FORM 2717.

AIR MINISTRY, METEOROLOGICAL OFFICE, LONDON.

KEW OBSERVATORY, RICHMOND, SURREY, ENGLAND.

SEISMOLOGICAL BULLETIN FOR JANUARY 1928.

Lat. 51° 28′ 6″ N, Long. 0° 18′ 47″ W, Height above M.S.L. 5m.

LITHOLOGIC FOUNDATION : RIVER GRAVEL RESTING ON LONDON CLAY.

INSTRUMENTS : GALITZIN APERIODIC SEISMOGRAPHS, PHOTO-GALVANOMETRIC REGISTRATION, THREE COMPONENTS.

CONSTANTS : FOR NOTATION SEE FÜRST B. GALITZIN "VORLESUNGEN ÜBER SEISMOMETRIE" (LEIPZIG, 1914) OR G. W. WALKER "MODERN SEISMOLOGY" (LONDON, 1913).

COMPONENT.	DATE FROM WHICH CONSTANTS APPLY.	GALVANOMETER FREE PERIOD T_1 (SEC).	PENDULUM FREE PERIOD T (SEC).	DAMPING CONSTANT $\mu 2$	$Ak/\pi L$ (SEC)$^{-1}$
N	3rd. AUG. 1927	24·68	24·78	+0·014	46·5
E	4th. AUG. 1927	24·80	23·90	+0·117	41·2
Z	17th. AUG. 1927	13·04	12·7	−0·35	115.

TIME SERVICE : MINUTE TIME-MARKS ARE MADE ELECTROMAGNETICALLY BY CONTACT CLOCK (MORRISON); TIME COMPARISONS ARE MADE DAILY WITH SIGNALS FROM GREENWICH OBSERVATORY. SEISMOMETRIC READINGS CAN BE DETERMINED TO THE NEAREST SECOND.

DATE.	PHASE.	G.M.T. HR.	G.M.T. MIN.	G.M.T. SEC.	PERIOD. SEC.	AMPLITUDE. An μ	AMPLITUDE. Ae μ	AMPLITUDE. Az μ	Δ KM.	REMARKS.
JAN. 1.	eL	0	38							
	F	1	10							
JAN. 1.	eP_z	9	38	15					9230	Epicentre (from St. Louis, Tucson and Kew data) = 15°N, 98°.5W; off Southern Coast of Mexico.
	iPR_z		41	27						
	eS_E		48	37						
	$L_{N,E}$	10	7							
	L_z		10							Records interrupted between 9^h54^m and 10^h1^m, owing to changing of charts.
	$M_{N,E}$		16		18					
	F		40							
JAN. 3.	$Tr._z$	16	27							
	F		37							
JAN. 4.	eL	0	16							
	F		35							
JAN. 4.	$eL_{N,E}$	22	(27)							
	M_1		39	48	21		−9			
	M_2		40	39	21	+12				
	F	23	35							
JAN. 5.	Tr.	14	34							Disturbed by wind and microseisms.
	F		50							
JAN. 6.	eP_z	19	42	1					6890	Compression.
	$m_{N,E}$		42	10		+3·3*	−3·0*	+		*mm. on trace.
	e_z		42	44						Azimuth = 134° ±2° E of N, giving epicentre :- 0° (±·5) S, 39° (±1°) E near Mount Kenya.
	$ePR_{1,z}$		44	9						
	e_N		50	13						
	$iS_{E,z}$		50	24						
	$SR_{N,E}$		55							
	$L_{N,E}$		59							
	L_z	20	5							

R707, 24265, 85, 2/28.

Malby & Sons, T.to S.

FORM : 3718.

KEW OBSERVATORY, RICHMOND, SURI

SEISMOLOGICAL BULLETIN.

JANUARY 1928

DATE.	PHASE.	G.M.T. HR.	G.M.T. MIN.	G.M.T. SEC.	PERIOD. SEC.	AMPLITUDE. An μ	AMPLITUDE. Ae μ	AMPLITUDE. Az μ	△ KM.	REMARKS.
JAN. 6. (cont'd)	M_1	20	5	5	22	+55				
	M_2		5	7	22		+64			
	M_3		8	16	20	+62				
	M_4		10	7	14		+68			
	M_5		11	34	16	-74				
	M_6		11	52	14			-64		
	L_2	22	3							
	F		50							
JAN. 10.	eL N,E	2	53							Earlier phases masked by microseisms.
	eL Z		58							
	M_1	3	4	16	12		+13			
	M_2		5	16	16	+13				
	M_3		5	28	13			-13		
	F		30							
JAN. 12.	eL	13	59							
	M_1		7	53	20		+15			N record disturbed by wind.
	M_2		8	7	18			-15		
	F		35							
JAN. 14.	e N	0	19	13						Extremely small movements. Felt in Belgium (according to press). Second shock felt also in Berkshire.
	e E		19	42						
	F		?							
JAN. 14.	i_E	4	10	32						
	F		?							
JAN. 17.	eL	8	20							
	F		30							
JAN. 18.	—									No records from 10^h15^m to 10^h35^m
JAN. 18.	eL	13	9							
	F		30							
JAN. 20.	eL	0	0							
	F		50							
JAN. 21.	—									No records from 9^h54^m to 10^h45^m
JAN. 24.	Tr.	7	45							Disturbed by wind.
	F		55							
JAN. 26.	eL	22	40							
	F	23	10							
JAN. 27.	eL	23	10							
	F		25							
JAN. 29.	Tr. L	0	49							Disturbed by microseisms.
	F	1	0							
JAN. 30	eL N,E	4	5							
	eL Z		12							
	M		16-18		18					
	F		55							

F. J. W. Whipple
Supt.
3. 2. 1928.

FORM : 3717.

AIR MINISTRY, METEOROLOGICAL OFFICE, LONDON.

KEW OBSERVATORY, RICHMOND, SURREY, ENGLAND.

SEISMOLOGICAL BULLETIN FOR FEBRUARY 1928.

Lat. 51° 28′ 6″ N, Long. 0° 18′ 47″ W, Height above M.S.L. 5m.*

LITHOLOGIC FOUNDATION : RIVER GRAVEL RESTING ON LONDON CLAY.

INSTRUMENTS : GALITZIN APERIODIC SEISMOGRAPHS, PHOTO-GALVANOMETRIC REGISTRATION, THREE COMPONENTS.

CONSTANTS : FOR NOTATION SEE FÜRST B. GALITZIN "VORLESUNGEN ÜBER SEISMOMETRIE" (LEIPZIG, 1914) OR G. W. WALKER "MODERN SEISMOLOGY" (LONDON, 1913).

COMPONENT.	DATE FROM WHICH CONSTANTS APPLY.	GALVANOMETER FREE PERIOD T_1 (SEC).	PENDULUM FREE PERIOD T (SEC).	DAMPING CONSTANT μ^2	$Ak/\pi L$ (SEC)$^{-1}$
N	3rd. AUG. 1927	24·68	24·78	+0·014	46·5
E	4th. AUG. 1927	24·80	23·90	+0·117	41·2
Z	17th. AUG. 1927	13·04	12·7	−0·35	115.

TIME SERVICE : MINUTE TIME-MARKS ARE MADE ELECTROMAGNETICALLY BY CONTACT CLOCK (MORRISON); TIME COMPARISONS ARE MADE DAILY WITH SIGNALS FROM GREENWICH OBSERVATORY. SEISMOMETRIC READINGS CAN BE DETERMINED TO THE NEAREST SECOND.

DATE.	PHASE.	G.M.T. HR.	G.M.T. MIN.	G.M.T. SEC.	PERIOD. SEC.	AMPLITUDE. An μ	AMPLITUDE. Ae μ	AMPLITUDE. Az μ	Δ KM.	REMARKS.
Feb. 3.	i_z (P)	13	56	52						Dilatation. Disturbed by microseisms and wind.
	e_E	14	7·2							
	e_N		8·7							
	$L_{N,E}$		15							
	L_z		19							
	M_1		18	45	20		+19			
	M_2		23	21	14	+12				
	M_3		25	23	13.			+12		
	F		45							
Feb. 4.	$eL_{N,E}$	7	5							
	L_z		12							
	M		21-22		23					
	F		50							
Feb. 6.	$eL_{N,E}$	4	42							Disturbed by microseisms. Traces on z component.
	M		50	28	24	+19	-17			
	F	5	20							
Feb. 7.	e_E P	0	15							Disturbed by microseisms. Strasbourg, Phu-lien and Helwan data indicate epicentre near 0°·55, 87·5E. (Indian Ocean)
	e_E (S)		25	22						
	e_N (S)		25	43						
	i_E (PS)		26	57						
	i_E SR$_1$		32	4						
	$e_{N,E}$		40·8							
	L_E		48							
	L_z		52							
	M_1		59	0	19	+27				
	M_2	1	1	29	16			+20		
	M_3		5	1	18		-25			
	F	2	5							

R725, 26835, 1745.85.3/28

Malby & Sons, T to S.

FORM : 3718.

KEW OBSERVATORY, RICHMOND, SURREY, ENGLAND.

SEISMOLOGICAL BULLETIN. FEBRUARY 1928.

