]	27 18	?	73·2	81·6
La Paz		159·6	234	e 20 1	[− 7]	27 13	?	75·2	90·9

Additional readings: Batavia iS = +11m.15s.; T_0 = 6h.49m.30s. Phu-Lien MN = +14·3m. Hong Kong PR_1 = +6m.26s., MN = +17·2m. Manila iN = +7m.50s., MN = +21·8m. Zi-ka-wei iE = +24m.45s., MZ = +29·3m. Nagasaki ePEN = +8m.13s., MN = +28·0m. Hukuoka MN = +25·9m. Sumoto MZ = +31·2m. Kobe MN = +27·4m., MZ = +29·1m. Toyooka iLN = +22·2m., MN = +28·0m. Tananarive PR_1N = +11m.39s., E = +12m.9s., PSE = +16m.42s., EN = +17m.15s., S_0SE = +19m.12s., eN = +21m.39s., eSR_1E = +21m.42s., and +22m.24s., N = +23m.59s., eLN = +28·2m. Adelaide i = +19m.44s. = [S] +10s., and +22m.11s. = SR_1 − 11s., MN = +30·8m. Melbourne PR_2 = +14m.28s., SR_1 = +23m.31s. Riverview PS = +19m.48s., SR_2 = +28m.16s., MN = +35·4m., MZ = +42·7m.; T_0 = 16h.49m.21s. Sydney SE = +28m.11s. Vienna i = +15m.16s. = PR_1 − 22s. Zagreb eNW = +12m.17s., e = +12m.23s. and +12m.35s., eNE = +12m.47s., ePR_1NE = +15m.49s., e = +16m.24s. Upsala MN = +49·0m. Laibach eN = +14m.30s., +18m.5s., and +26m.42s. Rocca di Papa iS = +23m.17s. = PS − 1s. Cheb eL = +51·2m. Neuchatel ePR_1 = +15m.55s. Wellington iSN = +23m.7s., SR_1 = +29m.37s., LN = +40·2m.; T_0E = 6h.49m.48s. De Bilt MN = +53·3m., MZ = +60·3m. Uccle eSR_1 = +29m.13s. Paris MN = +66·2m. Algiers PS = +22m.33s., MN = +52·2m. Kew LEN = +46·2m. Oxford MN = +56·6m. San Fernando MN = +74·7m. Sitka iPR_1E = +28m.47s., eSN = +33m.41s., eSE = +35m.8s., eSR_1E = +40m.5s., eSR_2E = +44m.7s., eLN = +52·9m., MN = +69·5m. Victoria SE = +41m.20s. Ottawa e = +38m.47s. = SR_1 + 9s. Harvard iN = +21m.44s. = PR_1 − 8s. and +22m.51s., iEN = +39m.22s. = SR_1 + 20s. Toronto iN = +21m.42s. = PR_1 + 4s., and +22m.42s., iE = +39m.25s. = SR_1 + 21s., LE = +64·6m. Ann Arbor e?E = +30m.41s., eN = +39m.47s., eL?E = +66·2m. Fordham iN = +22m.1s. = PR_1 + 11s., iEN = +22m.46s., eZ = +22m.54s., iN = +35m.9s., iE = +39m.37s. = SR_1 + 8s., LZ = +77·2m. Chicago eLE = +58·3m., ME = +71·8m. Tucson MN = +64·3m. Florissant eNZ = +22m.8s. = PR_1 + 0s., eE = +22m.10s., iNZ = +23m.3s., eEN = +23m.4s., iE = +23m.5s., eLNZ = +73·7m. St. Louis eN = +23m.23s., iN = +23m.25s., eE = +25m.8s. Charlottesville eE = +40m.11s. = SR_1 − 1s. Sucre PR_1 = +24m.5s., SR_1 = +45m.29s. La Paz iP = +20m.3s., PR_1 = +24m.23s., PR_2E = +31m.6s., SR_1E? = +48m.20s.

Dec. 9d. Readings also at 0h. (near Medan), 1h. (near Almata, Andijan, Samarkand, and Tashkent), 2h. (Ksara, Simferopol, Yalta, Theodosia, and near Mostar), 3h. (Zagreb), 5h. (La Paz), 6h. (Batavia, Bombay, Hong Kong, Phu-Lien, Calcutta, Manila, and Samarkand), 7h. (Andijan, Samarkand, and near Medan), 9h. (Akita, Mizusawa, and La Paz), 10h. (Suva, Kobe, and near Santiago), 12h. (near Almata and near Andijan), 14h. (near Andijan), 20h. (Almata, Andijan, Samarkand, Tashkent, Baku, Irkutsk, and Florissant), 22h. (near Manila), 23h. (Ekaterinburg and Irkutsk).

Dec. 10d. 17h. 55m. 3s. Epicentre 36·5N. 70·5E. (as on 1929 March 3d.).

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

The *depth* of focus 0·025 used with this epicentre on 1929 Feb. 1d. is retained here in preference to 0·035 used on March 3d.

	Corr. for Focus	Δ	Az.	P.	O−C.	S.	O−C.	L.	M.
	°	°	°	m. s.	s.	m. s.	s.	m.	m.
Andijan	+0·2	4·0	21	1 8	+ 3	—	—	2·0	—
Samarkand	+0·2	4·2	320	i 1 7	− 1	(1 57)	− 4	2·0	2·5
Tashkent	0·0	4·9	350	i 1 16	0	(i 1 57)	−17	i 2·0	2·6
Almata	−0·2	8·4	34	e 1 59	− 5	—	—	4·2	—
Dehra Dun	−0·2	8·8	133	3 37	?S	(3 37)	−16	—	4·0
Baku	−0·8	16·6	290	e 4 5	+16	(e 6 57?)	+ 7	e 7·0	—
Bombay	−0·8	17·7	173	4 2	− 2	7 24	+ 8	9·2	—
Ekaterinburg	−1·1	21·4	345	e 4 38	− 7	i 8 24	− 5	—	—
Irkutsk	−1·6	28·4	46	e 6 23	+27	e 11 38	+61	—	—
Pulkovo	−1·9	34·6	327	—	—	—	—	i 18·1	—

No additional readings.

Dec. 10d. Readings also at 0h. (Barcelona), 1h. (Perth), 3h. (La Paz), 5h. (Batavia and near Taihoku), 7h. (Florissant), 10h. (Hong Kong and Phu-Lien), 12h. (Zagreb), 13h. (Ekaterinburg, Ottawa, Florissant, and Wellington), 14h. (Baku, Irkutsk, Ottawa, Toronto, Florissant, and near Lick (2)), 17h. (La Paz), 19h. (Nagoya), 21h. (near Lick), 22h. (Wellington).

Dec. 11d. 7h. 26m. 8s. Epicentre 21°·0S. 67°·0W. (as on 1927 May 22d.).

A = +·365, B = −·860, C = −·358 ; D = −·920, E = −·391 ;
G = −·140, H = +·330, K = −·934.

		Δ	Az.	P.	O−C.	S.	O−C.	L.	M.
		°	°	m. s.	s.	m. s.	s.	m.	m.
Sucre		2·6	40	i 0 44	+ 1	i 1 11	− 1	1·3	1·4
La Paz		4·6	345	i 1 7	− 4	i 2 8	+ 2	2·3	3·0
La Plata		16·1	152	4 4	+11	—	—	7·9	—
St. Louis	N.	63·4	20	e 10 25	− 9	e 18 54	−12	—	—
Toronto		65·6	350	—	—	18 22?	−70	—	—
Ottawa		66·9	354	—	—	e 19 16	−33	—	—

La Paz gives also MN = +2·7m.

Dec. 11d. 12h. 43m. 30s. Epicentre 45°·0N. 14°·8E. (as on 1926 Oct. 21d.).

A = +·684, B = +·181, C = +·707 ; D = +·255, E = −·967 ;
G = +·684, H = +·181, K = −·707.

	Δ	Az.	P.	O−C.	S.	O−C.	L.	M.
	°	°	m. s.	s.	m. s.	s.	m.	m.
Zagreb	1·2	45	e 0 15	− 3	i 0 34	+ 1	i 0·6	0·8
Treviso	2·0	290	1 37	+66	—	—	—	—
Padova	2·1	281	e 1 47	+75	—	—	—	—
Rome	3·5	209	—	—	e 1 41	+ 4	—	—
Chur	4·2	297	e 1 3	− 2	e 1 47	− 8	—	—
Zurich	4·9	301	—	—	—	—	e 2·5	—
Trenta	5·8	168	e 0 30	−60	1 30	−69	—	—
Strasbourg	6·0	309	—	—	e 2 30?	−14	—	—

Zagreb e = +21s., +24s., and +27s., MNW = +1·0m.

Dec. 11d. Readings also at 3h. (Samarkand and Entebbe), 4h. (near Toyooka), 5h. (near Sumoto), 7h. (Florissant), 8h. (near Lick and near Tacubaya), 9h. (near Sumoto, near Berkeley, and Lick), 10h. (near Tacubaya), 11h. (Christchurch and near Akita), 12h. (Florissant, St. Louis, near Oaxaca, Tacubaya, and Vera Cruz), 13h. (Algiers and La Paz), 14h. (La Plata, Sucre, and La Paz (2)), 15h. (near Wellington), 16h. (near Oaxaca and Tacubaya), 17h. (near Samarkand), 18h. (near Zagreb). 19h. (near Trenta), 22h. (La Paz and near Sucre).

Dec. 12d. Readings at 0h. (Florissant, Ottawa, Toronto, and Tucson), 5h. (Bagnères), 8h. (Gottingen), 9h. (Baku, Irkutsk, and Tashkent), 12h. (near Casamicciola, Naples, and Rocca di Papa (2)), 13h. (Rocca di Papa and near Rome), 15h. (near La Paz and near Sucre), 16h. (near Toyooka), 17h. (Mineo), 20h. (Suva and near Medan), 21h. (Catania, Trenta, Mineo (2), Wellington, and near Tacubaya), 23h. (Taihoku (3)).

Dec. 13d. 4h. 45m. 12s. Epicentre 35°·5N. 14°·5E.

(as on 1923 Sept. 18d.).

A = +·788, B = +·204, C = +·581 ; D = +·250, E = −·968 ;
G = +·562, H = +·145, K = −·814.

		Δ	Az.	P.	O−C.	S.	O−C.	L.	M.
		°	°	m. s.	s.	m. s.	s.	m.	m.
Mineo		1·7	6	0 51	+25	—	—	—	—
Catania		2·0	13	i 0 55	+24	1 15	+20	1·6	2·8
Messina		2·8	17	1 4	+20	—	—	—	—
Trenta		4·0	21	i 1 13	+11	2 28	+38	—	—
Casamicciola		5·3	355	1 18	− 4	2 3	−22	—	—
Naples	N.	5·3	358	e 1 30	+ 8	e 3 0	+35	—	5·8
Carloforte		6·1	308	e 1 36	+ 3	i 2 42	− 4	—	4·8
Rocca di Papa		6·4	347	i 1 40	+ 2	i 2 59	+ 4	e 4·7	5·5
Rome		6·6	347	e 1 48	+ 7	2 55	− 5	e 3·2	9·1
Florence		8·6	344	e 2 20	+10	4 10	+17	—	5·3
Algiers		9·3	281	2 19	− 1	5 4	+54	5·8	18·3
Piacenza		10·2	341	e 2 40	+ 7	4 16	−19	5·0	5·7
Belgrade		10·3	24	—	—	e 4 5	−32	e 6·1	—
Treviso		10·3	351	e 2 43	+ 9	6 28	+111	—	—
Zagreb		10·3	6	e 2 42	+ 8	—	—	e 5·7	—
Marseilles		10·5	321	e 2 33	− 4	i 4 15	−28	5·3	—
Moncalieri		10·8	333	i 1 25	−76	4 1	−49	4·8	5·6
		10·8	333	e 2 17	−24	e 4 48?	− 2	—	6·1
Barcelona		11·3	305	—	—	e 5 48	+46	e 6·6	7·8
Graz		11·6	3	i 2 57	+ 4	e 5 25	+16	6·8	8·4
Tortosa		12·2	300	3 0	− 2	5 53	+29	e 6·4	11·0
Alicante		12·3	288	e 3 5	+ 2	e 6 14	+48	e 7·0	13·4
Budapest		12·4	14	3 26	+21	—	—	6·8	7·5
Zurich		12·6	341	i 3 7	0	—	—	—	—
Neuchatel		12·8	336	e 3 9	− 1	e 6 23	+44	—	—
Ravensburg	N.	13·0	345	e 3 18	+ 5	—	—	—	8·7
Puy de Dôme		13·5	324	2 48?	−32	—	—	—	—
Almeria		13·7	281	3 26	+ 4	e 6 5	+ 4	—	8·4
Strasbourg		14·0	341	e 3 24	− 2	e 6 13	+ 5	6·8	—
Cheb		14·6	355	e 2 48?	−46	—	—	e 7·2	8·4
Granada		14·6	282	i 3 34	0	i 6 43	+21	i 7·8	9·2
Feldberg	N.	15·3	345	i 3 46	+ 3	e 6 54	+15	—	9·6
Malaga		15·3	280	3 43	0	6 35	− 4	7·8	12·0
Toledo		15·3	292	i 3 41	− 2	e 6 18	−21	e 7·0	10·8
Jena		15·5	353	e 3 56	+10	—	—	e 7·8	10·3
Paris		16·0	330	—	—	(e 6 48?)	− 7	e 6·8	11·8
Gottingen	E.	16·3	350	—	—	—	—	e 7·9	9·8
San Fernando		16·8	279	7 3	?S	(7 3)	−10	(10·6)	15·1
Potsdam		16·9	357	i 4 21	+17	i 7 17	+ 1	e 9·0	—
Uccle		17·0	338	e 4 48?	+43	(e 6 48?)	−30	e 6·8	—
Yalta		17·5	53	e 4 32	+21	—	—	—	—
Ksara	E.	17·6	89	4 46	+34	8 13	+42	9·8	—
Simferopol		17·6	52	e 4 34	+22	—	—	—	—

Continued on next page.

		Δ	Az.	P.	O−C.	S.	O−C.	L.	M.
		°	°	m. s.	s.	m. s.	s.	m.	m.
De Bilt		17·9	341	—	—	e 7 36	− 2	e 8·8	11·2
Hamburg		18·3	351	i 4 27	+ 6	—	—	e 9·4	11·8
Theodosia		18·4	53	4 45	+23	—	—	—	—
Kew	Z.	19·1	331	e 2 48?	−102	—	—	11·8	—
Konigsberg	E.	19·8	10	—	—	—	—	e 10·8	—
Oxford		19·8	330	—	—	—	—	e 9·5	10·8
Copenhagen		20·2	357	—	—	8 18	− 9	9·8	—
Bidston		21·7	331	(5 18)	+17	(8 42)	−17	(11·8)	(13·2)
Stonyhurst		21·8	333	e 3 48?	−75	—	—	—	15·8
Edinburgh		23·7	335	—	—	—	—	12·8	—
Upsala		24·4	4	e 5 30	− 2	e 9 42	−10	e 12·8	13·5
Helsingfors		25·5	12	e 5 41	− 2	e 10 8	− 5	e 13·8	—
Kucino		25·8	30	—	—	e 10 24	+ 6	e 12·5	17·0
Pulkovo		26·3	18	5 54	+ 3	e 10 33	+ 5	14·3	17·3
Baku		28·1	69	—	—	e 11 13	+12	e 13·7	—
Ekaterinburg		37·4	40	e 7 38	+ 5	e 13 18	−12	18·8	23·2
Entebbe		39·2	151	—	—	—	—	22·8	24·8
Scoresby Sund		40·0	342	—	—	16 24	?SR_1	22·8	—
Samarkand		41·2	67	e 8 16	+11	—	—	—	—
Tashkent		42·6	65	—	—	e 14 30	−13	e 23·8	29·4
Andijan		45·0	66	e 10 4	?PR_1	—	—	—	—
Ivigtut		46·5	325	—	—	—	—	26·8	—
Irkutsk		62·5	44	—	—	—	—	31·8	—
Ottawa		65·8	310	—	—	—	—	33·8	—
Toronto		68·8	310	—	—	—	—	36·0	—
Florissant		78·4	310	—	—	—	—	e 39·8	—
Sucre		93·0	250	—	—	—	—	54·5	64·6

Additional readings and notes: Rome i = +1m.50s. Algiers MN = +6·3m. Belgrade e = +5m.9s. Zagreb eNE = +2m.46s. and +2m.58s., eNW = +3m.2s., eNE = +3m.10s., eNW = +3m.14s., eNE = +3m.18s. and +3m.35s., eNW = +4m.4s., eNE = +4m.40s. Tortosa MN = +9·3m. Budapest MN = +9·8m. Ravensburg ME = +7·5m. Almeria i = +3m.37s. Cheb MN = +9·8m. Granada i = +5m.7s. and +6m.18s. Toledo MNW = +12·2m. Jena MN = +11·3m. San Fernando MN = +15·0m. S is given as P and L as S. De Bilt MN = +12·8m., MZ = +14·1m. Hamburg MN = +13·9m. Kew LEN = +8·8m. Bidston readings have been *diminished* by 3m. Upsala MN = +16·2m. Baku e = +11m.54s. Tashkent i = +11m.26s., e = +18m.12s.