DATE.	PHASE.	G.M.T.			PERIOD.	AMPLITUDE.			Δ	REMARKS.
						An	As	Az		
		HR.	MIN.	SEC.	SEC.	μ	μ	μ	KM.	
Feb. 10.	(i_z P)	4	50	42					(8880)	Dilatation.
	iS_E	5	0	46						Jesuit Seis. Assoc. gives
	$L_{N,E}$		17							tentative epicentre :-
	M		23		27					Mexico, 19°.8N, 98°.5W.
	F		45							
Feb. 13.	Tr. z	6	3							
	$e_{N,E}$		8							
	$L_{N,E}$		30							
	F		45							
Feb. 17	Tr.	23	39							
	F		50							
Feb. 19.	Tr.	22	31							
	F		37							
Feb. 21	e_z P	19	59	(24)					(6750)	P confused by micro-seisms.
	$iS_{N,E}$	20	7	40						
	$L_{N,E}$		18							Epicentre (according to
	M_1		26	11	20	+18				Strasbourg) = 65°N. 150°E,
	M_2		30	38	19		+20			Siberia.
	M_3		32	45	18		+13			
	M_4		33	49	20	+19				
	M_5		36	51	15			+16		
	M_6		38	0	19	-22				
	F	21	40							
Feb. 23	Tr.	10	19							
	F		22							
Feb. 24	eL	14	39							
	M		58		19					
	F	15	40							
Feb. 25.	$eL_{N,E}$	11	50							
	eL_z	12	6							
	F		30							
Feb. 25	$i_z(e_E)$	17	32	36						Extremely small. Probably a near shock.
	F		?							
Feb. 26	e_z P	1	29	28					6870	Probably a repetition of the shock of Feb. 21.
	$eS_{N,E}$		37	50						
	$L_{N,E}$		48							
	M_1		55	27	19	+ 9				
	M_2	2	1	41	20		+11			
	M_3		5	35	18		+10			
	M_4		6	49	18	+15				
	M_5		6	54	18			-11		
	F	3	10							

KEW OBSERVATORY, RICHMOND, SU[illegible]ENGLAND.

SEISMOLOGICAL BULLETIN.

.....FEBRUARY 1928

DATE.	PHASE.	G.M.T. HR.	MIN.	SEC.	PERIOD. SEC.	AMPLITUDE. An μ	Ae μ	Az ° μ	△ KM.	REMARKS.
Feb. 28.	$eL_{N,E}$	2	58							
	eL_Z	3	5							
	F		15							
Feb. 28.	eL	10	5							
	F		35							
Feb. 29.	$eL_{N,E}$	23	15							
	eL_Z		21							
	M		28	49	21	+7				
(Mar. 1.)	F	0	5							
	Addition to Bulletin for January 1928									
Jan. 1.	e_Z P	18	54	37						
	e_E	19	6·3							
	L		12.							
	F		25.							

T. H. W. Shipley
Supt.
6. 3. 28

FORM : 3717.

AIR MINISTRY, METEOROLOGICAL OFFICE, LONDON.

KEW OBSERVATORY, RICHMOND, SURREY, ENGLAND.

SEISMOLOGICAL BULLETIN FOR MARCH 1928.

Lat. 51° 28′ 6″ N, Long. 0° 18′ 47″ W, Height above M.S.L. 5m.

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COMPONENT.	DATE FROM WHICH CONSTANTS APPLY.	GALVANOMETER FREE PERIOD T_1 (SEC).	PENDULUM FREE PERIOD T SEC.	DAMPING CONSTANT μ^2	A_k / T_L (SEC.$^{-1}$)
N	3rd. AUG. 1927	24·68	24·78	+0·014	46·5
E	4th. AUG. 1927	24·80	23·90	+0·117	41·2
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TIME SERVICE : MINUTE TIME-MARKS ARE MADE ELECTROMAGNETICALLY BY CONTACT CLOCK (MORRISON). TIME COMPARISONS ARE MADE DAILY WITH SIGNALS FROM GREENWICH OBSERVATORY. SEISMOMETRIC READINGS CAN BE DETERMINED TO THE NEAREST SECOND.

DATE.	PHASE.	G.M.T. HR.	G.M.T. MIN.	G.M.T. SEC.	PERIOD. SEC.	AMPLITUDE. An μ	AMPLITUDE. Ae μ	AMPLITUDE. Az μ	KM.	REMARKS.
MAR. 4.	$eL_{N,E}$	21	47							Traces on Z component
	F	22	15							
MAR. 7	T_T	10	12							
	F		20							
MAR. 7	iP	10	59	7		+1·95*	−1·2*	+3·3*	1990	*mm. on chart. Compression. Felt in South of Italy. Azimuth = 145° ± 3°, giving epicentre near 37°N, 13°E. (Strasbourg gives 38·5N, 16°E)
	i		59	30						
	iS_Z	11	2	29						
	iS_N		2	31						
	$L_{N,E}$		3·6		(39)					
	L_Z		4·5							
	M_1		5	52	22	−18				
	M_2		7	45	16	−15	+23			
	M_3		7	48	15			−2?		
	F		35							
MAR. 7	e_Z (P)	22	54							
	e_E	23	3	31						
	e_N		11	17						
	$L_{N,E}$		18							
	M_1		20	40	23	−12	+11			
	M_2		26	7	14	−11				
	M_3		26	35	12		−11			
	M_4		26	39	12			+9		
	M_5		27	22	17		−15			
	M_6		31	4	14	+13				
8	F	0	15							
MAR. 8	eL	18	44							
	F	19	5							
MAR. 8	eL	1	17							
	F		35							

P134,758,S6,90,4.28.M&S

KEW OBSERVATORY, RICHMOND, SURRE

SEISMOLOGICAL BULLETIN.

MARCH 1928

DATE.	PHASE.	G.M.T. HR.	MIN.	SEC.	PERIOD. SEC.	AMPLITUDE. An μ	Ae μ	Az μ	△ KM.	REMARKS.
MAR. 9	e_z	11	12							
	e		23							
	L_{NE}		48							
	L_z		56							
	F	12	15							
MAR. 9	ePz	18	18	35					9910	Indian Ocean.
	iPz		18	43						According to Strasbourg — epicentre: 1°S., 89°.5 E and O = 18h 5m 15s.
	PR_1 e_z		21	58						
	PR_1 e_N		22	7-9						Bombay gives P 18h 11m 8s, S 18h 15m 51s, △ 3000 km.
	PR_1 i_z		22	16						
	$i_z PR_2$		24	19						
	$[S]_E$		29	7						Gutenberg ScPcS.
	iS_N		29	29						
	PS_{zE}		30	46						Very large on E comp^t.
	SR_{1E}		35	33						
	SR_{1N}		35	39						
	SR_{2N}		39	19						
	L_N		43							
	L_z		51	10						
	M_1		58	4	21	-162				
	M_2	19	3	23	18		+131			
	M_3		3	27	18			-99		
	M_4		4	35	20	(-350)				Just off edge of chart
	M_5		5	22	19		+202			
	M_6		5	28	18			-176		
	M_7		6	1	19	+234				
	M_8		6	54	18		-146			
	M_9		8	48	17			-176		
	M_{10}		8	52	18		(-225)			In time-break
	M_{11}		9	55	20	+214				
	M_{12}		10	22	17			+118		
	F	22	25							
MAR. 10	eL	4	7							
	F		30							
MAR. 11	Tr.	8	0							
	F	9	0							
MAR. 12	eL	17	47							
	F	18	10							
MAR 13	eL	2	30							
	F		50							
MAR. 13.	e_z (P)	18	50	52					(7480)	Confused by microseisms
	e_E		51	48						
	e_{NE} (PR)		54	12-14						
	e_N (S)		59	46						
	e_E (PS)	19	1	0						
	e_z (SR_1)		7	(31)						
	e_N		12							

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KEW OBSERVATORY, RICHMOND, SURREY, ENGLAND.

SEISMOLOGICAL BULLETIN.

MARCH 1928

DATE.	PHASE.	G.M.T. HR.	MIN.	SEC.	PERIOD. SEC.	AMPLITUDE. An μ	Ae μ	Az μ	△ KM.	REMARKS.
MAR. 13 contd.	L_{NE}	19	30							
	L_z		36							
	M_1		34	39	35		-13			
	M_2		40	27	25	+12				
	F	20	50							
MAR. 16	e_z [P']	5	20	51					(16600)	South Pacific Ocean.
	i_z [P']		20	57						Strasbourg gives –
	e_{NE}		21	0						22°.5S., 171°E.
	i_z		24	12						0. 5h 0m 51s
	i_{NZ} PR,		24	40						
	e_z (PR_2)		28	17						
	i_N		31	17-19						
	e_N		34	48						
	i_E (SR_1)		43	53	--	--	--	--	--	Large oscillation.
	e_N		46							
	(e_N SR_2)		49.1							
	L_N	6	3	37						
	L_E		4	51						
	L_Z		12.8							
	M_1		21	57	25		+84			
	M_2		26	46	22		+95			
	M_3		26	53	23	-100				
	M_4		28	21	22		-114			
	M_5		28	56	21	+108				
	M_6		29	31	20			+135		
	M_7		32	0	20	+101				
	M_8		32	5	19			-85		
	M_9		34	8	18			-19		
	M_{10}		35	56	20		+84			
	Le_z		(41)							
	$W_{2,1}$		54	4	18			+76		
	$W_{2,2}$		54	19	18	+82				
	$W_{2,3}$		57	24	18	+86				
	$W_{2,4}$		57	26	18			+97		
	$W_{2,5}$		58	37	17		+76			
	$W_{2,6}$	7	2	3	16		-63			
	F	10	30							
MAR. 17	e_L	15	20							
	F		30							
MAR. 17	e_N	19	50	30						Very small; probably near.
	e_E		50.9							
	e_z		52.1							
	F		55							
MAR. 18	e	3	22	(2)						
	L	4	14							
	F	5	15							
MAR. 18	e_z	12	(19)	4						Very small; probably near. N and E compts. disturbed by wind.
	F		22							

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KEW OBSERVATORY, RICHMOND, SURREY, ENGLAND.

SEISMOLOGICAL BULLETIN.

MARCH 1928

DATE.	PHASE.	G.M.T. HR.	MIN.	SEC.	PERIOD. SEC.	AMPLITUDE. An μ	Ae μ	Az μ	△ KM.	REMARKS.
MAR. 18	eL_Z	13	24							N and E compts. disturbed by wind.
	F	14	0							
MAR. 18	e_N	23	56·8							Very small; probably near.
	e_Z		57	11						
	F		59							
MAR. 22	iP_{EZ}	4	29	17		-1·9*	+6·0*	+9·5*	9190	* mm on chart.
	$PR_{1\,EZ}$		32	9						Compression.
	$PR_{2\,E}$		33	36						Azimuth : 285°, giving epicentre 15°N., 97°·5W.
	iS_N		39	37						
	iS_E		39	40						Felt in Mexico.
	iS_Z		39	43						
	PS_Z		40	27						Strasbourg gives - 19°N., 95°·5W. and O. $4^h\,16^m\,53^s$.
	SR_1		44·3							
	SR_2		49·0							
	L_N		52							Bombay gives -
	L_{EZ}		55	17						P $4^h\,36^m\,37^s$
	M_1		55	21	29	+144				S $4^h\,50^m\,1^s$
	M_2		56	56	32		+316			△ 13900
	M_3		57	53	25	+173				
	M_4	5	0	5	24		+348	- -	- - - - -	Negative maximum is off the chart
	M_5		0	9	24	-198				
	M_6		0	14	23			+334		
	M_7		3	6	21	+274				
	M_8		5-7		18		>360	- - -	- - - - -	Negative and positive maxima off chart.
	M_9		6	17	19			+580	- - - - -	Negative maximum is off the chart.
	M_{10}		7	39	18	-147				
	M_{11}		15	10	16			+143		
	M_{12}		15	15	17		-160			
	F	8	40							
MAR. 23	eL	21	25							
	F	22	5							
MAR. 26	e(P)	5	45	50					(7730)	
	e(S)		54	54						
	L	6	19							
	M_1		36	24	20	+12				
	M_2		36	41	18			+12		
	M_3		36	44	19		+8			
	F	7	15							
MAR. 26	eL_{NE}	7	35							Traces on Z compt.
	M		46							
	F	8	15							
MAR 26	eL	9	0							
	F		45							

FORM : 3718.

KEW OBSERVATORY, RICHMOND, SURREY, ENGLAND.

SEISMOLOGICAL BULLETIN. MARCH 1928

DATE.	PHASE.	G.M.T. HR.	MIN.	SEC.	PERIOD. SEC.	AMPLITUDE. An μ	Ae μ	Az μ	Δ KM.	REMARKS.
MAR. 26	(e P_2)	14	43	1					(1020)	? Compression.
	(eS_{NE})		44	51						Probably same epicentre
	L		45	52						as for following shock.
	M_1		46	16	12	+17				
	M_2		46	18	15		+8			
	M_3		46	27	10			+7		
	F		55							
MAR. 27	iP	8	34	56		-0.7*	+1.2*	—	1050	*mm on chart.
	iS_{NE}		36	49						Dilatation.
	i_Z(S)		36	54						Azimuth : 117°±3°, giving
	L_{NE}		37	36						epicentre 47°N, 12°E., in
	M_1		38	16	12	+96	+55			Carinthian Alps.
	M_2		38	50	13		-66			Destructive in N.E. Italy.
	M_3		39	13	8			+67		
	M_4		39	17	8	-112				
	F	9	25							
MAR. 27	e_{NE}(S)	19	31	9						
	L		59							
	M	20	3		24					
	F		40							
MAR. 29	iP_2	5	18	19					8980	Compression.
	iS_{NE}		28	24						S very sharp and large
	iSR_1		31	22						
	iSR_2		34	36						
	L		51							
	M_1		56	44	22		+14			
	M_2	6	0	38	17	-8				
	F		40							
MAR. 31	iP	0	35	2		+0.85*	-1.1*	+	2600	*mm. on chart.
	S		39	15						Compression.
	i_N		40	21						Azimuth = 124°±3° giving
	i_E		40	34						epicentre ca. 36°N, 24°E.
	L_{NE}		40·8							Destructive near Smyrna.
	L_Z		43	19						
	M_1		43	32	13	+260				
	M_2		43	39	12			+60		
	M_3		44	11	(18)	+102	+96			
	M_4		45	6	10		+135			
	M_5		45	8	11			-135		
	F	2	0							
MAR. 31.	e_E	5	21	57						Very small. Probably a
	L_N		24·6							repetition of preceding
	M_N		25·8							shock.
	F		33							

R. L. Watson,
for Supt.
5:4:28.

FORM : 3717.

AIR MINISTRY, METEOROLOGICAL OFFICE, LONDON.

KEW OBSERVATORY, RICHMOND, SURREY, ENGLAND.

SEISMOLOGICAL BULLETIN FOR APRIL 1928

Lat. 51° 28′ 6″ N, Long. 0° 18′ 47″ W, Height above M.S.L. 5m.

LITHOLOGIC FOUNDATION : RIVER GRAVEL RESTING ON LONDON CLAY.

INSTRUMENTS : GALITZIN APERIODIC SEISMOGRAPHS, PHOTO-GALVANOMETRIC REGISTRATION, THREE COMPONENTS.

CONSTANTS : FOR NOTATION SEE FÜRST B. GALITZIN "VORLESUNGEN ÜBER SEISMOMETRIE" (LEIPZIG, 1914) OR G. W. WALKER "MODERN SEISMOLOGY" (LONDON, 1913).

COMPONENT.	DATE FROM WHICH CONSTANTS APPLY.	GALVANOMETER FREE PERIOD T_1 (SEC).	PENDULUM FREE PERIOD T (SEC).	DAMPING CONSTANT μ^2	$Ak/\pi L$ $(SEC)^{-1}$
N	3rd. AUG. 1927	24·68	24·78	+0·014	46·5
E	4th. AUG. 1927	24·80	23·90	+0·117	41·2
Z	17th. AUG. 1927	13·04	12·7	-0·35	115

TIME SERVICE : MINUTE TIME-MARKS ARE MADE ELECTROMAGNETICALLY BY CONTACT CLOCK (MORRISON) ; TIME COMPARISONS ARE MADE DAILY WITH SIGNALS FROM GREENWICH OBSERVATORY. SEISMOMETRIC READINGS CAN BE DETERMINED TO THE NEAREST SECOND.

DATE.	PHASE.	G.M.T. HR.	MIN.	SEC.	PERIOD. SEC.	AMPLITUDE An μ	Ae μ	Az μ	Δ KM.	REMARKS.
APR. 1	eL	18	59							
	F	19	8							
APR. 2/3	eL	23	50							
	F	0	10							
APR. 3	eL_E	17	12							
	M		15	58	19		-15			
	F		40							
APR. 7	e_Z	20	53							
	L	21	4							
	M_N		9		23					
	F		30							
APR. 9	e_Z ScPcS	17	57	34					(9700)	Z compt. record defective before 17h 53m.
	e_E S		57	53						No N compt. record.
	i_{EZ} PS		58	58						
	(SR_1)	18	4·2							Felt in PERU. Jesuit
	(SR_2)		7·6							Seis. Assoc. gives
	L_E		13		28					12°·4 S, 69°·6 W.
	L_Z		16							
	M_1		20	10	23		+34			
	M_2		21	59	20		+36			
	M_3		22	4	20			+41		
	M_4		24	6	18		+33			
	M_5		24	10	18			+41		
	F	19	45							
APR. 10	Tr.	1	16							
	F		22							
APR. 12.	eL	18	57							
	F	19	35							

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Malby & Sons, Ttos.

SEISMOLOGICAL BULLETIN.