Dec. 13d. 9h. 42m. 36s. Epicentre 28°·0N. 130°·0E. (as on 1928 Mar. 28d.).

A = −·568, B = +·676, C = +·470; D = +·766, E = +·643; G = −·302, H = +·360, K = −·883.

		Δ	Az.	P.	O−C.	S.	O−C.	L.	M.
		°	°	m. s.	s.	m. s.	s.	m.	m.
Hukuoka	E.	5·6	3	—	—	—	—	—	3·3
Koti		6·3	28	e 2 18	+42	—	—	—	—
Sumoto		7·5	32	1 36	−18	4 21	+57	—	5·9
Kobe		7·9	32	1 48	−12	—	—	—	—
Osaka		8·1	33	2 11	+ 8	—	—	4·0	5·5
Taihoku	E.	8·1	250	e 1 47	−16	—	—	—	—
Zi-ka-wei	N.	8·1	295	e 2 4	+ 1	3 36	− 4	—	—
Nagoya		9·2	38	e 2 10	− 9	—	—	—	—
Vladivostok		15·1	5	e 3 25	−15	—	—	8·0	10·9
Hong Kong		15·4	252	—	—	—	—	—	8·7
Manila		15·9	214	e 6 43	?S	(e 6 43)	−10	—	—
Phu-Lien	N.	22·5	256	—	—	8 24	−51	—	—
Irkutsk		30·9	330	—	—	—	—	15·4	—
Tashkent		50·7	303	—	—	—	—	e 25·4	31·4
Bombay		52·8	272	—	—	e 17 24?	+30	—	—
Ekaterinburg		55·7	323	e 21 21	?SR_1	—	—	25·4	32·4
Baku		65·3	305	—	—	—	—	e 36·6	—
Kucino		68·3	324	—	—	—	—	e 28·1	37·1
Copenhagen		80·9	330	—	—	—	—	41·4	—
De Bilt		86·6	329	—	—	—	—	e 48·4	50·5

Additional readings: Hukuoka MN = +4·2m. Sumoto MZ = +5·2m., MN = +6·4m. Osaka MN = +4·8m.

Dec. 13d. Readings also at 0h. (Hamburg, Sucre, and near La Paz), 1h. (near Santiago), 3h. (Andijan and Samarkand), 5h. (Zagreb), 7h. (Phu-Lien), 8h. (Adelaide, Riverview, Melbourne, Sydney, Wellington, Manila, Tashkent, Ekaterinburg, and Florissant), 9h. (Pulkovo, Copenhagen, Scoresby Sund, Irkutsk, Paris, Strasbourg, Moncalieri, Granada, Chicago, Harvard, Georgetown, Ottawa, Victoria, Toronto, and Tucson), 10h. (Taihoku), 11h. (Florissant, Ottawa, and Toronto), 13h. (Nagoya, Taihoku (2), Mizusawa, Osaka, Kobe, Sumoto, Akita, and Mineo), 14h. (Taihoku), 15h. and 19h. (Mineo), 20h. (near Santiago), 21h. (Wellington), 22h. (Samarkand and near Tacubaya), 23h. (near Amboina).

Dec. 14d. Readings at 0h. (Andijan, Tashkent, and near Samarkand), 2h. (Suva), 3h. (Almata and Taihoku), 4h. (Florissant, Georgetown, Ottawa, Toronto, Tashkent, Suva, Wellington, Bombay, near Apia, and near Sumoto), 5h. (Baku, Ekaterinburg, Fordham, and Harvard), 7h. (near Port au Prince), 9h. (Andijan and Almata), 10h. (Samarkand), 11h. (near Tacubaya), 13h. (La Paz), 14h. (near Nagasaki and near Tacubaya), 15h. (near Manila (2)), 19h. (Barcelona, Phu-Lien, and near Manila), 22h. (Baku, Andijan, Ekaterinburg, Edinburgh, Kew, Stonyhurst, De Bilt, Strasbourg, Paris, Moncalieri, Granada, Florence, Piacenza, Rocca di Papa, Ivigtut (2), Reykjavik, Scoresby Sund, Florissant, Fordham, Georgetown, Harvard, Ottawa, and Toronto), 23h. (De Bilt, Granada, Ekaterinburg, Tashkent, Harvard, and Ottawa).

Dec. 15d. 1h. 33m. 12s. Epicentre 63°·0N. 36°·0W.

$A = +\cdot 367$, $B = -\cdot 267$, $C = +\cdot 891$; $D = -\cdot 588$, $E = -\cdot 809$; $G = +\cdot 721$, $H = -\cdot 524$, $K = -\cdot 454$.

	Δ	Az.	P.	O−C.	S.	O−C.	L.	M.
	°	°	m. s.	s.	m. s.	s.	m.	m.
Ivigtut	6·0	258	—	—	2 48?	+ 4	4·8	—
Reykjavik	6·4	73	—	—	—	—	e 5·1	6·3
Scoresby Sund	9·3	30	—	—	—	—	—	6·8
Edinburgh	17·9	98	—	—	—	—	8·8	11·8
Stonyhurst	19·5	102	i 4 36	+ 1	—	—	8·8	12·8
Oxford	21·4	105	4 55	− 3	8 37	−16	e 9·6	11·2
Kew	22·1	105	e 5 3	− 3	e 9 2	− 5	9·8	—
De Bilt	24·1	98	e 5 30	+ 1	9 46	0	e 10·8	14·0
Uccle	24·6	101	—	—	—	—	e 11·8	—
Copenhagen	25·1	84	—	—	(8 48?)	−17	8·8	—
Paris	25·3	106	(e 4 48?)	−53	—	—	e 4·8	12·8
Hamburg	25·3	90	—	—	—	—	e 12·8	15·8
Gottingen N.	26·7	94	—	—	—	—	e 13·1	17·1
Feldberg N.	26·9	97	—	—	—	—	—	15·9
Strasbourg	27·8	101	(e 5 48?)	−18	—	—	e 5·8	—
Besançon	28·0	104	—	—	—	—	15·8	—
Ottawa	28·4	251	e 6 18	+ 6	e 11 12	+ 6	15·8	—
Cheb	28·8	94	—	—	e 11 6	− 7	e 13·8	16·8
Harvard	29·0	241	e 6 16	− 2	i 11 2	−15	e 14·8	—
Toledo	30·0	125	e 5 59	−29	—	—	—	14·2
Moncalieri	30·5	105	—	—	—	—	e 13·6	16·8
Piacenza	31·3	103	—	—	e 12 18	+22	16·5	20·3
Fordham	31·3	243	e 6 58	+17	(e 11 18)	−38	e 11·3	19·3
Toronto N.	31·4	255	—	—	i 12 2	+ 4	16·0	—
Treviso	31·9	100	—	—	—	—	15·8	18·8
San Fernando E.	32·2	133	—	—	—	—	—	16·4
Granada	32·5	129	6 24	−29	i 11 2	−74	13·7	15·0
Alicante	32·6	124	e 6 59	+ 6	—	—	—	—
Florence	33·0	104	e 8 48	?	—	—	16·8	19·8
Almeria	33·2	128	—	—	—	—	14·2	16·4
Zagreb	33·5	95	—	—	—	—	—	18·2
Ann Arbor	34·3	256	—	—	e 12 54	+10	e 19·0	—
Georgetown Z.	34·3	244	e 6 58	− 9	12 26	−18	e 19·0	20·2
Rocca di Papa	35·2	104	—	—	—	—	7·5	21·2
Chicago E.	36·5	259	—	—	—	—	e 19·0	—

Continued on next page.

		Δ	Az.	P.	O−C.	S.	O−C.	L.	M.
		°	°	m. s.	s.	m. s.	s.	m.	m.
Florissant		40·1	262	e 9 46	?PR_1	i 14 25	+17	e 20·8	23·8
Ekaterinburg		44·2	52	—	—	e 15 58	+53	19·8	26·6
Victoria	E.	47·1	297	27 9	?L	—	—	29·0	31·8
Baku		53·0	74	—	—	e 17 36	+40	25·9	33·8
Tashkent		60·2	57	—	—	e 26 24	?	e 29·8	40·1
Irkutsk		60·6	28	—	—	—	—	39·8	—

Additional readings: Reykjavik MN = +7·3m. Kew LZ = +10·0m. De Bilt eLNZ = +11·8m., MZ = +14·4m., MN = +14·5m. Cheb MN = +17·1m. Fordham eN = +7m.26s. = PR_1 − 9s. Toronto eN = +11m.14s. San Fernando MN = +15·4m. Granada i = +9m.24s. Ann Arbor eLN = +19·2m. Georgetown iPR_1Z = +8m.4s., eSR_1Z = +15m.21s., iSR_2Z = +16m.19s. Chicago eN = +19m.34s.

Dec. 15d. 19h. 54m. 28s. Epicentre 18°·0N. 97°·0E. (as on 1921 Sept. 12d.).

A = −·116, B = +·944, C = +·309; D = +·993, E = +·122; G = −·038, H = +·307, K = −·951.

Very uncertain.

		Δ	Az.	P.	O−C.	S.	O−C.	L.	M.
		°	°	m. s.	s.	m. s.	s.	m.	m.
Calcutta	E.	9·3	300	2 29	+ 9	4 18	+ 8	—	—
	N.	9·3	300	2 16	− 4	4 21	+11	—	—
Phu-Lien	E.	9·5	72	(2 32?)	+ 9	—	—	2·5	—
Hong Kong		16·7	72	4 2	+ 1	—	—	—	6·1
Hyderabad	E.	17·7	271	—	—	—	—	—	11·4
Bombay		23·0	277	7 35	?	10 54	+89	12·5	13·0
Zi-ka-wei	Z.	25·7	55	e 8 2	?	10 14	− 2	—	—
Tashkent		33·2	320	e 7 14	+16	—	—	11·5	14·8
Irkutsk		34·8	7	e 8 3	+52	—	—	i 12·3	12·5
Vladivostok		38·7	42	—	—	—	—	16·0	—
Baku		46·1	310	—	—	e 15 16	−13	21·8	—
Ekaterinburg		47·3	333	—	—	—	—	17·5	—
De Bilt		77·0	321	—	—	—	—	e 37·5	38·0
Uccle		77·8	320	—	—	—	—	37·5	—

Additional readings: Phu-Lien 19h.55m.0s. Hyderabad MN = +11·7m. Tashkent e = +9m.55s.

Dec. 15d. Readings also at 2h. (Sucre and La Paz), 5h. (Andijan), 12h. (near Lick), 13h. (Ottawa, Toronto, and Phu-Lien), 15h. (Georgetown), 16h. (Baku, Ekaterinburg, Irkutsk, Andijan, Tashkent, Samarkand, Florissant, Fordham, Ottawa, and Toronto), 17h. (near Wellington), 18h. (near Manila), 19h. (Tucson, near Tacubaya, and Vera Cruz), 20h. (Medan and Tacubaya), 22h. (Phu-Lien), 23h. (near Amboina and near Santiago).

Dec. 16d. 0h. 45m. 16s. Epicentre 56°·3S. 155°·3E.

A = −·504, B = +·232, C = −·832; D = +·418, E = +·909; G = +·756, H = −·348, K = −·555.

	Δ	Az.	P.	O−C.	S.	O−C.	L.	M.
	°	°	m. s.	s.	m. s.	s.	m.	m.
Christchurch	16·9	48	4 24	+20	6 0	−76	6·8	—
Wellington	19·6	48	i 4 34	− 2	i 8 9	− 6	9·7	11·7
Melbourne	19·8	335	4 39	0	7 59	−20	8·9	9·4
Riverview	22·7	351	i 5 8	− 5	i 9 13	− 6	e 9·8	11·2
Adelaide	24·2	325	e 5 34	+ 4	i 9 54	+ 6	11·4	12·8
Irkutsk	116·4	328	—	—	—	—	e 51·7	—
Tashkent	121·3	299	—	—	—	—	e 41·7	43·0
Baku	130·6	284	—	—	—	—	e 67·8	—
Ekaterinburg	136·1	308	—	—	—	—	59·7	—
Ottawa	146·8	87	—	—	—	—	72·7	—
Granada	156·2	226	—	—	—	—	84·7	88·7
Uccle	162·0	265	—	—	—	—	—	99·7
De Bilt	162·2	269	—	—	—	—	e 81·7	—

Additional readings: Wellington iPN = +4m.37s.; T_gE = 0h.45m.19s.; T_gN = 0h.45m.25s. Riverview iP = +5m.13s., iS = +9m.25s., MN = +10·9m. Adelaide eSR_1 = +10m.53s., MN = +12·5m. De Bilt e = +100·7m.

Dec. 16d. 11h. 25m. 30s. Epicentre 5°·7S. 151°·8E. (as on 1928 Sept. 11d.).

A = −·877, B = +·470, C = −·099; D = +·473, E = +·881; G = +·088, H = −·047, K = −·995.

		Δ	Az.	P.	O−C.	S.	O−C.	L.	M.
		°	°	m. s.	s.	m. s.	s.	m.	m.
Riverview		28·2	181	e 6 12	+ 2	e 11 12	+ 9	e 15·3	18·1
Sydney	E.	28·2	181	9 18	?	—	—	14·8	17·3
Suva		28·7	118	—	—	—	—	14·5	—
Adelaide		31·7	200	e 6 44?	0	e 12 0	− 3	15·2	20·5
Melbourne		32·7	189	e 8 20	+86	i 12 30	+11	15·8	21·0
Manila		36·7	305	e 7 10	−18	e 11 58	−82	e 15·4	18·9
Wellington	E.	41·1	153	8 4	0	i 14 25	+ 3	17·5	—
Perth		42·6	228	—	—	(14 55)	+12	20·0	—
Nagasaki		43·7	334	(8 24)	0	(14 30)	−28	(20·4)	—
Batavia		44·7	268	e 9 24	+53	—	—	—	—
Hong Kong		46·3	309	8 30	−12	15 10	−22	e 20·5	25·1
Zi-ka-wei	Z.	46·9	324	e 8 32	−14	—	—	i 22·7	—
Phu-Lien		51·7	304	8 30?	−48	—	—	20·5	—
Vladivostok		52·0	341	—	—	(16 24)	−20	16·4	28·6
Honolulu T.H.		56·3	59	—	—	—	—	e 27·4	27·8
Irkutsk		70·6	332	e 11 23	+ 2	20 25	− 8	33·5	37·4
Sitka	E.	85·6	31	e 23 7	?S	(e 23 7)	−19	—	45·1
Andijan		85·7	312	12 46	− 6	23 18	− 9	—	—
Tashkent		88·2	314	13 4	− 2	i 23 45	− 9	e 38·5	50·5
Samarkand		89·6	311	13 4	−10	23 52	−18	—	—
Victoria	E.	90·8	41	—	—	—	—	43·5	46·4
Ekaterinburg		95·4	327	13 28	−17	24 16	[+17]	38·5	47·5
Baku		102·7	311	—	—	26 1	−20	44·5	64·5
Kucino		108·0	327	—	—	e 26 30	−40	46·4	63·8
Pulkovo		110·3	333	—	—	e 34 42	?SR_1	60·5	67·3
Chicago	E.	116·3	45	—	—	—	—	e 60·6	—
Copenhagen		120·5	335	—	—	—	—	58·5	—
Toronto	N.	121·3	40	—	—	—	—	e 50·2	—
Ottawa		122·8	37	—	—	—	—	e 51·5	—
Cheb		124·1	330	—	—	—	—	e 54·5	—
Gottingen	N.	124·3	332	—	—	—	—	61·5	—
Georgetown	Z.	124·9	45	—	—	—	—	e 63·1	—
De Bilt		126·1	335	—	—	—	—	e 56·5	64·7
Harvard		127·2	39	—	—	—	—	e 51·5	—
Strasbourg		127·4	330	—	—	—	—	e 33·5	—
Uccle		127·4	335	—	—	e 36 30?	?SR_1	e 57·5	—
Florence		128·6	324	e 20 20	?	e 30 30?	?	59·5	66·5
Piacenza		128·7	325	—	—	—	—	63·5	—
Kew		128·7	337	—	—	—	—	e 62·5	—
Rocca di Papa		128·8	321	—	—	—	—	e 41·6	79·0
Paris		129·6	333	—	—	—	—	e 64·5	77·5
Almeria		140·9	326	—	—	—	—	78·6	80·7
Granada		141·3	328	e 23 18	?PR_1	—	—	72·5	80·0

Additional readings and note: Riverview iZ = +6m.18s. Adelaide MN = +21·2m. Manila MN = +20·8m. Wellington iN = +10m.15s., LN = +13·5m. Perth gives S as PR_1 and S = +18m.10s. Nagasaki readings have been *diminished* by 5m. Batavia i = +10m.26s. = PR_1 + 7s. Hong Kong MN = +23·7m. Zi-ka-wei iZ = +24m.26s. and +25m.26s. Honolulu, T.H. eLN = +25·4m. Tashkent SR_1 = +29m.30s. Ekaterinburg SR_1 = +31m.6s. Baku PR_1 = +18m.28s., SR_1 = +33m.24s. Kucino SR_1 = +34m.5s. De Bilt MZ = +72·0m., MN = +75·7m. Kew eLZ = +65·5m. Paris L = +76·5m.