APRIL 1928

DATE.	PHASE.	G.M.T. HR.	G.M.T. MIN.	G.M.T. SEC.	PERIOD. SEC.	AMPLITUDE. An μ	AMPLITUDE. Ae μ	AMPLITUDE. Az μ	△ KM.	REMARKS.
APR. 13/14	ePz	23	28	33					9030	Small disturbance.
	eSE		38	45						Jesuit Seis. Assoc. gives
	LNE		57							13°N., 95°W.
	F	0	40							(South of Mexico)
APR. 14	iP	9	4	32		-3.0mm	+8.5mm	-5.3mm	2290	Dilatation.
	iS		8	20						Destructive in Bulgaria
	LN		9	25	(38)					(Chirpan etc.)
	LEZ		10.4							Azimuth = 107°±2°, giving
	M1		10.9		(19)	>280*				epicentre near 42°N 27°E.
	M2		12	0	10			+265†		
	M3		12-13		(15)	>270*	>320*			
	M4		13.1		10			>320*		*Both positive and negative
	M5		14.6		(15)		>340*			maxima off the charts.
	M6		15	11	10			+320†		† negative maxima off
	M7		15	40	13		+230†			the charts.
	M8		16	22	12	+260†				
	M9		16	44	10			+330†		
	F	11	0							
APR. 14	ePz	10	32	14					2410	Probably a repetition of
	eSE		36	12						preceding shock.
	F		?							Overlapped.
APR. 16	TrL	9	29							
	F		40							
APR. 17	iPz	3	37	27					8760	Compression.
	iz		37	57						Felt in Mexico.
	iSE		47	25						Jesuit Seis. Assoc. give
	iE		47	46						tentative epicentre -
	eSRIE		52.5							16°2N., 95°6W.
	eN		59.3							
	LEZ	4	3.6		38					
	M1		4	17	33		+38			
	M2		5	10	32	+18				
	M3		11	15	21	+7				
	M4		11	29	20		+22			
	M5		11	33	20			+29		
	F	5	5							
APR. 17	Tr.	5	58							
	F	6	5							
APR. 18	eLN	4	28							Traces on E and Z compts.
	F		30							
APR. 18	ePz	19	27	21					2200	Dilatation. Destructive
	iPNEZ		27	23		-2.8mm	+6.0mm	-4.0mm		in Bulgaria (Philippopolis etc)
	iS		31	1						Azimuth = 112°±2°, giving
	LN		32.2		(38)					epicentre near 41°5N, 24°E.
	LE		32.4							

SEISMOLOGICAL BULLETIN.

DATE.	PHASE.	G.M.T. HR.	MIN.	SEC.	PERIOD. SEC.	AMPLITUDE. An μ	Ae μ	Az μ	Δ KM.	REMARKS.
APR. 18 (contd.)	M_1	19	33-35		(16)	>300*				* Both positive and negative maxima off the charts.
	M_2		34	20	16		(-340)			
	M_3		34·7		12			>340*		
	M_4		35·3		(13)		>340*			
	M_5		36	10	8			+260		
	M_6		36·6		12	(300)				
	M_7		37·3		10		>370*			Telegram from Bombay gives :- P $19^h 31^m 32^s$ S-P 420 s. Δ 5200 km.
	M_8		37	27	11			-220		
	M_9		37	55	12	-240				
	M_{10}		39	10	11			-260		
	M_{11}		39	29	12		+260			
	F	22	0							
APR. 18	eL	22	27							? L_2 waves from preceding shock.
	M		47							
	F	23	10							
APR. 18	eP	23	19	22					2230	Probably a repetition of the shock at $19^h 27^m$.
	eS		23	5						
	$L_{N,E}$		24·9		(29)					
	M_1		26	1	16	+8				
	M_2		27	37	9			+6		
	M_3		27	39	12		+8			
	F		45							
APR. 19	T_r.	1	22							
	F		27							
APR. 19	—									No records from $4^h 0^m$ to $6^h 50^m$
APR. 19	T_r.	22	48							Probably repetitions from the Bulgarian epicentres.
	L_N		51							
	F		59							
APR. 20	eL_N	6	26							
	F		33							
APR. 22	e_E	5	15	56						Doubtful if seismic. No disturbance on N or Z compts.
	F		18							
APR. 22	e_Z	20	4·6							Probably a fore-shock of the following disturbance
	e		8·3							
	L		10·4							
	M		11	32	16					
	F		?							Overlapped.
APR. 22	iP	20	18	41		-0·35 mm	+0·65 mm	-1·0 mm	2350	Dilatation.
	i_Z		19	10						Destructive in Greece (Corinth etc.)
	iS		22	34						
	i_N		23	22						Azimuth = 115° ± 3°, giving epicentre near 39°5 N., 24°E
	L_N		24·7		(37)					
	M_1		25	54	20		+72			
	M_2		26	6	16	-210				
	M_3		27	14	10	+85				

FORM : 3718.

KEW OBSERVATORY, RICHMOND, SURREY, E

SEISMOLOGICAL BULLETIN.

APRIL 1928

DATE.	PHASE.	G.M.T. HR.	MIN.	SEC.	PERIOD. SEC.	AMPLITUDE. An μ	Ae μ	Az μ	△ KM.	REMARKS.
APR. 22. (contd.)	M_4	20	27	44	13		-69			
	M_S		28	8	10			+46		
	F	21	40							
APR. 24	eL	20	29							
	F		50							
APR. 24	e	0	40							Probably a repetition of Corinth earthquake of the 22nd APR.
	L		42·4							
	M_N		43·6		16					
	F	1	0							
APR. 25	iP_Z	9	30	30					2260	Compression.
	eS_{NE}		34	15						Probably a repetition from Bulgarian epicentre
	iS_Z		34	19						
	L		36							
	M_1		37·38		16	+9				
	M_2		38	57	12		+14			
	M_3		39	5	14			+15		
	F	10	0							
APR. 27	Tr. N	0	10							No Z compt. record.
	F		14							
APR. 27	eL	14	45							
	F		50							
APR. 27	eP_Z	20	47	40					(10000)	
	i_Z		47	59						
	e (ScPcS)		58	(15)						Very uncertain.
	e (S)		58	(44)						
	e (PS)		59	41						
	(SR_1)	21	5·4							
	(SR_2)		8·4							
	L		14							
	M_1		23	7	20	+19	+27			
	M_2		23	11	20			+31		
	F	22	45							
APR. 28	iP_Z	18	3	39					2240	Compression
	eS_N		7	22						
	L_N		9·2							
	M_N		11·2							
	F		30							
APR. 29	e_Z (P)	9	54	30					(2120)	Compression.
	e_{NS} (S)		58	(4)						
	L	10	0							
	M		1·5							
	F		15							

CORRECTION TO BULLETIN FOR MARCH 1928

FOR MAR. 18	i_Z	12	9	4						
READ MAR. 18	i_Z	12	19	4						

R. L. Watson
for Superintendent.
5:5:28.

FORM : 3717.

AIR MINISTRY, METEOROLOGICAL OFFICE

KEW OBSERVATORY, RICHMOND, SURREY, ENGLAND.

SEISMOLOGICAL BULLETIN FOR MAY 1928.

Lat. 51° 28′ 6″ N, Long. 0° 18′ 47″ W, Height above M.S.L. 5m.

LITHOLOGIC FOUNDATION : RIVER GRAVEL RESTING ON LONDON CLAY.

INSTRUMENTS : GALITZIN APERIODIC SEISMOGRAPHS, PHOTO-GALVANOMETRIC REGISTRATION, THREE COMPONENTS.

CONSTANTS : FOR NOTATION SEE FÜRST B. GALITZIN "VORLESUNGEN ÜBER SEISMOMETRIE" (LEIPZIG, 1914) OR G. W. WALKER "MODERN SEISMOLOGY" (LONDON, 1913).

COMPONENT.	DATE FROM WHICH CONSTANTS APPLY.	GALVANOMETER FREE PERIOD T_1 (SEC).	PENDULUM FREE PERIOD T (SEC).	DAMPING CONSTANT μ^2	$Ak/\pi L$ (SEC).$^{-1}$
N	3rd. AUG. 1927	24·68	24·78	+0·014	46·5
E	4th. AUG. 1927	24·80	23·90	+0·117	41·2
Z	17th. AUG. 1927 to 21st MAY. 1928	13·04	12·7	−0·35	115.

TIME SERVICE : MINUTE TIME-MARKS ARE MADE ELECTROMAGNETICALLY BY CONTACT CLOCK (MORRISON); TIME COMPARISONS ARE MADE DAILY WITH SIGNALS FROM GREENWICH OBSERVATORY. SEISMOMETRIC READINGS CAN BE DETERMINED TO THE NEAREST SECOND.

DATE.	PHASE.	G.M.T. HR.	G.M.T. MIN.	G.M.T. SEC.	PERIOD. SEC.	AMPLITUDE. An μ	AMPLITUDE. Ae μ	AMPLITUDE. Az μ	Δ KM.	REMARKS.
MAY 1	eL	1	7							
	F		40							
MAY 1	–									No records from 14h 5m to 14h 53m
MAY 1	eP_Z	19	5	0					6830	
	eS_N		13	20						
	SR_1		18							
	L		24							
	M		31		20					
	F	20	40							
MAY 2	eP	21	59	40						Destructive in Anatolia. Azimuth = 113° ± 3°, giving epicentre near 39°N, 27°E
	iP		59	42		+0·6 mm	−1·25 mm	+2·7 mm	2600	
	eS_N	22	3	53						
	eS_E		3	55						
	e_Z		4	3						
	L_N		5	46	(34)					
	M_1		7	54	17	+170				
	M_2		8	5	15		−37			
	M_3		8	42	12			−37		
	M_4		8	50	14	−49				
	F	23	15							
MAY 3	eL	1	37							
	F		45							
MAY 8	iP	4	56	53		+0·8 mm	−0·05 mm	−2·3 mm	7490	Dilatation. Azimuth = 356° ± 4°, giving epicentre near 61°N, 172°E (Behring Sea)
	$e_Z(PR_1)$		59	53						
	$e_Z(PR_2)$		1	31						
	eS_E		5	47						
	e_E		6	8						

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Malby & Sons Ltd S

FORM : 3718.