Dec. 16d. Readings also at 0h. (Florissant), 7h. (near Manila and near Wellington), 13h. (Phu-Lien), 14h. (Taihoku), 15h. (Hong Kong, Manila, Phu-Lien, Zi-ka-wei, Nagasaki, Irkutsk, Samarkand, Tashkent, Ekaterinburg, Kucino, De Bilt, and Paris), 16h. (Adelaide and Andijan (2)), 17h. (Granada).

Dec. 17d. 10h. 58m. 30s. Epicentre 52°·7N. 171°·5E.

A = −·599, B = +·090, C = +·795; D = +·148, E = +·989; G = −·787, H = +·118, K = −·606.

		Δ	Az.	P.	O−C.	S.	O−C.	L.	M.
		°	°	m. s.	s.	m. s.	s.	m.	m.
Sapporo		22·1	256	5 7	+ 1	9 29	+22	—	—
Mizusawa	E.	24·8	249	5 35	− 1	10 12	+13	—	—
Akita		25·0	251	i 5 35	− 3	(10 23)	+20	10·4	11·4
Vladivostok		27·8	266	6 2	− 4	10 51	− 4	—	20·0
Tokyo		28·0	245	6 10	+ 2	12 53	?L	(12·9)	—
Nagoya		29·9	249	e 6 25	− 2	12 57	?SR_1	—	21·3
Sitka	E.	30·1	60	i 6 9	−20	i 10 50	−46	—	—
	N.	30·1	60	e 6 30	+ 1	i 11 18	−18	e 13·3	—
Toyooka	E.	30·9	250	i 6 34	− 3	i 11 48	− 2	i 13·9	18·6
	N.	30·9	250	i 6 45	+ 8	i 11 50	0	i 13·9	15·6
Osaka		31·1	249	6 33	− 6	(11 52)	− 1	11·9	18·5
Kobe		31·3	249	6 30	−11	i 11 56	0	13·6	15·4
Sumoto		31·7	249	6 35	− 9	12 10	+ 7	—	15·6
Muroto		32·9	250	6 54	− 2	12 10	−13	15·1	20·1
Koti		33·0	250	i 6 48	− 8	e 12 24	0	—	19·4
Matuyama		33·3	251	e 6 54	− 5	e 12 36	+ 7	i 15·4	17·4
Hukuoka		34·8	255	i 7 7	− 4	i 12 51	− 1	—	19·8
Nagasaki		35·8	255	e 7 10	−10	13 4	− 3	17·8	22·6
Honolulu T.H.	E.	39·3	132	7 46	− 3	i 13 40	−16	16·2	—
	N.	39·3	132	7 47	− 2	13 40	−16	16·5	—
Irkutsk		39·4	298	e 7 35	−15	13 43	−14	18·5	26·7
Zi-ka-wei		41·8	261	i 8 2	− 7	14 24	− 8	21·1	28·8
Taihoku		46·3	256	8 43	+ 1	15 31	− 1	19·3	29·3
Berkeley		47·0	81	e 8 32	−15	e 15 28	−13	e 21·6	25·6
Saskatoon		47·1	57	e 8 29	−19	i 15 25	−17	i 21·5	28·5
Lick		47·8	81	e 8 39	−14	e 15 41	−10	e 23·2	27·5
Hong Kong		52·7	259	9 30	+ 6	17 6	?PS	26·0	37·9
Manila		55·0	246	9 44	+ 5	i 17 26	+ 5	27·5	34·0
Denver		55·9	68	e 9 46	+ 1	e 17 33	0	—	31·2
Scoresby Sund		56·4	5	9 46	− 2	17 38	− 1	—	—
Ekaterinburg		56·7	324	—	—	i 17 50	+ 8	—	—
Tucson	E.	57·7	79	9 56	− 1	i 18 8	+13	e 26·0	—
	N.	57·7	79	9 57	0	e 17 56	+ 1	e 24·4	—
Phu-Lien		58·4	265	10 9	+ 8	i 18 14	+10	27·5	35·8
Almata		59·3	303	10 10	+ 3	18 26	+11	23·5	—
Ivigtut		61·8	20	10 32	+ 8	18 43	− 3	—	—
Reykjavik		62·6	7	e 10 6	−23	e 18 44	−12	28·9	—
Chihuahua		63·2	78	(10 21)	−12	(18 52)	−11	(27·4)	(33·5)
Pulkovo		63·3	340	i 10 33	− 1	19 2	− 3	27·5	37·3
Chicago	E.	63·4	55	i 10 40	+ 6	i 19 9	+ 3	30·8	—
	N.	63·4	55	i 10 39	+ 5	i 19 10	+ 4	30·1	—
Andijan		63·9	304	10 37	0	19 15	+ 3	30·9	—
Helsingfors		64·0	344	i 10 33	− 5	19 3	−10	e 28·5	—
Florissant		64·4	60	e 10 37	− 4	i 19 18	0	e 30·1	33·7
St. Louis		64·6	60	e 10 38	− 4	i 19 18	− 2	e 30·1	34·4
Tashkent		64·6	307	i 10 41	− 1	i 19 36	+16	—	—
Kucino		65·0	334	i 10 49	+ 4	i 19 34	+ 9	31·1	41·8
Ann Arbor		65·1	52	e 10 48	+ 2	i 19 30	+ 4	i 30·8	37·7
Upsala		65·5	347	10 48	0	19 29	− 2	e 27·0	31·0
Toronto	E.	66·0	49	i 11 2	+11	i 19 37	0	i 31·2	35·5
	N.	66·0	49	e 10 57	+ 6	i 19 41	+ 4	31·5	34·5
Ottawa		66·3	45	e 10 53	− 1	i 19 38	− 3	i 33·0	37·8
Bergen		66·4	354	11 0	+ 6	19 44	+ 2	e 29·3	32·8
Amboina		67·0	229	(11 11)	+13	(20 9)	+19	(27·8)	(30·3)
Samarkand		67·0	308	11 0	+ 2	19 54	+ 4	26·5	—
Apia		68·0	163	e 11 18	+14	20 11	+ 9	31·2	33·8
Calcutta	E.	68·1	280	10 58	− 7	19 44	−19	34·2	40·9
	N.	68·1	280	11 4	− 1	20 13	+10	34·7	41·9
Dehra Dun		68·2	292	11 30	+25	20 20	+16	—	51·5

Continued on next page.

		Δ	Az.	P.	O−C.	S.	O−C.	L.	M.
		°	°	m. s.	s.	m. s.	s.	m.	m.
Konigsberg		69·8	344	i 11 35	+19	i 20 30	+ 6	e 29·5	37·4
Dyce		69·9	357	11 18	+ 2	i 20 23	− 2	—	36·4
Copenhagen		70·2	349	11 18	0	20 30	+ ?	—	—
Agra	E.	70·6	290	i 11 49	+28	i 21 2	+29	i 37·7	44·7
	N.	70·6	290	i 11 52	+31	i 21 2	+29	i 37·6	47·0
Fordham		70·7	48	i 11 33	+12	i 20 28	− 6	i 30·5	46·0
Harvard		70·7	45	e 11 22	+ 1	i 20 32	− 2	e 31·5	—
Guadalajara		70·7	81	11 42	+21	21 0	+26	30·9	50·4
Charlottesville	E.	70·9	51	e 11 30	+ 8	i 20 28	− 9	i 32·5	—
	N.	70·9	51	i 11 23	+ 1	i 20 38	+ 1	i 34·1	—
Georgetown	E.	70·9	50	e 11 17	− 5	20 33	− 4	e 33·0	38·7
	N.	70·9	50	11 18	− 4	20 34	− 3	e 32·9	—
Edinburgh		71·3	357	e 11 32	+ 7	20 43	+ 1	35·5	48·6
Manzanillo		71·5	84	11 54	+27	21 12	+28	34·2	49·3
Halifax		71·9	39	e 11 42	+13	i 20 44	− 5	e 32·5	36·7
Hamburg		72·6	350	e 11 31	− 3	i 21 10	+13	e 31·6	36·5
Stonyhurst		73·3	356	e 12 4	+26	i 21 8	+ 2	—	38·1
Potsdam		73·4	346	e 11 42	+ 4	i 20 55	−12	e 28·9	46·5
Bidston		73·7	356	11 42	+ 2	21 15	+ 5	31·6	47·6
Lemberg		73·8	340	e 11 37	− 4	e 21 12	0	e 27·0	51·7
Baku		74·1	319	i 11 45	+ 2	—	—	—	—
Tacubaya		74·2	79	11 49	+ 6	21 29	+13	32·1	42·6
De Bilt		74·5	352	11 44	− 2	21 23	+ 3	e 37·5	42·9
Gottingen	E.	74·6	350	i 11 51	+ 5	e 21 24	+ 3	e 29·8	44·8
Jena	E.	75·0	349	e 11 48	− 1	i 21 22	− 4	e 31·5	35·5
	N.	75·0	349	e 11 48	− 1	e 21 18	− 8	e 35·0	35·4
	Z.	75·0	349	i 11 46	− 3	—	—	e 34·5	41·5
Theodosia		75·2	330	11 50	0	e 21 29	+ 1	—	—
Oxford	E.	75·4	356	e 11 53	+ 2	i 21 19	−11	e 35·5	46·9
	N.	75·4	356	i 11 50	− 1	e 21 30	0	—	49·5
Kew		75·6	355	e 11 52	− 1	i 21 31	− 2	32·0	39·5
Cheb		75·7	346	e 11 47	− 6	e 21 43	+ 9	e 34·5	41·5
Simferopol		75·7	330	11 52	− 1	21 36	+ 2	—	—
Uccle		75·9	353	e 11 50	− 4	i 21 35	− 1	32·5	43·7
Feldberg	E.	76·0	350	e 11 50	− 5	e 21 28	− 9	32·5	50·5
	N.	76·0	350	e 11 46	− 9	e 21 28	− 9	—	45·5
Yalta		76·1	330	11 53	− 3	—	—	—	—
Vera Cruz		76·2	77	(11 34)	−22	(21 18)	−21	(33·6)	(51·1)
Medan		76·7	260	(11 30)	−29	(i 21 18)	−27	(47·9)	—
Vienna		76·8	345	i 11 56	− 4	i 21 54	+ 7	e 32·5	45·5
Budapest		77·1	342	12 2	0	21 48	− 2	36·5	37·5
Karlsruhe		77·3	349	12 7	+ 4	22 3	+11	e 42·5	54·7
Hohenheim		77·4	349	e 12 0	− 3	e 21 50	− 3	e 36·5	44·5
Strasbourg		77·8	350	12 2	− 4	i 21 55	− 3	—	38·1
Hyderabad		78·0	284	(12 7)	0	(22 0)	0	—	—
Graz		78·1	345	i 12 12	+ 4	i 22 1	0	36·5	45·5
Paris		78·1	354	e 12 6	− 2	i 22 0	− 1	32·5	32·5
Ravensburg		78·3	349	e 12 4	− 5	e 22 0	− 4	e 36·5	—
Innsbruck		78·6	348	e 12 6	− 5	e 21 58	− 9	e 32·0	47·6
Merida		78·6	70	(11 55)	−16	(21 51)	−16	(36·2)	(51·5)
Zurich		78·9	350	e 12 9	− 3	e 22 8	− 3	—	—
Chur		79·2	349	i 12 10	− 4	e 22 12	− 2	—	—
Zagreb		79·2	344	e 12 14	0	e 22 13	− 1	e 35·4	55·9
Laibach	N.	79·3	345	e 12 14	− 1	e 22 17	+ 2	e 32·9	53·3
Besançon		79·3	350	e 12 17	+ 2	i 22 20	+ 5	33·5	—
Neuchatel		79·4	351	i 12 9	− 6	e 22 10	− 6	—	—
Treviso		80·0	347	i 12 16	− 3	i 22 35	+12	39·0	50·3
Batavia		80·1	246	i 12 15	− 5	—	—	33·9	41·5
Bombay		80·1	290	12 19	− 1	22 5	−19	40·5	45·5
Padova		80·3	347	e 12 24	+ 3	i 22 30	+ 3	e 40·5	52·5
Piacenza		81·0	349	12 27	+ 2	22 30	− 5	32·5	50·7
Moncalieri		81·3	350	i 12 26	− 1	i 22 42	+ 4	31·9	50·5
Florence		82·0	347	i 12 26	− 4	21 30	−76	—	—

Continued on next page.

		Δ	Az.	P.	O−C.	S.	O−C.	L.	M.
		°	°	m. s.	s.	m. s.	s.	m.	m.
Livorno		82·4	348	12 28	+16	22 50	0	—	—
Marseilles		83·2	351	e 12 46	+ 9	e 23 4	+ 5	39·5	—
Bari		83·5	342	12 53	+14	22 57	− 6	39·9	—
Rocca di Papa		83·8	345	i 12 37	− 4	i 23 9	+ 2	e 39·1	49·8
Bagnères		84·0	355	e 13 27	+45	e 23 52	+44	35·5	56·0
Taranto		84·1	340	12 46	+ 3	23 6	− 3	36·2	58·5
Kodaikanal		84·3	280	e 13 54	+70	(i 24 18)	?PS	i 24·3	51·4
Naples	E.	84·4	344	e 12 56	+12	e 23 12	0	40·5	52·0
Casamicciola		84·5	344	12 27	−18	22 45	−29	32·9	—
Ksara		85·2	325	12 41	− 8	i 23 12	− 9	39·1	—
Colombo		85·4	275	12 50	0	23 30	+ 7	43·5	52·5
Barcelona		85·4	352	e 12 59	+ 9	23 17	− 6	36·5	45·1
Trenta		85·5	340	e 12 55	+ 4	e 23 30	+ 5	37·5	44·5
Tortosa	N.	86·2	355	12 48	− 6	i 23 22	−10	38·1	54·7
Messina		86·7	341	12 54	− 3	—	—	—	—
Carloforte		87·0	348	e 12 51	− 8	i 23 21	−21	—	57·5
Toledo		87·4	357	e 12 51	−10	i 23 22	−23	e 39·6	41·5
Catania		87·5	341	13 14	+12	23 35	−12	42·7	58·9
Riverview		88·3	196	i 13 18	+11	i 23 55	0	e 40·7	45·5
Sydney	E.	88·3	196	13 30	+23	23 48	− 7	39·5	40·5
Alicante		88·6	355	e 12 57	−11	i 23 30	−29	e 37·2	55·7
Algiers		89·9	350	e 13 6	− 9	23 40	[+13]	—	41·5
Port au Prince		90·0	59	e 13 16	0	e 23 46	[+18]	38·4	58·3
Granada		90·1	357	i 12 8	−69	i 22 55	[−34]	37·0	59·2
Almeria		90·3	355	i 13 13	− 5	i 23 54	−23	37·6	39·9
Helwan		90·4	326	12 44?	−34	24 0?	−18	—	54·9
Malaga		90·6	357	i 13 18	− 1	23 54	−26	33·5	60·8
San Fernando		90·9	359	13 25	+ 4	24 25	+ 2	42·9	70·5
Adelaide		92·2	207	13 40?	+12	i 24 30	− 7	i 42·7	59·7
Melbourne		93·4	200	14 20	+46	25 0	+11	38·4	42·7
Wellington	E.	94·1	178	i 13 56	+17	i 24 34	−23	i 38·4	39·5
	N.	94·1	178	i 13 55	+16	24 40	−17	i 39·5	53·5
Christchurch		96·3	179	e 16 23	?	25 17	− 2	37·6	—
Entebbe		117·2	315	19 46	?PR_1	29 30?	?PS	—	64·9
La Paz		121·3	76	e 17 59	[−57]	i 30 22	?PS	i 53·4	63·7
Sucre		125·0	75	e 18 19	[−47]	i 30 53	?PS	54·5	64·8
Tananarive		125·3	285	—	—	29 11	−17	54·6	64·1
Santiago		132·5	90	e 19 53	[+29]	e 30 15	− 2	36·2	—
Rio de Janeiro		140·3	55	e 20 42	[+62]	—	—	41·3	79·8
La Plata		141·2	82	19 49	[+ 8]	—	—	59·0	—
Cape Town		153·1	304	—	—	—	—	—	84·3

Additional readings and notes: Mizusawa SN = +10m.10s. Akita iPEN = +5m.38s., MZ = +10·5m., MN = +14·1m. Nagoya MN = +14·5m. Sitka ePE = +6m.50s., eN = +7m.18s. = PR_1 − 1s. Toyooka iN = +7m.17s. = PR_1 − 13s. Osaka MN = +15·4m., MZ = +16·3m. Kobe i = +6m.38s. and +6m.49s., iN = +13m.11s. = SR_1 − 23s., MN = +15·5m., MZ = +25·2m. Sumoto MN = +15·7m., MZ = +16·6m. Muroto MN = +16·7m. Koti i = +6m.54s. and +7m.5s., eN = +16m.27s., eE = +18m.47s. Matuyama eSR_2Z = +13m.39s., eSR_2E = +15m.8s., iLZ = +16·4m. Hukuoka MN = +17·8m. Nagasaki PR_1 = +8m.37s., SR_1 = +15m.32s., eLZ = +17·9m., MN = +18·4m., MZ = +18·9m. Honolulu T.H. PR_1N = +9m.18s. Zi-ka-wei MN = +21·8m. Berkeley eE = +8m.38s. and +11m.8s., eN = +11m.18s., eZ = +11m.31s. = PR_2 +7s., eN = +13m.38s., eE = +14m.2s., eSZ = +15m.29s., eZ = +17m.40s., eE = +18m.2s., eN = +18m.14s., eZ = +18m.56s., eE = +19m.38s. = SR_1 +28s., eN = +19m.58s., eSR_1Z = +21m.4s., eE = +21m.18s., eN = +21m.20s., eLZ = +22·1m., eLN = +22·6m., MZ = +25·7m. Saskatoon iSN = +15m.15s., iSR_1 = +18m.38s.; T_s = 10h.58m.27s. Lick ePE = +8m.42s., eE = +8m.45s., ePR_1E = +9m.45s., ePR_2E = +10m.38s., eE = +11m.35s., +11m.42s., +14m.19s., and +14m.52s., eSE = +15m.44s., eE = +17m.29s., +18m.24s., +19m.22s., +20m.12s., and +20m.36s., eLE = +23·5m. Hong Kong ePR_1 = +12m.0s., MN = +36·9m. Manila PR_1N = +11m.56s. PR_2E = +12m.52s., PSN = +17m.39s., SR_1 = +21m.28s., SR_2 = +23m.26s., MN = +39·0m. Denver eSR_1 = +21m.22s. Scoresby Sund i = +10m.8s., +12m.16s. = PR_1 − 4s. Ekaterinburg iPR_2 = +13m.21s. Tucson SR_1E = +21m.52s., SR_1N = +21m.58s., SR_2N = +23m.20s., SR_2E =

Continued on next page.

+23m.59s. Phu-Lien MN = +36·1m. Ivigtut +14m.24s., PR_2 = +18m.43s., N = +18m.55s., and +25m.54s. Reykjavik iPS = +19m.7s., SR_1 = +23m.29s. Chihuahua readings have been *diminished* by 2m. Chicago iPR_2N = +14m.30s., iPR_2E = +14m.34s., iSR_1N = +23m.14s., SR_1E = +23m.16s., iSR_2N = +25m.39s., iSR_2E = +26m.12s. Helsingfors PR_1 = +13m.12s., PR_2 = +14m.30s., e = +21m.19s. = Σ+17s. and +22m.19s., SR_1N = +23m.43s., SR_2 = +25m.50s. Florissant iPZ = +10m.38s., iPN = +10m.40s., i = +10m.42s., PR_1 = +13m.17s., eE = +23m.15s., eSR_1E = +24m.11s. St. Louis iN = +11m.10s., iPR_1N = +13m.10s., iSR_1N = +24m.8s. Ann Arbor iPR_2 = +14m.54s., i = +22m.36s., iSR_1 = +23m.42s., iSR_2 = +26m.48s., iN = +28m.48s., eL?E = +29·7m., iLN = +30·6m., MN = +38·1m. Upsala MN = +41·8m. Toronto eE = +10m.47s., iN = +11m.4s., iPR_1E = +13m.21s., iPR_1N = +15m.4s., iSR_1E = +24m.3s., SR_2N = +26m.58s.?, SR_1E = +27m.10s., T_gE =10h.58m.33s., T_gN =10h.58m.48s. Ottawa i = +11m.4s., iPR_2 = +15m.3s., i = +23m.58s., iSR_2 = +27m.12s., MN = +41·7m.; T_g = 10h.58m.38s. Bergen e = +12m.21s., eN = +24m.25s. =SR_1 −29s., eE = +27m.6s. =SR_2 −17s., LN = +28·6m. Amboina i =(+11m.28s.), (+11m.41s.), and (+20m.44s.); all readings have been *increased* by 4m. Apia PR_1 = +14m.1s., +25m.18s., +26m.13s., and +30m.49s.: T_g = 10h.58m.50s. Konigsberg iZ = +12m.17s. and +14m.10s., iEN = +20m.37s., iE = +20m.53s., iN = +21m.23s., iEN = +24m.18s., eZ = +25m.25s., eLN = +32·5m., MN = +40·4m. Fordham iE = +13m.23s., iN = +14m.34s. =PR_1 +1s., i = +15m.54s. =PR_2 −15s., iEN = +16m.58s. = PR_2 +7s., iZ = +18m.19s., iE = +19m.13s., i = +21m.59s. = Σ+7s., iE = +24m.0s., iEN = +25m.12s., iE = +26m.54s., and +29m.4s. Copenhagen +13m.42s. and +25m.0s. Harvard iPR_1 = +15m.48s., iSR_1 = +25m.18s., iSR_2 = +28m.45s. Charlottesville ePR_1N = +13m.19s., ePR_1E = +13m.30s., iPR_2E = +15m.50s., iPR_2N = +15m.54s., iN = +27m.21s., iE = +29m.30s. Georgetown iPZ = +11m.23s., SR_1 = +25m.31s., SR_2N = +28m.1s., SR_2E = +28m.41s. Edinburgh i = +21m.10s. Halifax SR_1N = +25m.40s., iSR_2 = +29m.0s., e = +30m.30s. =SR_2 −8s.; T_g = 10h.59m.9s. Hamburg eLZ = +33·5m. Potsdam iEN = +16m.52s. = PR_2 +14s. Bidston SR_1 = +26m.10s. Baku i = +11m.48s. De Bilt eEN = +32m.0s. =SR_2 +1s., MZ = +42·4m., MN = +43·0m. Gottingen ePZ = +11m.42s., ePN = +11m.47s., iPN = +11m.51s., iN = +14m.12s. and +18m.51s., eSN = +21m.16s. and +21m.30s., eLN = +34·0m., eLZ = +35·8m., MN = +47·4m. Jena iPEZ = +11m.52s., iPE = +12m.2s., iPZ = +12m.3s., iPN = +12m.4s., ePR_1Z = +14m.5s., ePR_1N = +14m.8s., ePR_1E = +14m.55s., ePR_2E = +16m.18s., ePR_2N = +16m.20s., eE = +16m.56s., iPSE = +22m.22s., iPSN = +23m.0s., eSR_1E = +25m.30s., eSR_1Z = +26m.6s., eSR_1N = +26m.18s., eZ = +28m.19s., and +30m.30s. Oxford eN = +14m.15s., iE = +30m.50s. Kew P_cP = +12m.24s., SR_1 = +26m.36s., SR_2 = +29m.54s., LZ = +35·5m., MN = +37·1m., MZ = +52·9m. Cheb ePR_1 = +14m.18s., eSR_1 = +25m.30s.?, MN = +47·5m. Uccle i = +14m.19s., SR_1 = +26m.49s., MN = +39·5m., MZ = +42·4m. Feldberg PN = +11m.44s., eN = +12m.3s. Vera Cruz readings have been *diminished* by 4m. Medan readings have been *increased* by 2m. Vienna PR_1 = +14m.28s., PR_2 = +16m.35s., PS = +22m.32s. Budapest MN = +46·5m. Karlsruhe PR_1 = +15m.20s., PR_2 = +17m.30s.?, PS = +22m.40s., SR_1 = +27m.4s. Hohenheim i = +12m.22s. and +14m.26s., ePR_1 = +15m.3s., e = +16m.11s. and +17m.57s., iS = +22m.15s., e = +22m.54s., iSR_1 = +22m.0s., iSR_2 = +30m.3s., e = +32m.30s., i = +33m.15s., e = +35m.48s. Strasbourg i = +14m.30s. and +16m.2s., PS = +22m.29s., i = +26m.43s., SR_1 = +27m.29s., SR_2 = +32m.44s., MN = +51·6m., MZ = +52·0m. Hyderabad readings have been *diminished* by 3m. Graz iP = +12m.13s., PS = +22m.41s., SR_1 = +27m.1s., SR_2 = +32m.53s., MN = +47·8m. Paris MN = +39·5m. Ravensburg i = +12m.13s., i = +12m.27s., and +14m.31s., iPR_1 = +15m.12s., iPR_2 = +16m.44s., i = +22m.34s., iSR_1 = +27m.7s., eL?E = +32·9m. Innsbruck iP = +12m.16s., S_cP_cS? = +22m.17s., $S_cP_cP_cS$ = +22m.41s., PS = +22m.45s., SR_1 = +27m.11s., SR_2 = +30m.24s. Merida readings have been *diminished* by 4m. Zagreb eNE = +12m.34s., iNE = +12m.51s., eNW = +13m.6s., iNE = +13m.11s., eNW = +13m.50s., eNE = +13m.55s., eNW = +14m.27s., ePR_1NE = +14m.50s., ePR_1NW = +15m.0s., eNW = +15m.14s., eNE = +16m.0s., and +16m.52s., e = +17m.24s. and +18m.14s., eNW = +18m.54s., e = +20m.2s., and +20m.46s., eNE = +21m.44s., ePSNW = +23m.0s., ePSNE = +23m.2s., eNE = +23m.55s., eNW = +24m.0s., iNE = +25m.19s., eNW = +26m.10s., eSR_1NW = +27m.13s., eSR_1NE = +27m.28s., eNW = +29m.4s., eNE = +29m.6s. and +30m.20s., eNW = +31m.2s., eNE = +32m.10s., eSR_2NW = +32m.50s. and eSR_2NE = +33m.10s., MNW = +47·0m. Laibach eP_cPN = +12m.32s., eN = +13m.53s., +15m.35s., +17m.20s., and +27m.24s. =SR_1 −38s. Batavia i = +12m.25s. Piacenza e? = +12m.2s., PR_1 = +15m.30s., PR_2 = +18m.50s., MN = +50·0m. Rocca di Papa MN = +55·0m. Bagnères PS = +25m.10s. Ksara LN = +41·2m. Barcelona MN = +43·6m. Toledo PR_1 = +16m.25s., PR_2 =

Continued on next page.

+18m.29s., PR_3 = +19m.36s., SR_1 = +29m.23s., SR_2 = +33m.19s., SR_3 = +35m.13s., MNW = +57·1m. Catania MNW = +53·8m. Riverview +13m.31s., +24m.26s., +27m.0s., SR_1 = +30m.10s., iSR_3 = +36m.21s., +37m.35s., and +38m.18s., MN = +47·3m., MZ = +47·4m.; T_o = 10h. 58m. 43s. Alicante MN = +49·2m. Algiers MN = +46·0m. Port au Prince i = +13m.20s. and +23m.59s. = Σ − 1s., MNW = +52·5m. Granada i = +12m.21s., PR_1 = +17m.5s., G = +33m.47s., MN = +46·6m., MZ = +47·8m. Almeria PR_1 = +16m.31s., SR_1 = +25m.18s., MNZ = +44·5m. Malaga MZ = +53·9m. San Fernando PS = +25m.55s., SR_1 = +29m.35s., SR_2 = +33m.40s., SR_3 = +38m.30s., MN = +57·5m. Adelaide i = +25m.40s.? = PS + 6s. and +29m.24s., MN = +47·0m. Wellington PR_2E = +19m.49s., [S]N = +23m.59s. = [S] + 7s., iSR_1E = +31m.1s., SR_2N = +34m.34s., T_oN = 10h.59m.23s., T_oE = 10h.59m.32s. La Paz iN = +20m.35s. = PR_1 + 2s., PR_1E = +22m.14s., PR_2E = +25m.27s., iS_cP_cS = +28m.34s., iPSE = +32m.32s., iPSN = +32m.37s., PPSN = +33m.17s., iSR_1N = +37m.12s., iSR_1E = +38m.10s., SR_2N = +42m.12s., SR_2E = +42m.37s., SR_3E = +45m.29s., SR_3N = +43m.52s., iLN = +53·2m., MN = +75·4m. Sucre iPR_1 = +20m.55s., i = +22m.19s., S_cP_cS = +28m.45s., iPS = +33m.55s., SR_1 = +38m.5s., SR_2 = +42m.45s., SR_3 = +46m.37s. Tananarive ePR_1 = +21m.8s., N = +21m.59s., EN = +22m.35s., PR_2 = +24m.5s., E = +25m.14s., ·N = +25m.44s., PR_3 = +26m.30s., N = +27m.56s., E = +28m.20s., PSN = +30m.58s., N = +31m.46s., E = +31m.50s., PPSE = +33m.8s., N = +33m.28s., E = +35m.59s., N = +36m.5s., SR_1 = +37m.36s., SPSE = +37m.53s., N = +38m.11s., E = +38m.17s., N = +39m.41s., +41m.20s., and +41m.53s., SR_2E = +42m.53s., N = +43m.17s., and +45m.12s., E = +45m.38s., N = +45m.43s., EN = +52m.32s., LN = +54·5m. Rio de Janeiro L?N = +41·2m., MN = +84·5m.

Dec. 17d. 12h. 12m. 1s. Epicentre 52°·7N. 171°·5E. (as at 11h.).