KEW OBSERVATORY, RICHMOND, SURREY, ENGLAND.

SEISMOLOGICAL BULLETIN. ..... MAY 1928

DATE.	PHASE.	G.M.T. HR.	G.M.T. MIN.	G.M.T. SEC.	PERIOD. SEC.	AMPLITUDE. An μ	AMPLITUDE. Ae μ	AMPLITUDE. Az μ	Δ KM.	REMARKS.
MAY 8 (contd.)	e_Z	4	6	25						
	$SR_{1\,E}$		9	23						
	L		15							
	F	6	0							
MAY 12	iP	20	37	22					5970	Compression.
	eS_{NE}		44	56						Azimuth slightly west of south
	e_Z (PS)		45	6						
	L_{NE}		55							
	M_E		57	36	15		+5			
	F	21	35							
MAY 14	eP_{EZ}	22	27	30					9480	Compression
	iP_Z		27	35		+0·2mm	+1·2mm	+		Azimuth : 259° ± 3°, giving
	i_Z		27	43						Epicentre near
	eS_E		38	4						3°S., 78°W.
	iS_N		38	21						
	e_E (PS)		39	8						Destructive in Peru (Chachapoyas) and in Ecuador.
	e_N		39	40						
	$SR_{1\,E}$		44·2							
	L_{NE}		52·4							
	M_1		54	8	36	+40				
	L_Z		57·4							
	M_2	23	1	18	23		−130			
	M_3		1	38	23			+120		
	M_4		2	30	21	−100				
	M_5		3	40	22		+110			
	M_6		4	7	21			+120		
MAY 15	F	2	40							
MAY 15	eP_Z	2	48	59					9220	Probably a repetition of preceding shock.
	iP_Z		49	5						
	eS_E		59	20						
	eS_N		59	33						
	L_{NE}	3	18·7							
	L_Z		18·9							
	M_1		21	38	24		+15			
	M_2		23	18	22	+9				
	F	4	35							
MAY 15	Tr_Z (P)	6	3·0							
	Tr_N (S)		12·9							
	L		39							
	F	7	35							
MAY 16	e_Z (P)	8	9	36					(9520)	N and E records disturbed by wind.
	e_{NE} (S)		20	12						
	L		39							
	M		42							
	F	9	5							

FORM : 3718.

KEW OBSERVATORY, RICHMOND, SURREY, ENGLAND.

SEISMOLOGICAL BULLETIN. MAY 1928

DATE.	PHASE.	G.M.T. HR.	G.M.T. MIN.	G.M.T. SEC.	PERIOD. SEC.	AMPLITUDE. An μ	AMPLITUDE. Ae μ	AMPLITUDE. Az μ	△ KM.	REMARKS.
MAY 17	eL	11	38							
	F		50							
MAY 17	Tr. L	12	4							
	F		12							
MAY 19	Tr.	0	13							
	F		16							
MAY 19	e_Z	4	5	5						
	L_{NE}		14							
	F		45							
MAY 19	eL	5	1							
	F		50							
MAY 19	–									No records from $9^h 21^m$ to $10^h 13^m$ (oiling clocks)
MAY 19	eL	10	13							
	M		27							
	F		45							
MAY 20	iP_Z	16	41	49					(9440)	Compression.
	e_{NE} (S)		52	21						Felt near Tokyo, (according to 'Press)
	L_{NE}	17	10							
	F		50							
MAY 21	–									$9^h 30^m$ to $17^h 30^m$ } No records.
MAY 22	–									$11^h 20^m$ to $15^h 40^m$ }
										Elinvar spring being fitted to vertical pendulum
MAY 24	eL_{NE}	6	14							No Z record.
	F		40							
MAY 26	e_N (S)	6	2							
	L_N		5.0							
	M		6-7							
	F		20							
MAY 27	e_E (S)	14	26.6							No Z record.
	L		46							
	F	15	0							
MAY 27	iP_Z	10	2	52		-1.75mm	-0.95mm	+	9190	Compression.
	iPR_1		6	7						Azimuth = 32° ± 3°
	ePR_2		8	8						giving epicentre near
	iS_{NE}		13	12						39°N., 136°E
	i_Z		13	28						(Sea of Japan)
	i_E (PS)		14	0						
	i_E (PPS)		14	22						Bombay gives (by telegram)
	iSR_{1E}		18	50						P $10^h 0^m 47^s$
	iSR_{2E}		22	7						S-P 504 s.
	L_{NE}		27							△ 6850 km.
	L_Z		33							
	M_1		33	21	34		-350			
	M_2		34	26	31	+160				

FORM : 3718.

KEW OBSERVATORY, RICHMOND, SURREY, ENGLAND.

SEISMOLOGICAL BULLETIN. MAY 1928

DATE.	PHASE.	G.M.T. HR.	MIN.	SEC.	PERIOD. SEC.	AMPLITUDE. An μ	Ae μ	Az μ	Δ KM.	REMARKS.
MAY 27 (contd.)	M_3	10	35	55	27		-300 *			*Positive maxima are off the charts.
	M_4		39	30	21	*	-250			
	M_5		39	59	21	-300				
	M_6		40	(43)	23	*		—		Values of Az cannot be given, pending a redetermination of the constants of the vertical pendulum
	M_7		42	2	21	-210				
	M_8		42	(8)	21			+		
	M_9		43	10	19		-150			
	M_{10}		44	(46)	17			+		
	L_2	12	2							
	W_2		10							
	F	14	10							
MAY 28	e_Z (P)	7	1							
	L		55							
	M	8	2							
	F	9	0							
MAY 28	ePNZ	15	48	10					9170	
	$ePR_{1,2}$		51	20						
	eS		58	29						
	$SR_{1\,E}$	16	3.8							
	$SR_{2\,E}$		7.1							
	L_{NE}		16							No Z record from 16h25m to 17h40m
	M_1		24	5	21		+12			
	M_2		26	46	24	+13				
	F	17	0							
MAY 30	e	20	7.5							
	F		14							
MAY 31	e_Z	7	38							
	L_{NE}	8	9							
	M		15							
	L		40							
MAY 31	e_Z	14	2							
	L		(35)							
	F	15	5							
MAY 31	Tg.L	22	1							
	F		10							
MAY 31	e	23	(50)							
JUNE 1	L	0	26							
	F	1	45							

CORRECTION TO BULLETIN FOR APRIL 1928

FOR APR. 24 READ APR. 25	e	0	40	etc.						
	e	0	40	etc.						

F.J.W.W.
6.VI.28.

FORM : S111.

AIR MINISTRY, METEOROLOGICAL OFFICE,

KEW OBSERVATORY, RICHMOND, SURREY, ENGLAND.

SEISMOLOGICAL BULLETIN FOR JUNE 1928.

Lat. 51° 28′ 6″ N, Long. 0° 18′ 47″ W, Height above M.S.L. 5m.

LITHOLOGIC FOUNDATION : RIVER GRAVEL RESTING ON LONDON CLAY.

INSTRUMENTS : GALITZIN APERIODIC SEISMOGRAPHS, PHOTO-GALVANOMETRIC REGISTRATION, THREE COMPONENTS.

CONSTANTS : FOR NOTATION SEE FÜRST B. GALITZIN "VORLESUNGEN ÜBER SEISMOMETRIE" (LEIPZIG, 1914) OR G. W. WALKER "MODERN SEISMOLOGY" (LONDON, 1913).

COMPONENT.	DATE FROM WHICH CONSTANTS APPLY.	GALVANOMETER FREE PERIOD T_1 (SEC).	PENDULUM FREE PERIOD T (SEC).	DAMPING CONSTANT $\mu 2$	$Ak/\pi L$ (SEC).$^{-1}$
N	13th JUNE 1928*	24·68	24·80	−0·009	46·9
E	18th JUNE 1928*	24·80	24·65	+0·020	43·3
Z	—	—	—	—	—

*Constants applying before these dates are given in preceding bulletin.

TIME SERVICE : MINUTE TIME-MARKS ARE MADE ELECTROMAGNETICALLY BY CONTACT CLOCK (MORRISON); TIME COMPARISONS ARE MADE DAILY WITH SIGNALS FROM GREENWICH OBSERVATORY. SEISMOMETRIC READINGS CAN BE DETERMINED TO THE NEAREST SECOND.

DATE.	PHASE.	G.M.T. HR.	MIN.	SEC.	PERIOD. SEC.	AMPLITUDE. An μ	Ae μ	Az μ	Δ KM.	REMARKS.
JUNE 1	Tr.L	9	8							
	F		16							
JUNE 1	e_Z	12	36·0							
	L	13	12							
	F		?							F overlapped by next shock.
JUNE 1	iP	13	24	51					9230	Compression.
	$PR_{1\,Z}$		28	(5)						
	iS		35	13						
	$SR_{1\,E}$		40	39						
	L_E		53·3							
	L_Z		58							
	M_1	14	0	48	21		+30			
	M_2		2	42	20		+28			
	M_3		3	31	22	+32				
	M_4		3	(50)	22			†		
	F_Z	15	45							
JUNE 1	Tr.L	15	55							
	F	16	20							
JUNE 1	eL	19	12							
	F		22							
JUNE 1	eL	22	53							
	F	23	10							
JUNE 3	Tr.L	4	0							
	F		25							

Malby & Sons T to 9

FORM : 3718.

KEW OBSERVATORY, RICHMOND, SURREY, ENGLAND.