		Δ	Az.	P.	O−C.	S.	O−C.	L.	M.
		°	°	m. s.	s.	m. s.	s.	m.	m.
Sapporo		22·1	256	5 12	+ 6	9 15	+ 8	—	—
Mizusawa	N.	24·8	249	5 38	+ 2	10 31	+32	—	—
Akita	Z.	25·0	251	e 5 36	− 2	—	—	—	—
Nagoya		29·9	249	e 6 23	− 4	—	—	—	—
Osaka		31·1	249	6 31	− 8	(11 47)	− 6	11·8	14·5
Kobe		31·3	249	6 32	− 9	e 11 14	−42	—	16·6
Nagasaki		35·8	255	e 7 9	−11	e 13 3	− 4	—	—
Almata		59·3	303	10 15	+ 8	18 30	+15	—	—
Andijan		63·9	304	10 40	+ 3	19 22	+10	—	—
St. Louis		64·6	60	10 37	− 5	19 13	− 7	—	—
Ann Arbor	E.	65·1	52	—	—	23 41	?SR_1	—	—
Samarkand		67·0	308	10 59	+ 1	19 58	+ 8	—	—
Theodosia		75·2	330	e 11 58	+ 8	e 21 43	+15	—	—
Simferopol		75·7	330	e 12 2	+ 9	—	—	—	—
Yalta		76·1	330	e 11 59	+ 3	—	—	—	—
Neuchatel		79·4	351	e 12 12	− 3	e 22 26	+10	—	—
Granada		90·1	357	i 10 59	?	—	—	—	—
La Paz		121·3	76	20 16	?PR_1	—	—	—	—

Additional readings: Osaka MN = +16·1m. Ann Arbor LN = +57·3m.

Dec. 17d. 17h. 43m. 35s. Epicentre 52°·7N. 171°·5E. (as at 12h.).

		Δ	Az.	P.	O−C.	S.	O−C.	L.	M.
		°	°	m. s.	s.	m. s.	s.	m.	m.
Vladivostok		27·8	266	—	—	(e 11 35)	+40	(e 14·3)	—
Sitka	E.	30·1	60	—	—	—	—	e 16·2	17·8
Irkutsk		39·4	298	e 7 39	−11	e 13 37	−20	21·4	25·3
Scoresby Sund		56·4	5	—	—	—	—	28·4	—
Ekaterinburg		56·7	324	i 9 50	0	i 17 45	+ 3	26·4	36·1
Pulkovo		63·3	340	10 34	0	19 15	+10	39·4	42·0
Andijan		63·9	304	e 10 41	+ 4	—	—	—	—
Florissant	E.	64·4	60	—	—	e 19 1	−17	e 29·9	33·9
Tashkent		64·6	307	e 9 25?	−77	e 19 30	+10	36·4	41·1
Kucino		65·0	334	—	—	19 31	+ 6	e 34·2	44·6

Continued on next page.

		Δ	Az.	P.	O−C.	S.	O−C.	L.	M.
		°	°	m. s.	s.	m. s.	s.	m.	m.
Toronto		66·0	49	—	—	18 25?	−72	—	—
Ottawa		66·3	45	—	—	—	—	33·4	—
Samarkand		67·0	308	e 13 2	?	—	—	—	—
Copenhagen		70·2	349	—	—	—	—	40·4	—
Fordham	N.	70·7	48	—	—	e 20 23	−11	36·4	44·4
Georgetown	Z.	70·9	50	i 11 16	− 6	—	—	e 41·9	—
Baku		74·1	319	i 11 47	+ 4	e 21 39	+24	38·0	47·0
De Bilt		74·5	352	e 11 51	+ 5	—	—	e 38·4	—
Theodosia		75·2	330	e 11 52	+ 2	—	—	—	—
Simferopol		75·7	330	e 11 52	− 1	—	—	—	—
Paris		78·1	354	—	—	—	—	—	53·4

Additional readings and notes: Vladivostok readings have been *diminished* by 30m. Sitka ePE = 17h.43m.34s., iSR_1E = +11m.17s. Georgetown ?Z = +24m.44s. Baku e = +29m.57s.

Dec. 17d. 21h. 27m. 18s. Epicentre 6°·0S. 160°·0E. (as on 1925 Mar. 25d.).

A = −·935, B = +·340, C = −·105; D = +·342, E = +·940; G = +·098, H = −·036, K = −·995.

		Δ	Az.	P.	O−C.	S.	O−C.	L.	M.
		°	°	m. s.	s.	m. s.	s.	m.	m.
Riverview		29·0	195	—	—	i 11 42	+25	e 15·2	18·9
Melbourne		34·6	201	—	—	i 13 0	+11	17·6	20·8
Adelaide		35·0	211	—	—	i 12 45	−10	17·1?	22·9
Wellington	N.	37·7	162	—	—	12 42?	−52	—	—
Manila		43·9	299	e 8 25	0	e 16 37	+96	—	—
Hong Kong		53·1	304	e 9 29	+ 2	e 16 17	−40	—	25·0
Phu-Lien	E.	58·9	300	—	—	16 42?	−88	—	—
Irkutsk		75·0	328	e 11 49	0	21 23	− 3	35·7	—
Victoria	E.	85·8	40	24 58	?	—	—	42·9	47·1
Andijan		92·2	311	e 13 49	+21	—	—	—	—
Tashkent		94·5	313	e 13 54	+13	—	—	e 42·7	52·4
Samarkand		96·1	310	14 2	+12	—	—	—	—
Ekaterinburg		100·2	326	e 13 45	−27	24 50	[+25]	44·7	—
Florissant		108·7	50	—	—	e 27 42	+26	—	61·2
Baku		109·2	311	e 22 4	?PR_2	—	—	52·7	61·5
Kucino		112·6	329	—	—	e 29 28	?PS	54·5	65·0
Pulkovo		114·2	335	e 20 9	?	e 29 38	?PS	53·7	65·5
Scoresby Sund		115·5	1	—	—	30 42	?	56·7	—
Toronto	N.	116·0	42	—	—	e 30 4	?PS	60·4	—
Ottawa		117·9	40	—	—	—	—	e 53·7	—
Georgetown	Z.	119·1	47	—	—	—	—	e 65·8	—
Fordham		120·8	44	—	—	—	—	56·7	65·7
Copenhagen		124·0	339	—	—	38 42?	?SR_1	62·7	—
Cheb		128·3	334	—	—	—	—	e 62·7	—
De Bilt	E.	129·5	339	—	—	—	—	e 63·7	71·8
Stonyhurst		130·0	346	—	—	—	—	e 74·7	—
Uccle		130·8	339	—	—	—	—	e 66·7	—
Strasbourg		131·4	335	—	—	—	—	e 34·7	—
Kew		131·7	344	—	—	—	—	e 64·7	—
Paris		133·1	340	—	—	—	—	e 65·7	80·7
Granada		145·4	336	—	—	—	—	e 77·7	80·7

Additional readings: Riverview MN = +17·5m. Adelaide MN = +20·9m. Tashkent ePR_1 = +17m.22s., PPS = +27m.17s. Ekaterinburg PPS = +27m.14s., SR_1 = +32m.6s. De Bilt eLN = +65·7m., MN = +72·2m. Paris L = +72·7m.

Dec. 17d. Readings also at 3h. (Irkutsk), 4h. (Apia), 5h. (near Toyooka), 9h. (near Apia and near Lick), 12h. (La Paz, Sucre (2), Akita, Apia, Tacubaya, Merida, and Vera Cruz), 13h. (Sucre and near Amboina), 14h. (La Paz and Sucre), 16h. (Andijan, Baku, Ekaterinburg, Irkutsk, and Lick), 18h. (near Amboina), 20h. (Andijan, Samarkand, and near Apia), 21h. (Florissant, Georgetown, Ottawa, and Toronto).

Dec. 18d. 6h. 58m. 28s. Epicentre 24°·0N. 123°·0E. (as on 1927 Mar. 15d.).

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 33	+ 7	(0 48)	0	0·8	—
Zi-ka-wei	N.	7·3	349	1 54	+ 3	3 28	+10	—	—
Hong Kong		8·3	260	2 10	+ 4	3 50	+ 5	4·3	5·7
Manila		9·6	192	e 2 44	+20	i 4 41	+23	i 5·7	9·7
Nagasaki		10·6	33	2 49	+11	e 5 59	+74	—	—
Hukuoka		11·6	32	i 3 3	+10	—	—	—	8·9
Koti		13·3	42	—	—	e 5 6	−45	e 6·6	—
Sumoto		14·6	43	2 54	−40	—	—	e 9·5	—
Kobe	N.	15·0	42	—	—	—	—	—	12·0
Phu-Lien	E.	15·5	261	3 43	− 3	e 6 39	− 5	7·0	—
Vladivostok		20·4	19	4 44	− 2	i 8 50	+18	11·6	13·5
Akita	E.	21·3	39	—	—	—	—	—	16·4
Irkutsk		31·7	338	6 26	−18	11 36	−27	17·5	20·4
Batavia		34·1	209	e 8 26	?PR_1	i 12 17	−25	—	—
Hyderabad	E.	42·0	270	—	—	—	—	—	26·0
Colombo		44·8	256	13 22	?	—	—	—	27·7
Andijan		45·2	306	e 8 30	− 4	—	—	—	—
Bombay		46·7	275	8 27	−18	15 15	−22	23·7	27·6
Tashkent		47·6	307	i 8 41	−10	i 15 31	−18	23·5	31·5
Samarkand		49·3	305	e 8 56	− 6	—	—	—	—
Ekaterinburg		55·1	325	i 9 34	− 6	e 17 25	+ 3	27·5	35·0
Baku		62·3	307	e 10 33	+ 6	e 18 57	+ 5	31·1	41·0
Riverview		63·7	154	—	—	e 19 14	+ 5	e 38·2	—
Kucino		67·7	323	—	—	e 20 12	+14	35·2	45·1
Pulkovo		70·8	328	11 22	0	e 22 13	? Σ	36·5	44·4
Upsala		76·7	331	—	—	—	—	e 46·5	49·2
Copenhagen		81·1	329	—	—	22 44	+ 8	37·5	—
Bergen		81·7	335	—	—	—	—	e 50·9	—
Scoresby Sund		82·4	350	—	—	23 32?	?PS	43·5	—
Hamburg		83·4	327	—	—	—	—	e 43·5	53·5
Graz		83·6	320	—	—	—	—	e 53·5	—
Cheb		84·0	324	—	—	—	—	e 44·5	54·5
Gottingen	E.	84·5	326	—	—	—	—	e 45·5	53·9
Feldberg	N.	86·0	325	—	—	—	—	—	52·5
Victoria		86·5	38	—	—	—	—	47·4	—
De Bilt		86·7	327	—	—	e 23 36	− 2	e 42·5	55·4
Strasbourg		87·5	323	—	—	—	—	e 45·5	55·5
Uccle		87·8	326	—	—	e 23 32?	−18	e 43·5	57·4
Rocca di Papa		88·0	316	—	—	—	—	e 41·4	55·2
Edinburgh		88·0	333	—	—	—	—	e 46·5	56·5
Piacenza		88·4	320	—	—	—	—	e 45·9	57·8
Stonyhurst		89·1	330	—	—	—	—	e 47·5	58·3
Moncalieri		89·3	320	—	—	—	—	e 43·5	51·5
Kew		89·6	329	—	—	—	—	e 43·5	—
Oxford		90·0	329	—	—	—	—	e 45·5	57·1
Paris		90·0	326	—	—	—	—	e 48·5	57·5
Ivigtut		94·5	355	—	—	—	—	61·5	—
Toledo		99·3	322	—	—	—	—	e 51·4	65·0
Granada		100·9	320	—	—	—	—	57·5	—
San Fernando	E.	102·9	320	—	—	—	—	—	69·4
Ottawa	N.	108·5	13	—	—	e 28 32?	?PS	e 42·5	—
Toronto		109·3	15	—	—	24 2	?	—	—
Florissant	E.	109·8	27	e 19 2	?PR_1	—	—	e 59·0	—
Harvard		112·4	10	—	—	—	—	e 61·5	—
Fordham		113·2	13	—	—	—	—	64·5	74·0
Georgetown	Z.	114·3	16	—	—	—	—	e 70·2	—

Additional readings: Zi-ka-wei iN = +5m.14s. Hong Kong MN = +4·7m. Manila MN = +8·9m.; T_s = 6h.58m.42s. Koti eLN = +6·1m. Hyderabad MN = +25·3m. Kucino e = +27m.59s. Hamburg eL = +51·9m. Gottingen eLN = +45·3m., iN = +53m.38s., iE = +53m.43s., MN = +54·0m. De Bilt MNZ = +56·5m. Uccle MN = +57·3m. Kew eLZ = +49·5m. Oxford MN = +57·5m. Toledo MNW = +64·3m. San Fernando MN = +70·0m.

Dec. 18d. Readings also at 2h. (Taihoku), 4h. (Suva), 5h. (Florissant, Fordham, Georgetown, Toronto, Ottawa, Sitka, Scoresby Sund, Kucino, Tashkent, Baku, and Ekaterinburg), 6h. (Samarkand), 7h. (Taihoku (2)), 9h. (Adelaide, Riverview, Wellington, Mizusawa, Fordham, Ekaterinburg, Suva, and Taihoku), 10h. (De Bilt, Paris, Victoria, Strasbourg, and Baku), 11h. (Suva and Taihoku), 12h. (Honolulu T.H., Adelaide, Riverview, Wellington, Suva (2), Taihoku, and Florissant), 13h. (Bombay, Pulkovo, Baku, Ekaterinburg, Kucino, Copenhagen, Cheb, De Bilt, Uccle, Paris, Strasbourg, Rocca di Papa, Scoresby Sund, Fordham, Georgetown, Harvard, Ottawa, and Toronto), 14h. (Sitka), 15h. (Zi-ka-wei and near Sumoto (2)), 16h. (De Bilt, Strasbourg, Uccle, Copenhagen, Pulkovo, Baku, Ekaterinburg, Tashkent, Phu-Lien, Hong Kong, and near Nagasaki), 17h. (Paris), 18h. (Ekaterinburg, and Tashkent), 19h. (De Bilt, Uccle, Strasbourg, Phu-Lien, Fordham, Georgetown, and Ottawa), 21h. (Andijan).

Dec. 19d. Readings at 2h. (La Paz and near Sumoto), 3h. (Andijan), 4h. (Fordham and Taihoku), 8h. (near La Paz and Sucre), 10h. (Florissant, Fordham, Georgetown, Harvard, Ottawa, St. Louis, Toronto, Sitka, Ekaterinburg, and Tashkent), 11h. (De Bilt, Uccle, Baku, Kucino, Pulkovo, and Rio de Janeiro), 15h. (Bombay, Strasbourg, and near Wellington), 17h. (Tacubaya), 19h. (Manila, Hong Kong, Phu-Lien, Vladivostok, Irkutsk (2), Ekaterinburg, Tashkent, Baku, Kucino, Victoria, and Sitka), 20h. (Florissant, Fordham, Georgetown, Ottawa, Toronto, De Bilt, Uccle, Baku, Ekaterinburg, and Tashkent), 21h. (Andijan and near Samarkand), 22h. (Samarkand).

Dec. 20d. 10h. 27m. 2s. Epicentre 15°·5N. 92°·5W. (as on 1927 May 9d.).

$A = -\cdot042$, $B = -\cdot963$, $C = +\cdot267$; $D = -\cdot999$, $E = +\cdot044$: $G = -\cdot012$, $H = -\cdot267$, $K = -\cdot964$.

		Δ	Az.	P.	O−C.	S.	O−C.	L.	M.
		°	°	m. s.	s.	m. s.	s.	m.	m.
Vera Cruz		5·1	318	(1 19)	0	(2 15)	− 5	(2·3)	(3·1)
Merida		6·1	26	(1 58)	+25	(3 19)	+33	(3·5)	(3·8)
Tacubaya		7·5	302	2 23	+29	—	—	3·7	4·4
Port au Prince		19·5	78	e 4 44	+ 9	—	—	—	—
St. Louis	N.	23·2	4	e 5 21	+ 2	—	—	—	—
Florissant	N.	23·4	4	e 5 21	0	i 9 21	−12	—	—
Tucson	N.	23·7	318	e 5 25	0	—	—	—	—
Georgetown	Z.	27·1	27	—	—	i 11 30	+47	—	—
Fordham		30·1	30	—	—	e 11 8	−28	e 16·4	—
Toronto	E.	30·3	20	—	—	e 10 43	−56	13·8	—
Harvard	E.	32·6	30	—	—	i 11 44	−34	i 13·0	—
Ottawa		33·1	23	—	—	e 11 58?	−28	14·0	—
Lick		33·8	317	e 6 59	− 4	—	?SR_1	—	—
La Paz		40·0	144	i 7 53	− 2	e 16 10	?SR_1	—	—
Sucre		43·7	143	8 24	0	18 6	?SR_1	—	—
Ekaterinburg		104·3	15	—	—	—	—	50·0	—
Baku		114·1	30	—	—	—	—	e 51·4	—

Additional readings and notes: Vera Cruz readings have been *diminished* by 6m. Merida readings have been *diminished* by 3m. Port au Prince i = +4m.50s. St. Louis iPN = +5m.33s., iN = +5m.46s., +6m.0s., and +6m.16s. Florissant iN = +6m.17s., +9m.18s., and +10m.34s. Fordham e = +12m.18s., i = +13m.26s., iE = +14m.28s. Lick eN = +7m.58s. = PR_1 − 10s.