SEISMOLOGICAL BULLETIN.

JUNE 1928

DATE.	PHASE.	G.M.T. HR.	MIN.	SEC.	PERIOD. SEC.	AMPLITUDE. An μ	Ae μ	Az μ	△ KM.	REMARKS.
JUNE 3	eP_Z	8	43	42					(9250)	
	eS_E		54	(5)						
	L_{NE}	9	16							
	M_1		21	34	18		+25			
	M_2		27	(2)	14					
	M_3		27	3	15	-40	-31			
	F	10	40							
JUNE 3	eL	22	57							
	F	23	15							
JUNE 5	$e_Z(P)$	6	8	16						
	L_{NE}		40							
	F	7	5							
JUNE 6	eL	20	26							
	F		50							
JUNE 7	Tr. L	3	58							
	F	4	10							
JUNE 7	Tr.	13	6							Damage at Corinth (according to press)
	F		10							
JUNE 8	e_Z	14	58	(58)						N and E components disturbed by wind.
	e_Z	15	0	31						
	L		(46)							
	F	17	0							
JUNE 13	e	8	1							Not very distant.
	F		4							
JUNE 14	Tr.	16	40							
	F	17	5							
JUNE 15	eL	4	56							
	F	5	10							
JUNE 15	eP	6	26	18					(11050)	Strasbourg gives epicentre S.W. of Manila, 13°.5 N., 118°E.
	PR_1		30	20						
	PR_2		33	(2)						
	iS_cP_cS		36	57						
	$e_N(S)$		38	1						
	e_Z PS		39	9						
	e_E(PPS)		40·3							
	$e_N SR_1$		44·7							
	$e_E SR_2$		49·0							
	$e_N SR_3$		53·7							
	L_{NE}	7	1							
	L_Z		6							
	M_1		5	42	26		-71			
	M_2		7	27	23	+100	-82			
	M_3		13	26	19		-64			

SEISMOLOGICAL BULLETIN.

..... 1940

DATE.	PHASE.	G.M.T. HR.	MIN.	SEC.	PERIOD. SEC.	AMPLITUDE. An μ	Ae μ	Az μ	△ KM.	REMARKS.
JUNE 15	M_4	7	16	41	19	+62				
cont.	M_5		16	(55)	18			+		
	F	9	25							
JUNE 15	e_Z (P)	17	30·7						(11000)	Probably a repetition of preceding shock.
	e_Z PR_1		34	38						
	L_{NE}	18	5							N and E components disturbed by wind.
	M_1		9	18	27	+55	-67			
	L_Z		10							
	M_2		12	57	21		+42			
	M_3		21	(32)	18			−		
	F	20	0							
JUNE 16	e_Z (P)	19	0							
	e_N (S)		9	59						
	L		30							
	F	20	5							
JUNE 17	$_gP$	3	31	49		-2·75 mm.	+7·85 mm.	+12·0 mm.	9280	Compression. Azimuth = 288° ± 1° giving epicentre near 16°N., 100°W. (off Pacific coast of Mexico).
	$_gPR_{1E}$		34	55						
	$_ePR_2$		37·3							
	$_gS_E$		42	13						
	SR_{1E}		47·3							
	SR_{2E}		51·5							
	L_N		58	16						Bombay telegraphs: P 3h 36m 0s; S-P = 816; △ = 14600
	L_E		58	27						
	L_Z		59·5							
	M_1		58	34	29	+215				
	M_2	4	0	9	30		+530†			† negative maximum off the edge of chart.
	M_3		3	(19)	24			+		
	M_4		3	33	25	+250				
	M_5		3-4		24		>440*			* positive and negative maxima off chart.
	M_6		7	24	21	+240				
	M_7		7	(44)	20			+		
	M_8		10-12		17		>340*			
	M_9		11	(22)	17			+		
	M_{10}		12	59	17	-220				
	F	8	40							
JUNE 17	$_gZ$	7	0	37						Overlapped by preceding disturbance. Traces of short period oscillations on N and E components.
	F		?							
JUNE 17	$_gP$ $_{EZ}$	22	33	27					9170	
	$_eS$ $_{NE}$		43	46						
	L_{NE}	23	0							
	M_E		10		18					
	F		35							

KEW OBSERVATORY, RICHMOND, SURRE

SEISMOLOGICAL BULLETIN.

JUNE 1928

DATE.	PHASE.	G.M.T. HR.	MIN.	SEC.	PERIOD. SEC.	AMPLITUDE. An μ	As μ	Az μ	△ KM.	REMARKS.
JUNE 17/18	iPEZ	23	37	8					9050	
	eSE		47	25						
	LNE	0	4							
	ME		14		18					
	F		45							
JUNE 18	eL	16	27							
	F		35							
JUNE 18	eL	22	55							
	F	23	10							
JUNE 20	eZ	4	5	45						
	eE		27·8							
	L	5	0							
	F	6	0							
JUNE 21	e[P']	10	59	54					(14000)	
	e(PR1)	11	1	36						
	eE		22·2							
	L		(41)							Very irregular long waves.
	M1	12	36	14	21	+16				
	M2		37	(2)	19			+		
	M3		39	4	18		-15			
	F	13	50							
JUNE 21	iP	16	37	58					7340	Compression.
	i		38	10						Azimuth slightly west of south.
	PR1 Z		40	24						
	PR2		41	47						Epicentre probably near Alaska.
	iS NE		46	44						
	iZ		46	58						
	iE(PS)		47	53						
	SR1 N		51·0							
	SR2 E		54	31						
	LNE		58							
	LZ	17	1							
	M1		1	41	25	-75				
	M2		3	49	20		+72			
	M3		7	30	19	+85				
	M4		7	(45)	18			+		
	M5		8	38	15		+60			
	M6		9	20	18	+80				
	L2	18	57							
	F	19	55							
JUNE 24	ePI	4	43	33					I (5570)	Probably two shocks, I and II.
	iPII		44	12					II (5690)	
	PR1 II		46	13						
	(SI)		50	46						
	(SII)		51	32						
	SR1		54	56						

SEISMOLOGICAL BULLETIN.

JUNE 1928

DATE.	PHASE.	G.M.T. HR.	G.M.T. MIN.	G.M.T. SEC.	PERIOD. SEC.	AMPLITUDE. An μ	AMPLITUDE. Ae μ	AMPLITUDE. Az μ	△ KM.	REMARKS.
JUNE 24 cont.)	L	5	2							
	M_N		5							
	M_E		9							
	F		20							
JUNE 25	eL	8	9							
	F		25							
JUNE 27	e	2	29							
	F		32							JUNE 29. No records from $9^h 20^m$ to $10^h 9^m$.
JUNE 29	eL	20	(40)							
	F	21	0							
JUNE 29/30	e_z [P']	23	9	(59)					(15500)	
	PR_1		13	27						
	SR_1		31.2							
	e_E		49.7							
	L		55							
	M_1	0	8	48			-44			
	M_2		10	(38)				–		
	M_3		12	52		+47				
	F	2	10							
	ADDITION TO BULLETIN FOR MAY 1928									
MAY 26	e_{NE}(S)	8	52	37						Part lost owing to changing of charts.
	L	9	(12)							
	F		35							

J. W. Whipple
5. 7. 28.

AIR MINISTRY, METEOROLOGICAL OFFICE

KEW OBSERVATORY, RICHMOND, SURREY, ENGLAND.

SEISMOLOGICAL BULLETIN FOR JULY 1928

Lat. 51 28 6 N, Long. 0 18 47 W, Height above M.S.L. 5m.

LITHOLOGIC FOUNDATION : RIVER GRAVEL RESTING ON LONDON CLAY.

INSTRUMENTS : GALITZIN APERIODIC SEISMOGRAPHS, PHOTO-GALVANOMETRIC REGISTRATION, THREE COMPONENTS.

CONSTANTS : FOR NOTATION SEE FÜRST B. GALITZIN "VORLESUNGEN ÜBER SEISMOMETRIE" LEIPZIG, 1914) OR G. W. WALKER "MODERN SEISMOLOGY" (LONDON, 1913.

COMPONENT.	DATE FROM WHICH CONSTANTS APPLY.	GALVANOMETER FREE PERIOD T_1 (SEC).	PENDULUM FREE PERIOD T (SEC).	DAMPING CONSTANT μ^2	$Ak/\pi L$ (SEC.)$^{-1}$
N	13th. JUNE 1928	24·68	24·80	−0·009	46·9
E	18th. JUNE 1928	24·80	24·65	+0·020	43·3
Z	———	———	———	———	———

TIME SERVICE : MINUTE TIME-MARKS ARE MADE ELECTROMAGNETICALLY BY CONTACT CLOCK (MORRISON); TIME COMPARISONS ARE MADE DAILY WITH SIGNALS FROM GREENWICH OBSERVATORY. SEISMOMETRIC READINGS CAN BE DETERMINED TO THE NEAREST SECOND.