Dec. 20d. 20h. 19m. 34s. Epicentre 41°·5N. 22°·0E. (as on 1929 July 3d.).

A = +·694, B = +·281, C = +·663 ; D = +·375, E = −·927 ;
G = +·614, H = +·248, K = −·749.

		△	Az.	P.	O−C.	S.	O−C.	L.	M.
		°	°	m. s.	s.	m. s.	s.	m.	m.
Belgrade	E.	3·5	341	(e 1 12)	+17	(e 2 11)	+34	—	—
Taranto		3·8	256	1 9	+10	1 49	+ 5	e 5·4	—
Trenta		4·9	245	(1 21)	+ 5	—	—	—	—
Naples	E.	5·9	266	e 1 30	− 1	e 3 25	+44	—	—
Zagreb		6·1	317	e 1 24	− 9	e 3 32	+46	—	5·3
Budapest		6·3	342	e 2 11	+35	3 53	+61	4·0	—
Catania		6·7	236	e 2 4	+22	—	—	e 4·4	4·9
Rocca di Papa		7·0	275	e 1 39	− 7	2 55	−15	4·8	5·8
Laibach	N.	7·1	312	e 2 20	+32	e 4 31	+78	e 5·0	—
Mineo		7·1	236	1 36	−12	—	—	—	—
Rome		7·1	277	e 1 49	+ 1	2 31	−42	—	5·5
Graz		7·2	322	e 1 45	− 4	e 3 40	+25	—	4·8
Vienna		7·8	331	e 2 14	+16	—	—	i 4·8	5·4
Florence		8·2	290	e 0 41	?	e 4 26	+44	—	6·6
Padova		8·3	301	—	—	5 16	?L	(5·3)	—
Treviso		8·3	303	3 26?	?S	(3 26?)	−19	(i 5·3)	—
Lemberg	E.	8·4	9	—	—	—	—	e 4·4	6·1
Simferopol		9·4	65	e 2 24	+ 2	—	—	—	—
Yalta		9·4	67	e 2 34	+12	—	—	—	—
Innsbruck		9·5	311	e 2 14	− 9	—	—	e 5·8	—
Piacenza		9·6	296	—	—	e 3 56	−22	—	8·5
Theodosia		10·3	66	—	—	4 6	−31	—	—
Chur		10·4	305	e 2 26	−10	—	—	—	—
Ravensburg		10·8	310	—	—	—	—	e 5·4	—
Cheb		10·9	325	—	—	—	—	e 5·4	6·6
Moncalieri		11·0	293	—	—	—	—	e 6·4	—
Zurich		11·2	306	e 2 26	−21	—	—	—	—
Hohenheim		11·5	313	—	—	—	—	e 6·4	—
Neuchatel		12·1	302	e 2 49	−11	e 7 9	+108	—	—
Strasbourg		12·3	310	—	—	—	—	e 7·2	—
Gottingen	E.	13·0	325	—	—	—	—	e 7·6	7·9
Ksara	N.	13·4	120	e 3 35	+17	6 20	+27	8·4	—
Uccle		15·3	313	—	—	—	—	e 8·9	—
Copenhagen		15·5	339	—	—	6 26?	−18	—	—
Paris		15·5	305	—	—	—	—	e 8·4	9·4
De Bilt		15·6	319	—	—	—	—	e 8·4	9·5
Pulkovo		18·9	13	e 4 37	+ 9	—	—	10·4	12·1
Baku		21·0	84	—	—	e 7 54	−50	e 11·5	—
Ekaterinburg		29·0	45	—	—	—	—	13·4	15·3
Tashkent		35·0	74	—	—	—	—	—	34·4

Additional readings and notes : Belgrade ePE = (+1m.31s.), iE = (+2m.16s.); readings having been *increased* by 2m. Trenta reading has been *increased* by 2m. Zagreb e = +3m.47s. and +3m.55s. MNW = +4·9m. Catania MNW = +5·8m. Treviso gives S as P and L as S. Lemberg eN = +4m.20s., MN = +6·3m. Ravensburg iS = +6m.33s. Gottingen iE = +7m.51s. De Bilt MN = +9·6m.

Dec. 20d. Readings also at 0h. (Taihoku), 2h. (De Bilt), 3h. (Andijan and Samarkand (2)), 7h. (Florissant, Fordham, Ottawa, Toronto, and Tucson), 8h. (Florissant, Ottawa, Toronto, Victoria, and Tucson), 9h. (Simferopol and Yalta), 10h. (Adelaide, Melbourne, Riverview, Wellington, Bombay, and near Taihoku), 12h. (Wellington), 16h. (La Paz, La Plata, and Sucre), 18h. (Ekaterinburg, Irkutsk, Hong Kong, Phu-Lien and Taihoku), 19h. (De Bilt and Port au Prince), 21h. (Wellington), 22h. (Sucre), 23h. (La Paz),

Dec. 21d. Readings at 0h. (Phu-Lien), 1h. (Koti, near Matuyama, and near Neuchatel), 2h. (La Paz, near Chur, Neuchatel (4), and Zurich), 3h. (La Paz, Adelaide, Melbourne, Riverview, and near Santiago), 4h. (Apia, Adelaide, Riverview, Wellington, Florissant, and near Suva), 5h. (Baku, Ekaterinburg, Chicago, Georgetown, and Ottawa), 8h. (Samarkand), 9h. (Manila), 10h. (La Paz, Sucre, and Taihoku), 11h. (Ekaterinburg, Andijan, Samarkand, Melbourne, Ottawa, Fordham, Florissant (2), Toronto, Wellington, Adelaide, Kobe, La Paz, and Sucre), 12h. (Baku, Andijan, Kucino, Irkutsk, De Bilt, Georgetown, Bombay, and Suva), 19h. (Ksara and Tashkent), 20h. (Wellington), 21h. (near Rocca di Papa, Rome, and near Samarkand), 22h. (La Paz), 23h. (Almata, near Andijan, and Samarkand).

Dec. 22d. Readings at 0h. (near Almata, Andijan, and Tashkent), 2h. (Andijan (2) and Samarkand), 4h. (Samarkand), 8h. (near Hukuoka), 11h. (Wellington), 12h. (Yalta and near Simferopol), 13h. (near Manila), 14h. (Tashkent), 15h. (Apia), 17h. (near Akita and Mizusawa, near Andijan and Samarkand), 18h. (near Akita and near Lick), 19h. (Akita and near Lick), 21h. (Andijan, Samarkand, and near Taihoku), 23h. (Andijan and Samarkand).

Dec. 23d. Readings at 11h. (Ekaterinburg and Taihoku), 12h. (Baku), 14h. (Lick), 15h. (Samarkand), 18h. (near Tacubaya), 19h. (near Lick).

Dec. 24d. 4h. 29m. 18s. Epicentre 3°·0S. 172°·0W.

$A = -\cdot989$, $B = -\cdot139$, $C = -\cdot052$; $D = -\cdot139$, $E = +\cdot990$; $G = +\cdot052$, $H = +\cdot007$, $K = -\cdot999$.

Very uncertain. See note.

		Δ	Az.	P.	O−C.	S.	O−C.	L.	M.
		°	°	m. s.	s.	m. s.	s.	m.	m.
Apia		10·9	179	4 52	?S	(4 52)	0	6·8	7·6
Suva		17·8	211	i 4 18	+ 3	i 7 42	+ 6	—	10·7
Wellington	E.	40·1	196	—	—	i 13 59	− 9	—	15·6
Christchurch		42·8	197	e 3 38	?	i 11 28	?	—	21·1
Riverview		46·2	225	e 8 0	−41	i 14 5	−86	e 17·4	21·0
Sydney	E.	46·2	225	8 24	−17	—	—	20·5	22·0
Melbourne		52·5	224	i 10 17	?	i 20 7	?SR_1	22·9	30·7
Adelaide		55·8	230	—	—	e 17 27	− 4	24·2?	28·2
Victoria	N.	66·5	33	—	—	—	—	44·6	46·4
Tucson	E.	67·7	54	—	—	—	—	e 42·0	—
Vladivostok		68·2	320	e 15 8	?	e 25 26	?SR_1	45·9	—
Hong Kong		76·3	294	15 12	?PR_1	25 30	?	—	47·2
Florissant		85·4	51	—	—	e 28 1	?	e 52·7	—
Chicago	N.	87·8	49	—	—	—	—	e 51·9	—
Irkutsk		88·5	324	e 21 5	?	—	—	57·7	60·2
Toronto	N.	94·0	47	—	—	i 29 26	?	53·2	—
Georgetown	Z.	95·7	51	—	—	—	—	e 58·5	—
Ottawa	N.	96·5	45	—	—	—	—	e 53·7	—
Fordham		98·1	50	—	—	—	—	e 47·9	51·7
Harvard		100·0	48	—	—	—	—	e 61·7	—
La Paz		102·4	108	(e 19 14)	?	—	—	50·7	55·2
La Plata		107·7	128	—	—	—	—	51·7	—
Scoresby Sund		109·7	10	—	—	—	—	78·7	—
Ekaterinburg		112·0	331	e 21 6	?	e 25 13	[− 5]	55·7	75·7
Tashkent		113·2	314	—	—	—	—	—	65·7
Pulkovo		120·7	347	e 22 9	?	e 37 21	?SR_1	78·7	82·3
Kucino		122·0	340	—	—	—	—	e 61·5	83·0
Rio de Janeiro	N.	123·8	120	—	—	—	—	e 76·7	—
Baku		126·9	320	—	—	e 25 59	[− 4]	67·2	88·6
Copenhagen		127·2	357	—	—	—	—	78·7	—
De Bilt	E.	130·8	2	—	—	—	—	e 85·7	96·0
Kew		131·0	6	—	—	—	—	e 82·7	—
Theodosia		131·6	334	i 22 33	?	—	—	—	—

Continued on next page.

	Δ	Az.	P.	O−C.	S.	O−C.	L.	M.
	°	°	m. s.	s.	m. s.	s.	m.	m.
Uccle	132·1	3	—	—	—	—	—	90·9
Simferopol	132·2	334	e 22 18	?PR_1	—	—	—	—
Yalta	132·5	334	e 22 36	?PR_1	—	—	—	—
Cheb	132·8	355	—	—	—	—	e 91·7	—
Paris	133·9	5	—	—	—	—	e 88·7	—
Strasbourg	134·4	0	e 22 42?	?PR_1	—	—	e 85·7	—
Granada	144·2	16	—	—	—	—	80·7	94·7

Additional readings and note: Apia S = +6m.18s. Suva iSE = +8m.0s., MN = +8·7m., T_0E = 4h.28m.54s., T_0N = 4h.29m.18s. Wellington iE = +11m.44s. Riverview MN = +20·0m., readings are given without phase. Adelaide iSR_1 = +20m.42s., MN = +27·0m. Tucson eN = +42m.22s. Florissant iE = +34m.42s., eE = +38m.42s. Chicago eE = +55m.18s., eN = +56m.3s. Irkutsk i = +27m.25s., e = +30m.6s. = SR_1 − 5s. and +36m.5s. = SR_3 − 25s. Ekaterinburg e = +21m.54s., i = +23m.45s., e = +30m.50s. and +33m.52s. Tashkent e = +4m.24s., +5m.48s., +11m.48s., +13m.42s., +16m.24s., +23m.42s.? and +36m.42s.? Kucino eL = +75·5m. Baku e = +38m.2s. = SR_1 − 11s., +44m.19s., +53m.21s., and +57m.28s. De Bilt eLN = +83·7m., MN = +91·6m., MZ = +94·0m. Kew eLZ = +88·7m.

The only readings from stations within 90° of the epicentre which are attributed to definite phases of the earthquake are the P and S for Apia and Suva, the P for Sydney, and the S for Adelaide. The determination is based largely on these few readings, the material provided by other stations adding hardly anything to the evidence.

Dec. 24d. 15h. 52m. 42s. Epicentre 0·0 103°·0E.

A = − ·225, B = + ·974, C = ·000; D = + ·974, E = + ·225; G = ·000, H = ·000, K = −1·000.

	Δ	Az.	P.	O−C.	S.	O−C.	L.
	°	°	m. s.	s.	m. s.	s.	m.
Medan	5·6	310	(i 1 24)	− 3	(i 2 0)	−34	(i 2·6)
Batavia	7·3	148	1 52	+ 1	3 12	− 6	—
Colombo	24·1	288	4 17	−72	—	—	—
Andijan	49·0	330	e 9 2	+ 2	—	—	—
Almata	49·1	335	e 8 58	− 3	—	—	—
Samarkand	51·5	326	9 15	− 2	—	—	—
Ekaterinburg	66·1	337	i 10 57	+ 5	—	—	e 34·3
Pulkovo	81·4	331	i 12 25	− 2	—	—	—
Zagreb	87·9	316	e 12 57	− 7	—	—	—
La Paz	161·3	207	e 20 6	[− 3]	—	—	—

Medan readings have been *increased* by 4m. Batavia gives also iPZ = +3m.33s.

Dec. 24d. 19h. 54m. 35s. Epicentre 37°·5N. 60°·0E.

A = + ·397, B = + ·687, E = + ·609; D = + ·866, E = − ·500; G = + ·304, H = + ·527, K = − ·793.

	Δ	Az.	P.	O−C.	S.	O−C.	L.	M.
	°	°	m. s.	s.	m. s.	s.	m.	m.
Samarkand	5·9	67	e 1 18	−13	—	—	—	3·5
Tashkent	8·1	59	—	—	—	—	(e 5·1)	(8·7)
Baku	8·3	294	e 4 2	?S	(e 4 2)	+17	i 4·3	8·8
Andijan	10·0	70	e 2 29	− 1	—	—	—	—
Almata	14·1	61	—	—	(e 6 9)	− 1	e 6·2	—
Ekaterinburg	19·3	1	e 4 34	+ 1	e 8 11	+ 3	9·4	—
Ksara N.	19·9	267	—	—	e 7 54	−27	11·4	—
Bombay	21·7	145	e 12 19	?L	—	—	(e 12·3)	—
Kucino	23·5	328	—	—	—	—	e 11·9	—
Irkutsk	34·0	50	—	—	—	—	18·4	21·6

Additional readings and note: Tashkent e = (+6m.43s.) and (+7m.7s.), all readings are *diminished* by 10m.

Dec. 24d. 22h. 5m. 27s. Epicentre 41°·5N. 49°·0E.

A = +·491, B = +·565, C = +·663; D = +·755, E = −·656; G = +·435, H = +·500, K = −·749.

		Δ	Az.	P.	O−C.	S.	O−C.	L.	M.
		°	°	m. s.	s.	m. s.	s.	m.	m.
Baku	E.	1·3	149	i 0 17	− 3	—	—	i 0·4	—
Samarkand		13·8	92	e 3 30	+ 7	—	—	—	—
Kucino		16·0	337	—	—	—	—	e 9·2	—
Ekaterinburg		17·0	22	i 4 1	− 4	e 7 10	− 8	9·6	—
Andijan		17·6	86	e 4 9	− 3	—	—	—	—
Pulkovo		21·6	334	5 3	+ 3	9 3	+ 6	—	—

Dec. 24d. Readings also at 8h. (Adelaide, Melbourne, Riverview, Sydney, Suva, Christchurch, and Wellington), 9h. (Florissant and Ottawa), 10h. (Baku, Ekaterinburg, near Nagasaki, and Hukuoka), 11h. (Andijan, Samarkand, Ekaterinburg, Batavia, and near Medan), 14h. (Apia, Suva, and near Baku), 15h. (Ekaterinburg), 16h. (Tashkent, near Andijan, Samarkand, and near Manila), 17h. (near Manila), 20h. (Florissant, Ekaterinburg, Irkutsk, and Neuchatel), 21h. (Baku, Tashkent, Bombay, Pulkovo, Kucino, Hong Kong, and Rio de Janeiro), 22h. (Ekaterinburg, Tashkent, and near Baku), 23h. (Baku and Tashkent).