DATE.	PHASE.	G.M.T. HR.	MIN.	SEC.	PERIOD. SEC.	AMPLITUDE. An μ	Ae μ	Az μ	Δ KM.	REMARKS.
JULY 1	e_Z	9	50	(52)						
	L	10	2							
	F		50							
JULY 1	Tr.	17	0							No Z record; N and E records disturbed by wind.
	F		30							
JULY 3	—									1^h45^m to 6^h25^m – no records (failure of electric current)
JULY 4	Tr.	12	29							
	F		32							
JULY 4	e_Z	18	4	6						
	L		30							
	F	19	0							
JULY 4	eL	22	31							
	F		50							
JULY 5	Tr.	3	40							N and E records disturbed by wind.
	F		?							
JULY 5	See page 3.									
JULY 6	eL	3	35							
	F		45							
JULY 7	iP_{EZ}	3	46	23					9320·	Compression.
	eS_E		56	49						
	L_{NE}	4	14							
	L_Z		20·4							
	F		45							
JULY 7	eP_Z	18	12	43					(9480)	
	e_E		22	51						
	$e_E(S)$		23	17						
	L_{NE}		43							
	L_Z		46							

P789.N&S.3600.7T.30.8/28.

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KEW OBSERVATORY, RICHMOND, SURREY, ENGLAND.

SEISMOLOGICAL BULLETIN.

JULY 1928

DATE.	PHASE.	G.M.T. HR.	MIN.	SEC.	PERIOD. SEC.	AMPLITUDE. An μ	Ae μ	Az μ	Δ KM.	REMARKS.
JULY 7 Cont.	M	18	47		25					
	F	19	20							
JULY 8	e_z (P)	12	8	30						
	L		40							
	F	13	0							
JULY 9	i_z (P')	21	45	31					>13000	Z record missing from $21^h 42^m$ to $21^h 44^m$; P probably arrived during this interval.
	$i_z e_{NE}$ (PR)		46	31						
	e_E		57	31						
	e_z		57	35						
	e_{NE} (SR$_1$)	22	3	38						
	e_E (SR$_2$)		8·4							
	L_{NE}		24							
	L_z		30							
	M_1		37	5	20		−10			
	M_2		42	11	24	+12				
	F	0	0							
JULY 10	eP_z	2	15	2					9150	
	eS_{NE}		25	20						
	L_{NE}		43							
	M		52		19					
	F	3	35							
JULY 11	e_z (P)	3	11	(0)						
	e_z (PR)		15·1							
	L	4	18							
	F	5	20							
JULY 13	e_z	9	56							
	L	10	25							
	F	11	10							
JULY 15	eP_z	9	38	43					2720	Destructive at Smyrna and Torbali.
	iP_z		38	47						
	eS_{NE}		43	5						
	eS_z		43	13						
	L_{NE}		455							
	L_z		47							
	M_1		47	13	13	+21				
	M_2		47	52	16		+8			
	M_3		48	(43)	12			+		
	F	10	15							
JULY 18	iP	19	17	51		+0·15 mm.	+0·65 mm.	+2·0 m.m.	9440	Compression.
	$iPR_{1,2}$		21	8						
	iS		28	23	...	...	...	...	---	This may be $S_c P_c S$
	i_{NE}		28	36	...	...	...	...	....	This may be S (giving Δ=9710)
	i_N } ? PS		29	17						Azimuth = 258° ± 5°, epicentre near 3°S., 77°W.; Chaccapoyas, Peru.
	i_E }		29	35						
	SR$_1$		34	21						

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KEW OBSERVATORY, RICHMOND, SURRI

SEISMOLOGICAL BULLETIN.

JULY 1928

DATE.	PHASE.	G.M.T. HR.	MIN.	SEC.	PERIOD. SEC.	AMPLITUDE. An μ	Ae μ	Az μ	Δ KM.	REMARKS.
JULY 18 Cont.	L_N	19	42·3							
	L_E		43·1							
	L_Z		48							
	M_1		50	44	23		-105			
	M_2		51	(24)	23			+		
	M_3		52	53	20	+57				
	M_4		54	45	19	-44				
	M_5		55	15	19		+72			
	M_6		55	(19)	19			+		
	F	23	0							
JULY 19	e_Z (P)	20	25	19						
	L		57							
	F	21	10							
									(7760)	
JULY 19/20	e_Z P	23	57	26						
	e_N S	0	6	(34)						
	L		29							
	M		36		22					
	F	1	25							
JULY 20	eL	18	4							
	F		50							
JULY 20	Tr.	19	58							
	F	20	2							
JULY 21	e_Z	2	59	27						
	L	3	40							
	F	4	25							
									9090	
JULY 22	eP_Z	7	40	35						
	eS_N		50	50						
	L	8	14							
	F	9	0							
JULY 23	e_Z	8	2	31						
	L	9	14							
	F	10	0							
JULY 23	Tr.	16	15							
	F		20							
JULY 26	eL	13	23							No E record.
	F		42							
JULY 29	e_Z	20	8							
	L		39							
	F	21	15							
JULY 29	Tr.	18	27							
	F		33							
JULY 30	e_Z	2	56·0							
	L	3	20							
	M		27		19					
	F	4	10							
JULY 31	eL	20	16							
	F		40							
JULY 5	Tr.	23	18							
	F		24							

J. W. Whipple.
Aug 4th 1928.

CORRECTION TO BULLETIN FOR JUNE 1928

FOR JUNE 20	e_Z	4	5	45	etc
READ JUNE 21	e_Z	4	5	45	etc

FORM : 3717.

AIR MINISTRY, METEOROLOGICAL OFFICE, LONDON.

KEW OBSERVATORY, RICHMOND, SURREY, ENGLAND.

SEISMOLOGICAL BULLETIN FOR AUGUST 1928

Lat. 51° 28′ 6″ N, Long. 0° 18′ 47″ W, Height above M.S.L. 5m.

LITHOLOGIC FOUNDATION : RIVER GRAVEL RESTING ON LONDON CLAY.

INSTRUMENTS : GALITZIN APERIODIC SEISMOGRAPHS, PHOTO-GALVANOMETRIC REGISTRATION, THREE COMPONENTS.

CONSTANTS : FOR NOTATION SEE FÜRST B. GALITZIN "VORLESUNGEN ÜBER SEISMOMETRIE" (LEIPZIG, (1914) OR G. W. WALKER "MODERN SEISMOLOGY" (LONDON, 1913).

COMPONENT.	DATE FROM WHICH CONSTANTS APPLY.	GALVANOMETER FREE PERIOD T_1 (SEC).	PENDULUM FREE PERIOD T (SEC).	DAMPING CONSTANT $\mu 2$	$Ak/-L$ (SEC)$^{-1}$
N	13th. JUNE 1928	24·68	24·8	−0·01	46·9
E	18th. JUNE 1928	24·80	24·7	+0·02	43·3
Z	21st. AUGUST 1928	13·04	14·2	+0·08	112

TIME SERVICE : MINUTE TIME-MARKS ARE MADE ELECTROMAGNETICALLY BY CONTACT CLOCK MORRISON ; TIME COMPARISONS ARE MADE DAILY WITH SIGNALS FROM GREENWICH OBSERVATORY. SEISMOMETRIC READINGS CAN BE DETERMINED TO THE NEAREST SECOND.

DATE.	PHASE.	G.M.T. HR.	G.M.T. MIN.	G.M.T. SEC.	PERIOD. SEC.	AMPLITUDE. An μ	AMPLITUDE. Ae μ	AMPLITUDE. Az μ	Δ KM.	REMARKS.
AUG. 1	(e_z)	19	12	39						
	L		55							
	F	20	5							
AUG. 1	e	20	32							
	F	21	5							
AUG. 2	e_L	7	20							
	F		35							
AUG. 3	e_z	7	20	16						
	L		30							
	F		50							
AUG. 3	eP_{NZ}	11	54	16					6100	
	iS_N, e_{EZ}	12	1	57						
	L		11·2							
	M		14	26	25	+10				
	F	13	10							
AUG. 4	e_z	4	24	54						
	e_{EZ}		27	12						
	F		29							
AUG. 4	e_z	7	23							N and E records disturbed by wind.
	L_z		29							
	F		40							
AUG. 4	iP_z	18	38	37		−1·4	+4·05	+6·2		Compression. Destructive in province of Oaxaca, Mexico.
	iP_E, e_N		38	38		mm on trace			9360	
	iPR_1		41	48						
	iS		49	5	...	...	...	...	...	? ScPcS
	L_E		49	22	...	...	...	...	...	? S.
	PS_Z		50	3						Azimuth = 288° ± 1°, giving epicentre near 15°N, 100° W.
	$SR_{1\,NE}$		53	41						

P. 733. 358. 90. 9/28. Malby & Sons T to S

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KEW OBSERVATORY, RICHMOND, SURREY, ENGLAND.

SEISMOLOGICAL BULLETIN.