Dec. 25d. 0h. 33m. 18s. Epicentre 41°·5N. 49°·0E. (as on 24d.).

	Δ	Az.	P.	O−C.	S.	O−C.	L.
	°	°	m. s.	s.	m. s.	s.	m.
Baku	1·3	149	i 0 18	− 2	—	—	i 0·4
Samarkand	13·8	92	e 4 43	+80	—	—	—
Ekaterinburg	17·0	22	e 4 0	− 5	e 7 9	− 9	9·7
Andijan	17·6	86	e 4 26	+14	—	—	—

No additional readings.

Dec. 25d. 5h. 38m. 12s. Epicentre 46°·3N. 12°·5E.

A = +·675, B = +·150, C = +·723; D = +·216, E = −·976; G = +·706, H = +·156, K = −·691.

		Δ	Az.	P.	O−C.	S.	O−C.	L.	M.
		°	°	m. s.	s.	m. s.	s.	m.	m.
Treviso		0·7	199	0 7	− 4	i 0 16	− 4	—	0·5
Padova		1·0	206	0 16	+ 1	—	—	—	—
Laibach	N.	1·4	100	i 0 17	− 4	i 0 41	+ 2	—	0·8
Chur		2·1	285	i 0 34	+ 1	i 1 6	+ 8	—	—
Graz		2·2	69	i 0 35	+ 1	i 1 0	0	—	1·2
Zagreb		2·4	101	e 0 41	+ 4	e 1 13	+ 7	—	1·3
Ravensburg		2·5	307	e 0 39	0	i 1 11	+ 2	—	—
Zurich		2·9	292	i 0 45	0	i 1 31	+11	—	—
Hohenheim		3·3	320	e 1 0	+ 8	—	—	i 1·8	—
Strasbourg		4·0	307	—	—	(i 1 44)	− 6	(i 2·1)	—
Besançon		4·6	284	—	—	—	—	e 2·4	—
Gottingen	N.	5·5	344	e 1 18	− 7	e 2 24	− 7	i 3·0	3·1

Additional readings and notes: Chur iP = +35s. Zagreb e = +43s., eNW = +1m.8s., i = +1m.15s. Ravensburg i = +1m.14s. Zurich iP = +52s. Strasbourg gives S as iPS and L as iS.

Dec. 25d. Readings also at 1h., 8h., and 13h. (Baku), 16h. (La Paz and near Irkutsk), 18h. (near Barcelona), 20h. (near Osaka), 22h. (Baku, Ekaterinburg (2) and Tashkent).

Dec. 26d. Readings at 2h. (Charlottesville), 3h. and 9h. (Baku), 11h. (Wellington), 14h. (near Nagoya), 18h. (near Tortosa), 20h. (Samarkand), 21h. (near Ksara), 22h. (near Manila), 23h. (Baku).

Dec. 27d. 13h. 32m. 2s. Epicentre 0°·0 125°·0E. (as on 1928 Sept. 24d.).

$A = -\cdot574$, $B = +\cdot819$, $C = \cdot000$; $D = +\cdot819$, $E = +\cdot574$; $G = \cdot000$, $H = \cdot000$, $K = -1\cdot000$.

Manila (Az. 345°) gives epicentre 4°S. 124°E, a position not compatible with the readings from Japanese stations (Az. 14°). This old origin is therefore tentatively adopted.

		Δ	Az.	P.	O−C.	S.	O−C.	L.	M.
		°	°	m. s.	s.	m. s.	s.	m.	m.
Manila		15·1	345	i 4 30	+50	i 7 58?	+84	i 9·6	11·8
Batavia		19·2	251	i 4 16	−15	i 7 50	−16	—	—
Hong Kong		24·7	335	7 10	+95	i 10 28	+31	—	13·1
Medan		26·6	278	(i 5 58)	+ 4	(i 10 22)	−11	—	—
Phu-Lien		27·5	320	e 6 17	+14	i 11 9	+19	i 15·9	—
Nagasaki		33·1	7	6 57	0	12 22	− 4	—	—
Sumoto		35·6	14	(e 7 13)	− 5	e 7 13	?P	—	—
Kobe		36·0	14	i 7 17	− 5	—	—	—	—
Osaka		36·0	14	7 18	− 4	—	—	10·7	—
Nagoya		36·9	17	i 7 26	− 3	—	—	—	—
Adelaide		37·2	162	e 7 1	−31	i 12 38	−49	—	—
Mizusawa	E.	41·8	20	(8 2)	− 7	8 2	?P	—	—
Sydney	E.	41·8	147	10 34	?PR_2	—	—	20·2	21·0
Melbourne		42·0	156	i 10 34	?PR_2	i 13 52	−43	—	—
Calcutta	E.	42·2	306	8 32	+20	14 58	+20	—	—
	N.	42·2	306	8 40	+28	15 2	+24	—	—
Vladivostok		43·5	8	i 8 20	− 2	i 14 55	0	—	—
Kodaikanal		48·4	284	e 20 46	?L	—	—	(e 20·8)	—
Hyderabad		49·0	295	8 54	− 6	15 50	−16	24·7	33·0
Bombay		54·5	295	8 54	−42	17 4	−11	30·3	35·2
Irkutsk		55·1	345	i 9 47	+ 7	i 17 36	+14	—	—
Almata		60·9	323	10 5	−13	18 46	+11	—	—
Wellington	N.	61·0	140	—	—	i 18 0	−36	—	—
Andijan		62·5	318	10 34	+ 5	—	—	—	—
Tashkent		65·0	318	i 10 48	+ 3	i 19 27	+ 2	36·9	52·0
Samarkand		65·9	317	i 10 52	+ 2	i 19 38	+ 2	—	—
Ekaterinburg		76·3	330	i 11 50	− 7	i 21 28	−13	38·0	—
Baku		78·8	313	e 11 58	−14	i 21 52	−18	45·0	—
Theodosia		89·1	316	i 22 58?	?S	(i 22 58?)	[−25]	—	—
Ksara		89·3	305	e 15 58?	?	—	—	—	—
Sebastopol		91·0	315	i 22 59	?S	(i 22 59)	[−35]	—	—
Florissant	E.	129·4	36	e 20 55	?PR_1	e 27 17	?	—	—
St. Louis		129·7	36	e 20 55	?PR_1	e 27 20	?	—	—
La Paz		159·0	142	19 13	[−54]	—	—	—	—

Additional readings and note: Manila iEN = +4m.33s., PR_1N = +4m.47s., PR_2 = +4m.51s., SR_1 = +8m.31s.; T_o = 13h.32m.3s. Batavia iP = +4m.19s. Medan i = (+6m.34s.); all readings have been *increased* by 4m. Sumoto eNZ = +7m.15s. Adelaide +12m.43s. Hyderabad MN = +33·3m. Wellington iE = +18m.2s. Florissant iE = +21m.25s. St. Louis iE = +21m.27s., eN = +21m.45s., iN = +21m.47s.

Dec. 27d. Readings also at 1h. (near Manila), 2h. (La Paz, near Tacubaya, and near Medan), 3h. (Hong Kong, Taihoku, Phu-Lien, Kodaikanal, Ekaterinburg, Andijan, Samarkand, Tashkent, and near Almata), 4h. (near La Paz), 14h. (near Andijan, Samarkand, and Tashkent), 20h. (near Oaxaca, Tacubaya, and Vera Cruz), 23h. (Taihoku).

Dec. 28d. 1h. 22m. 48s. Epicentre 41°·0S. 148°·0E.

A = −·640, B = +·400, C = −·656; D = +·530, E = +·848: G = +·556, H = −·348, K = −·755.

		Δ	Az.	P.	O−C.	S.	O−C.	L.	M.
		°	°	m. s.	s.	m. s.	s.	m.	m.
Melbourne		4·0	322	i 1 12	+10	—	—	2·0	3·0
Riverview		7·6	21	e 1 39	−16	i 2 59	−27	i 3·9	4·9
Sydney	E.	7·6	21	—	—	—	—	3·8	4·9
Adelaide		9·6	306	e 3 12	+48	i 5 8	+50	5·5	6·0
Christchurch		18·3	106	e 4 18	− 3	7 48	+ 1	9·8	—
Wellington	E.	20·1	100	i 4 41	− 1	i 8 22	− 3	i 9·6	11·0
	N.	20·1	100	i 4 46	+ 4	i 8 16	− 9	—	—
Manila		61·0	331	e 10 57?	+38	—	—	—	—
Medan		63·3	305	i 14 18	?	—	—	46·2	—
Phu-Lien	N.	72·8	320	—	—	—	—	39·2	—
Tananarive		85·3	250	—	—	—	—	41·2	45·7
Bombay		91·7	295	—	—	—	—	e 44·2	—
Irkutsk		100·7	336	—	—	—	—	61·2	—
Ekaterinburg		122·0	320	—	—	—	—	54·2	—
Florissant		136·0	74	—	—	e 55 12?	?	e 70·2	77·2
Toronto		145·3	70	—	—	—	—	75·2	—
Vienna	Z.	145·4	301	i 19 47	[− 2]	—	—	—	—
Ottawa		148·2	67	—	—	—	—	e 77·2	—
Fordham	N.	148·7	77	—	—	—	—	e 77·5	85·2
Hamburg	Z.	149·4	310	e 19 54	[− 1]	—	—	—	—
Neuchatel		151·7	295	e 19 56	[− 2]	—	—	—	—

Additional readings: Riverview MN = +5·2m. Sydney PE = 1h.11m.48s. Tananarive eL = +43·2m.

Dec. 28d. 11h. 28m. 14s. Epicentre 56°·0S. 143°·0E.

A = −·447, B = +·337, C = −·829; D = +·602, E = +·799: G = +·662, H = −·499, K = −·559.

		Δ	Az.	P.	O−C.	S.	O−C.	L.	M.
		°	°	m. s.	s.	m. s.	s.	m.	m.
Melbourne		18·2	5	e 4 23	+ 4	i 7 26	−18	8·3	9·3
Adelaide		21·2	350	i 4 59	+ 4	i 8 55	+ 7	10·0	10·1
Christchurch		22·6	69	e 5 15	+ 3	9 25	+ 8	10·8	—
Riverview		22·9	18	i 5 13	− 3	i 9 19	− 4	e 10·4	12·0
Wellington	E.	25·3	68	i 5 42	+ 1	i 10 0	− 9	11·8	15·4
	N.	25·3	68	i 5 40	− 1	i 10 10	+ 1	i 11·4	13·6
Suva	N.	46·3	50	e 1 46?	?	—	—	—	—
Manila		73·0	338	e 15 46?	?	—	—	—	—
Hyderabad	E.	91·0	300	—	—	—	—	—	49·0
Bombay		95·1	296	e 17 4	?PR_1	26 21	?PS	43·3	50·7
Rio de Janeiro	E.	101·0	174	—	—	—	—	e 45·1	—
Entebbe		101·3	252	—	—	—	—	51·8	—
Irkutsk		112·8	335	—	—	e 26 46?	? Σ	e 60·8	69·3
Baku		124·0	294	—	—	e 38 3	?SR_1	55·3	68·4
Victoria		130·0	61	—	—	—	—	66·2	66·8
Ekaterinburg		130·7	314	—	—	e 28 36	? Σ	52·8	—
Kucino		140·1	302	—	—	e 44 16	?	e 66·4	79·1
Florissant		141·2	91	—	—	e 41 16	?SR_1	e 58·8	70·8
Chicago	E.	144·8	90	—	—	—	—	e 74·1	—
Georgetown	Z.	148·6	105	—	—	—	—	e 74·2	—
Toronto	E.	150·6	97	—	—	e 41 54	?	74·8	—
San Fernando	E.	151·5	240	—	—	—	—	—	116·9
Fordham	N.	151·8	107	—	—	—	—	e 75·4	—
Ottawa		153·7	97	—	—	—	—	e 66·8	—
Harvard		154·3	107	—	—	—	—	e 82·8	—
De Bilt		155·3	279	—	—	—	—	e 84·8	—

Additional readings: Adelaide MN = +11·4m. Hyderabad MN = +45·9m. Irkutsk e = +45m.46s. ? and +50m.46s. ? Ekaterinburg e = +39m.22s. = SR_1 +23s. Kucino e = +46m.22s. Chicago eN = +75m.16s. San Fernando MN = +115·3m.

Dec. 28d. Readings also at 0h. (Graz, Florissant, and St. Louis), 1h. (Ksara, Andijan, and Samarkand), 3h. (Taihoku), 8h. (near Sumoto), 9h. (Samarkand), 15h. (Ekaterinburg and near Irkutsk), 16h. (Ksara and near Taihoku), 18h. (near Sumoto), 21h. (Florissant).

Dec. 29d. 0h. 58m. 53s. Epicentre 37°·5N. 70°·5E. (as on 1929 July 10d.).

$A = +\cdot265$, $B = +\cdot748$, $C = +\cdot609$; $D = +\cdot943$, $E = -\cdot334$; $G = +\cdot203$, $H = +\cdot574$, $K = -\cdot793$.

	Δ	Az.	P.	O−C.	S.	O−C.	L.	M.
	°	°	m. s.	s.	m. s.	s.	m.	m.
Andijan	3·1	27	e 0 57	+ 8	—	—	i 1·8	—
Samarkand	3·4	310	e 0 57	+ 4	—	—	1·8	2·3
Almata	7·6	39	e 1 42	−13	(e 3 14)	−12	e 3·2	—

No additional readings. The stations give epicentre 37°45′N. 70°30′E.

Dec. 29d. 9h. 20m. 51s. Epicentre 54°·0N. 161°·0E. (as on 1927 Dec. 28d.).

$A = -\cdot556$, $B = +\cdot191$, $C = +\cdot809$; $D = +\cdot326$, $E = +\cdot946$; $G = -\cdot765$, $H = +\cdot263$, $K = -\cdot588$.

		Δ	Az.	P.	O−C.	S.	O−C.	L.	M.
		°	°	m. s.	s.	m. s.	s.	m.	m.
Vladivostok		21·9	252	—	—	e 9 11	+ 8	—	15·2
Irkutsk		33·2	290	e 7 2	+ 4	e 12 37	+10	17·2	21·6
Hong Kong	E.	47·2	247	—	—	—	—	—	30·3
Ekaterinburg		51·7	318	e 9 15	− 3	e 16 35	− 5	24·2	32·6
Tashkent		58·7	300	—	—	e 23 9?	?	e 31·2	37·8
Kucino		60·8	328	—	—	—	—	e 32·8	38·8
Baku		68·8	311	—	—	e 21 20	[+17]	36·6	46·0
Georgetown	z.	74·5	45	—	—	—	—	e 42·5	—

Additional readings: Hong Kong MN = +32·0m. Baku e = +29m.32s.

Dec. 29d. Readings also at 1h. (Wellington), 7h. (Andijan, Irkutsk, and near Calcutta), 8h. (Vladivostok), 12h. (Granada and Tananarive), 13h. (Phu-Lien), 14h. and 15h. (Taihoku), 22h. (Wellington), 23h. (Ksara, Simferopol, Theodosia, Yalta, Sebastopol, and near Nagasaki (2)).

Dec. 30d. Readings at 0h. (near Nagasaki and near Wellington), 4h. (Suva), 6h. (Florissant), 7h. (Suva and near Sumoto), 11h. (Charlottesville, Chicago, Florissant (2), St. Louis, Georgetown, Ottawa, Toronto, Victoria, Ekaterinburg, near Merida, Oaxaca, Tacubaya, and Vera Cruz), 12h. (Scoresby Sund, Kew, Baku, Tashkent, and Irkutsk), 18h. (Tashkent and near Andijan), 19h. (near Oaxaca and Tacubaya), 21h. (Andijan, Tashkent, and near Samarkand), 22h. (near Malabar).

Dec. 31d. 1h. 3m. 51s. Epicentre 11°·0N. 141°·8E.

A = −·771, B = +·607, C = +·191; D = +·618, E = +·786;
G = −·150, H = +·118, K = −·982.

		Δ	Az.	P.	O−C.	S.	O−C.	L.	M.
		°	°	m. s.	s.	m. s.	s.	m.	m.
Amboina		20·0	223	i 4 41	0	i 9 15	+52	—	—
Manila		20·6	282	4 44	− 4	i 8 29	− 7	10·4	12·6
Siomisaki		23·1	347	5 17	− 1	9 24	− 3	—	—
Taihoku	N.	23·7	309	(5 4)	−21	5 4	?P	10·2	—
Koti		23·8	343	5 22	− 4	9 38	− 2	12·0	—
Sumoto		24·1	346	e 5 25	− 4	e 11 10	+84	—	14·4
Nagasaki		24·3	335	4 31	−60	8 54	−56	—	—
Osaka		24·3	348	5 30	− 1	(9 22)	−28	9·4	10·8
Kobe	Z.	24·4	347	e 5 27	− 5	e 9 58	+ 6	—	—
Nagoya		24·6	350	(e 5 34)	0	16 25	?	—	—
Tokyo		24·7	356	5 33	− 2	—	—	—	—
Toyooka	E.	25·4	347	e 4 54	−48	i 10 30	+19	—	—
	N.	25·4	347	e 4 51	−51	i 10 22	+11	e 13·5	—
Zi-ka-wei	Z.	27·6	320	e 5 53	−11	—	—	14·9	22·4
Mizusawa	E.	28·1	359	6 7	− 2	11 3	+ 2	—	—
Akita		28·7	357	e 6 22	+ 7	—	—	18·8	—
Hong Kong		28·7	297	6 3	−12	(e 9 15)	−117	e 9·2	14·4
Phu-Lien		35·1	290	e 7 1	−13	—	—	15·2	—
Batavia		38·8	245	—	—	i 13 15	−34	—	—
Medan		43·3	265	9 15	+55	i 14 45	− 7	—	—
Riverview		45·7	169	i 8 36	− 2	e 15 7	−17	e 22·0	27·5
Sydney	E.	45·7	169	—	—	—	—	27·2	28·2
Adelaide		46·1	183	e 8 28	−13	i 15 11	−18	22·7	28·0
Melbourne		48·9	177	(e 9 31)	+32	(i 15 59)	− 6	27·8	31·4
Irkutsk		51·1	331	i 9 13	− 1	16 29	− 3	23·2	29·4
Wellington		60·5	151	i 11 2	+46	i 18 38	+ 8	26·2	—
Colombo		61·2	272	10 18	− 2	18 33	− 5	31·5	38·2
Christchurch		61·3	155	—	—	i 18 51	+11	—	—
Almata		64·2	314	e 10 47	+ 8	—	—	—	—
Bombay		66·7	286	10 57	+ 1	19 50	+ 4	35·9	36·4
Andijan		67·3	310	e 11 5	+ 5	19 58	+ 4	—	—
Tashkent		69·6	311	i 11 20	+ 5	i 20 26	+ 5	e 32·2	40·8
Samarkand		71·3	310	e 11 18	− 7	e 20 28	−14	—	—
Ekaterinburg		75·9	326	i 11 57	+ 3	i 21 34	− 2	31·2	—
Baku		84·4	310	i 12 42	− 2	i 23 5	− 7	42·2	53·4
Kucino		88·5	327	13 0	− 8	23 30	[+12]	39·4	54·6
Pulkovo		90·9	333	13 12	− 9	23 43	[+10]	46·2	57·6
Upsala	N.	96·4	336	—	—	—	—	e 54·2	57·7
Scoresby Sund		97·7	355	—	—	23 27	[−44]	44·2	—
Copenhagen		101·2	334	—	—	24 45	[+15]	50·2	—
Budapest		102·6	325	—	—	—	—	e 50·2	—
Cheb		104·7	330	—	—	—	—	e 54·2	65·2
Zagreb		105·3	324	—	—	e 24 9?	[−40]	e 56·2	67·2
De Bilt		106·7	334	—	—	—	—	e 49·2	65·7
Uccle		108·0	334	—	—	—	—	e 51·2	—
Strasbourg		108·0	330	—	—	—	—	e 53·2	—
Florence		109·2	324	e 54 14	?L	—	—	(e 54·2)	67·0
Piacenza		109·2	327	—	—	—	—	e 54·2	—
Rocca di Papa		109·5	321	19 12	?PR_4	—	—	—	70·6
Kew		109·5	336	—	—	—	—	56·2	—
Paris		110·2	334	—	—	—	—	e 63·2	68·2
Florissant		110·5	40	—	—	i 29 9	?PS	e 46·2	63·6
Toronto	N.	113·8	30	—	—	e 26 54	? Σ	64·2	—
Ottawa		114·2	26	—	—	e 27 9?	? Σ	51·2	—
Tortosa	N.	117·0	329	—	—	—	—	e 60·2	73·6
Georgetown	Z.	118·4	33	—	—	—	—	e 69·7	—
Fordham	N.	118·6	30	—	—	e 30 13	?PS	e 56·8	74·6
Granada		121·9	328	—	—	—	—	65·2	—
San Fernando	E.	123·8	330	—	—	—	—	—	82·8
La Plata		150·2	146	(20 3)	[+ 7]	—	—	20·0	—
La Paz		150·5	104	e 20 2	[+ 5]	—	—	79·3	94·8
Rio de Janeiro	N.	167·2	159	—	—	—	—	e 90·2	—

For Notes see next page.

NOTES TO DEC. 31d. 1h. 3m. 51s.

Additional readings and notes: Manila $PR_1 = +5$m.2s., $SR_1 = +9$m.16s., MN = +12·4m.; $T_0 = 1$h.3m.48s. Taihoku eN = 1h.3m.38s. Sumoto MZ = +13·2m. Osaka MN = +10·4m., MZ = +10·6m. Kobe PN = +5m.28s. Nagoya P has been *diminished* by 10m. Zi-ka-wei MN = +16·2m. Mizusawa SN = +11m.2s. Hong Kong MN = +13·4m. Medan i = +14m.21s. and +15m.27s. Riverview eSR_1? = +18m.47s., MN = +26·4m.; $T_0 = 1$h.3m.53s. Adelaide $iPR_2 = +10$m.48s., $iSR_1 = +18$m.33s., MN = +27·8m. Melbourne gives P as S and S as SR_1 Scoresby Sund +32m.15s. $= SR_1 + 6$s. De Bilt MN = +65·5m., MZ = +65·8m. Kew eLZ = +68·2m. Ottawa e = +40m.9s.? San Fernando MN = +84·6m. La Paz $PR_1 = +24$m.4s.

Dec. 31d. 4h. 10m. 10s. Epicentre 51°·0S. 138°·0E.

A = −·468, B = +·421, C = −·777; D = +·669, E = +·743; G = +·578, H = −·520, K = −·629.

		△	Az.	P.	O−C.	S.	O−C.	L.	M.
		°	°	m. s.	s.	m. s.	s.	m.	m.
Melbourne		14·1	23	i 3 25	− 2	6 7	− 3	6·6	11·3
Adelaide		16·0	2	i 3 55	+ 3	e 7 0	+ 5	i 7·6	8·4
Riverview		19·6	34	i 4 37	+ 1	(i 8 17)	+ 2	e 9·6	16·8
Sydney	E.	19·6	34	—	—	—	—	9·8	11·4
Christchurch		24·4	86	—	—	9 43	− 9	11·1	—
Wellington		26·9	83	i 6 17	+20	i 10 34	− 5	i 11·8	12·5
Batavia		51·8	320	—	—	e 16 44	+ 3	—	—
Medan		64·1	317	e 13 20	?PR_1	e 21 8	? Σ	e 35·6	—
Colombo		76·3	300	21 49	?S	(21 49)	+ 8	—	38·5
Hyderabad	N.	85·9	305	—	—	—	—	—	45·2
Rio de Janeiro	N.	106·1	179	—	—	e 44 50?	?	e 58·8	—
Tashkent		109·9	312	—	—	i 25 22	[+12]	—	—
Baku		119·2	300	—	—	—	—	61·9	95·8
Kucino		134·8	310	—	—	—	—	e 61·2	86·9
Budapest		141·1	290	—	—	—	—	e 94·8	—
Florissant		144·4	88	—	—	—	—	e 60·8	71·3
Cheb		146·2	291	—	—	—	—	e 99·8	—
Upsala	N.	146·3	310	—	—	—	—	e 101·8	—
Copenhagen		148·1	301	—	—	—	—	67·8	—
Neuchatel		148·3	282	e 19 57	[+ 4]	—	—	—	—
Strasbourg		148·4	285	—	—	—	—	e 90·8	—
Hamburg		148·8	295	—	—	—	—	e 100·8	—
Granada		149·6	258	—	—	—	—	81·8	—
San Fernando	E.	150·7	254	—	—	—	—	—	89·6
De Bilt		151·2	291	—	—	—	—	e 89·8	103·0
Uccle		151·3	288	—	—	—	—	e 86·8	—
Paris		151·7	283	—	—	—	—	e 85·8	109·8
Toronto		153·9	92	—	—	61 35	?	—	—
Kew		154·2	287	—	—	—	—	e 88·8	—
Fordham	N.	155·9	103	—	—	—	—	e 80·2	103·8
Ottawa		157·0	91	—	—	—	—	e 77·8	—
Scoresby Sund		158·4	342	—	—	—	—	85·8	—

Additional readings and note: Adelaide MN = +9·8m. Riverview MN = +12·3m., S is given as SR_1; $T_0 = 4$h.10m.42s. Sydney PE = 4h.0m.30s. Wellington iN = +6m.44s., LN = +10·8m. Tashkent e = +28m.44s. = PS − 13s. and +35m.7s. $= SR_1 + 26$s. Copenhagen L = +85·8m. San Fernando MN = +90·4m. De Bilt MN = +100·5m., MZ = +109·4m. Kew eLZ = +91·8m.

Dec. 31d. 4h. 43m. 30s. Epicentre 5°·5S. 147°·0E. (as on 1927 Nov. 9d.).

A = −·835, B = +·542, C = −·096; D = +·545, E = +·839;
G = +·080, H = −·052, K = −·995.

A *depth* of focus 0·020 has been assumed, being a modification of the depth (0·040) assumed on 1927 Nov. 9d.).

		Corr. for Focus	Δ	Az.	P.	O−C.	S.	O−C.	L.	M.
		°	°	°	m. s.	s.	m. s.	s.	m.	m.
Riverview		−1·3	28·6	173	e 8 24	?	—	—	12·6	16·5
Sydney	E.	−1·3	28·6	173	—	—	13 0	?	16·5	17·0
Adelaide		−1·4	30·4	194	e 6 6	−12	i 10 55	−22	12·9	17·9
Melbourne		−1·5	32·2	184	—	—	—	—	14·1	21·0
Taihoku	E.	−1·7	39·3	323	—	—	e 13 32	0	—	—
Batavia		−1·7	39·9	269	e 6 40	−60	—	—	25·5	—
Koti		−1·7	41·1	344	e 8 39	+49	13 2	−55	—	—
Sumoto		−1·7	41·4	346	e 7 41	−11	—	—	—	—
Osaka		−1·8	41·6	347	e 4 28	?	—	—	8·2	10·5
Kobe		−1·8	41·7	346	e 9 28	?PR$_1$	—	—	—	—
Hong Kong		−1·8	42·5	313	8 2	+ 1	14 20	+ 3	—	18·1
Wellington		−1·8	43·5	149	—	—	—	—	16·5	24·5
Zi-ka-wei	Z.	−1·9	44·1	330	e 8 6	− 6	—	—	—	24·3
Mizusawa	E.	−1·9	45·0	355	8 16	− 3	14 45	− 4	—	—
Akita		−1·9	45·7	354	e 8 24	0	15 18	+19	—	—
Phu-Lien		−2·0	47·6	306	7 30?	−67	—	—	—	—
Medan		−2·1	49·1	280	i 10 36	?PR$_1$	i 17 12	?	—	—
Honolulu T.H.	N.	−2·4	60·2	61	—	—	—	—	e 29·5	31·0
Irkutsk		−2·6	68·2	334	e 11 4	+15	e 19 42	+10	32·5	41·7
Tashkent		−2·7	84·6	312	e 13 28	+58	—	—	e 39·5	48·0
Ekaterinburg		−2·8	92·6	327	e 13 13	− 2	—	—	49·5	54·4
Pulkovo		—	108·0	333	e 18 57	?PR$_1$	e 28 21	?PS	49·5	66·7
La Paz		—	138·9	122	e 19 0	[−38]	—	—	—	—

Additional readings: Riverview MN = +16·4m. Adelaide MN = +18·5m.
Batavia i = +8m.12s. = P + 32s. Osaka MZ = +9·8m., MN = +10·2m.
Hong Kong PR$_1$ = +10m.5s. Wellington MN = +30·5m. Ekaterinburg
e = +16m.35s., +18m.59s., and +25m.23s. = PS − 15s.

Dec. 31d. 22h. 9m. 15s. Epicentre 7°·0S. 145°·0E. (as on 1928 June 16d.).

A = −·813, B = +·569, C = −·122; D = +·574, E = +·819;
G = +·100, H = −·070, K = −·993.

		Δ	Az.	P.	O−C.	S.	O−C.	L.	M.
		°	°	m. s.	s.	m. s.	s.	m.	m.
Riverview		27·4	169	—	—	i 13 25	?	e 14·4	17·0
Sydney	E.	27·4	169	10 45	?S	(10 45)	− 3	17·0	17·8
Adelaide		28·3	191	—	—	e 10 50	−14	16·1?	18·3
Melbourne		30·7	180	—	—	i 11 45	− 1	16·5	18·2
Zi-ka-wei	Z.	44·3	331	—	—	—	—	—	24·4
Irkutsk		68·7	335	e 11 7	− 2	e 20 7	− 3	e 32·8	37·0
Tashkent		84·1	313	e 13 21	+38	e 23 55	?PS	e 42·8	55·6
Ekaterinburg		92·8	327	e 13 19	−12	e 24 23	−20	43·8	53·8
Baku		98·4	311	—	—	e 26 0	+20	e 49·2	—
Kucino		105·4	325	—	—	—	—	e 47·2	63·2
Pulkovo		108·3	331	—	—	e 29 54	?	59·8	66·4
Copenhagen		118·7	331	—	—	37 45?	?	56·8	—
Florissant	E.	121·1	48	—	—	—	—	e 57·8	—
De Bilt		124·2	331	—	—	—	—	e 62·8	67·0
Strasbourg		125·0	327	—	—	—	—	e 67·8	—
Uccle		125·4	331	—	—	—	—	e 62·8	—
Toronto		126·6	39	—	—	—	—	57·8	—
Kew		127·1	332	—	—	—	—	e 72·8	—
Paris		127·6	330	—	—	—	—	e 73·8	—

For Notes see next page.

NOTES TO DEC. 31d. 22h. 9m. 15s.

Additional readings: Riverview MN = +20·2m. Sydney SE = +14m.45s. Adelaide iS = +15m.24s. Melbourne i = +12m.56s. = SR_1 − 25s. and +15m.22s. Tashkent eSR_2 = +34m.45s.? Baku e = +28m.38s.

Dec. 31d. Readings also at 0h. (Tananarive), 2h. (Georgetown and Andijan), 4h. (Ekaterinburg, Baku, and near Kobe), 6h. (Taihoku), 9h. (Vladivostok and near Tananarive), 10h. (Irkutsk and Wellington), 12h. (La Paz), 13h. (Vladivostok), 16h. (Adelaide, Melbourne, Riverview, Vienna, Irkutsk, Apia, Wellington, and near Suva), 17h. (Florissant, Ekaterinburg, and Pulkovo), 19h. (Andijan and near Irkutsk), 20h. (St. Louis, Santiago, La Paz, La Plata, and Rio de Janeiro), 21h. (St. Louis), 22h. (Riverview).

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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