AUGUST 1928

DATE.	PHASE.	G.M.T. HR.	MIN.	SEC.	PERIOD. SEC.	AMPLITUDE. An μ	Ae μ	Az μ	Δ KM.	REMARKS.
AUG. 4 Cont.	SR_2	18	59	2						
	i,,	19	0	16						
	e_N		1·8							
	L_{NE}		4·2							
	L_Z		7							
	M_1		11	40	22		−270			
	M_2		11	(46)	22			—		
	M_3		12	53	22	−145				
	M_4		15	11	21		+195			
	M_5		16	15	21	−93				
	M_6		20	27	18		+135			
	M_7		20	(30)	18			+		
	M_8		22	28	17			+		
	F	23	5							
AUG. 5	e_Z P or P'	14	55	18						
	e(ScPcS)$_{NE}$		5	54						
	e_{NE}		6	14						
	L		30							
	M		41		18					
	F	16	10							
AUG. 8	eL	3	10							
	F		35							
AUG. 10	iP_Z, e_{NE}	15	42	30					(4200)	
	iPR_{1Z}, e_E		43	46						
	eS_N		48·4							
	$eSR_{1\,NZ}$		50	(53)						
	L	16	(4)							Surface waves very small and irregular.
	F		45							
AUG. 12	e_Z	8	23·8							
	e_Z		27·9							
	e_{NE}		33	39						
	e_Z		37	6						
	e_N		43·4							
	L	9	(0)							Surface waves very small and irregular.
	F	10	0							
AUG. 15	e(S)	12	15	40						
	L		19							
	M		20	1	18	+3				
	F		30							
AUG. 15	P_Z, e_E	15	45	54					(4000)	
	e(S)		51·7							
	L		56·5							
	F	16	30							
AUG. 15	P_Z	17	28	8					8380	
	e_Z		30	21						
	iS		37	47						
	ePS_N		38	44						
	eSR_{1N}		42·7							
	eSR_{2N}		45	28						
	L_{NE}		52·5							
	F	18	40							

FORM : 3718.

KEW OBSERVATORY, RICHMOND, SURREY, ENGLAND.

SEISMOLOGICAL BULLETIN.

AUGUST 1928

DATE.	PHASE.	G.M.T. HR.	G.M.T. MIN.	G.M.T. SEC.	PERIOD. SEC.	AMPLITUDE. An μ	AMPLITUDE. Ae μ	AMPLITUDE. Az μ	△ KM.	REMARKS.
AUG. 16	eL	8	3							
	F		20							
AUG. 19	eP	2	24	28					(2110)	
	e(S)N		58	1						
	L		59							
	M	3	0							
	F		25							
AUG. 19	eL	4	30							
	F		40							
AUG. 20	eL	2	45							
	F	3	0							
AUG. 20	—									9h.50m to 11h.5m. } No records 13h.15m to 16h.0m. }
AUG. 21	eL	19	30							
	F		50							
AUG. 22	eL	7	17							
	F		30							
AUG. 23	e_Z	1	28	40						
	e_Z		30	44						
	i_{NE}		37	30						
	F		45							
AUG. 23	e(P)	4	13.3						(3800)	Felt in Persia.
	e(S)N		19.0							
	L		21							
	M		21	25	20	-7				
	F		40							
AUG. 23	e	6	35.1							
	F		40							
AUG. 24	eP_{NZ}	9	48	(5)					1910	Absolute times uncertain.
	eS_{NZ}		51	(20)						
	L_{NE}		52.2							
	M_1		53	(8)	13		-33			
	eL_Z		53.8							
	M_2		54	(33)	12	+16				
	M_3		54	(41)	11			-15		
	F	10	15							
AUG. 24	e_Z	22	2	38						
	e_{NE}		6	24						
	e_{NE}		25							
	L_{NE}		(36)							
	F	23	55							
AUG. 25	eL_{NE}	0	22							
	F		50							} No Z record.
AUG 25	eL_{NE}	2	30							
	F		50							
AUG. 25	eL	17	4							
	F		20							

FORM : 3718.

KEW OBSERVATORY, RICHMOND, SURREY, ENGLAND.

SEISMOLOGICAL BULLETIN.

AUGUST 1928

DATE.	PHASE.	G.M.T. HR.	G.M.T. MIN.	G.M.T. SEC.	PERIOD. SEC.	AMPLITUDE. An μ	AMPLITUDE. Ae μ	AMPLITUDE. Az μ	△ KM.	REMARKS.
AUG. 25	(e_z)	21	10							
	(eL)		15·5							
	M_N		16·0							
	F		25							
AUG 26	eL	5	10							
	F	6	30							
AUG. 26	e_z	5	16	26						Overlapping preceding disturbance.
	F		?							
AUG. 26	eL	19	4							
	F		15							
AUG. 28	eL	1	50							
	F		55							
AUG. 28	eL_z	9	34							N and E records disturbed by wind.
	F		50							
AUG. 29	eL	3	55							
	F	4	30							
AUG. 29	eL	18	5							
	F		25							
AUG. 30	ePz	6	44	5					9940	
	ePR_{1Z}		47	38						
	ePR_{2Z}		50	31						
	eS_E		55	0						
	ePS_{EZ}		56	0						
	L_{NE}	7	15							
	L_Z		23							
	F		55							
AUG. 30	e_z	11	51							
	F		55							N and E records disturbed by wind.
AUG. 30	eL	12	56							
	F	13	10							
AUG. 30	e_z	22	11·5							
	L		43							
	F	23	0							
AUG. 31	e	5	31	23						
	L		37							
	F	6	0							

J. J. W. Whipple.
Supt.
6. 9. 28.

AIR MINISTRY, METEOROLOGICAL OFFICE

KEW OBSERVATORY, RICHMOND, SURREY, ENGLAND.

SEISMOLOGICAL BULLETIN FOR SEPTEMBER 1928

Lat. 51° 28′ 6″ N, Long. 0° 18′ 47″ W, Height above M.S.L. 5m.

LITHOLOGIC FOUNDATION : RIVER GRAVEL RESTING ON LONDON CLAY.

INSTRUMENTS : GALITZIN APERIODIC SEISMOGRAPHS, PHOTO-GALVANOMETRIC REGISTRATION, THREE COMPONENTS.

CONSTANTS : FOR NOTATION SEE FÜRST B. GALITZIN "VORLESUNGEN ÜBER SEISMOMETRIE" LEIPZIG, 1914, OR G. W. WALKER "MODERN SEISMOLOGY" LONDON, 1913.

COMPONENT.	DATE FROM WHICH CONSTANTS APPLY.	GALVANOMETER FREE PERIOD T_1 (SEC.)	PENDULUM FREE PERIOD T SEC.	DAMPING CONSTANT μ^2	$Ak/\frac{1}{2}L$ SEC^{-1}
N	13th. JUNE 1928	24·68	24·8	−0·01	46·9
E	18th. JUNE 1928	24·80	24·7	+0·02	43·3
Z	21st AUG. 1928	13·04	14·2	+0·08	112.

TIME SERVICE : MINUTE TIME-MARKS ARE MADE ELECTROMAGNETICALLY BY CONTACT CLOCK (MORRISON); TIME COMPARISONS ARE MADE DAILY WITH SIGNALS FROM GREENWICH OBSERVATORY. SEISMOMETRIC READINGS CAN BE DETERMINED TO THE NEAREST SECOND.

DATE.	PHASE.	G.M.T. HR.	MIN.	SEC.	PERIOD. SEC.	AMPLITUDE. An μ	Ae μ	Az μ	Δ KM.	REMARKS.
SEPT 1.	eP_Z	6	18	39					6230	
	S_{NE}		26	27						
	L_{NE}		38							
	L_Z		40·5							
	M_1		48	35	16		−46			
	M_2		48	37	16	−35				
	M_3		48	40	16			+60		
	F	8	35							
SEPT. 2	eP_{GZ}	0	6	15					8840	
	eS_E		16	19						
	L		32·5							
	M		43		18					
	F	1	35							
SEPT. 1	eL_Z	8	49							N and E records disturbed by wind.
	F	9	50							
SEPT. 2	—									No records from 4h. 30m. to 7h. 25m.
SEPT. 2	e_Z	17	16	35						No N records.
	L_{EZ}	18	16							
	F	19	10							
SEPT. 3	eL	22	5							
	F		20							
SEPT. 5	eL	3	18							
	F		40							
SEPT. 6	eL_{NE}	7	16							No Z record. N and E records disturbed by wind.
	F		40							
SEPT. 6	$e(P)_Z$	3	10	(17)						
	L_E		49							N record defective.
	M_E	4	3		24					
	F	5	10							

P.818.1398.1.988. 90:10/28. M&S.

SEISMOLOGICAL BULLETIN.

SEPTEMBER 1928

DATE.	PHASE.	G.M.T. HR.	G.M.T. MIN.	G.M.T. SEC.	PERIOD. SEC.	AMPLITUDE. An μ	AMPLITUDE. Ae μ	AMPLITUDE. Az μ	Δ KM.	REMARKS.
SEPT. 11	e_Z	0	56	15						
	e_Z		59	(58)						
	e_N	1	5	33						
	L		40							
	M_N		47		29					
	F	2	45							
SEPT. 11	eP_Z	12	48	10					8380	Epicentre according to J.S.A. :- 43°N, 132°W. (North Pacific Ocean)
	eS_E		57	49						
	iS_E, e_N		57	56						
	ePS_N		58	29						
	$eSR_{1,NE}$	13	2	39						
	L_{NE}		10							
	L_Z		16							
	M_1		18	53	16	+14				
	M_2		20	29	17		+15			
	M_3		22	12	16			+15		
	F	14	50							
SEPT. 12	eP'_Z	1	39	7					(12000)	
	iPR_{1Z}		39	48						
	iPR_{2Z}		43	28						
	$e(ScPcS)_{NZ}$		45	48						
	ePS_{EZ}		49	36						
	$ePPS_Z$		50.4							
	e_N		52.9							
	e_N		56.2							
	e_E	2	4.0							
	L_{NE}		11–14							
	F	3	25							
SEPT. 13	e_Z	3	41							
	e		45	41						
	e_{NE}		51	37						
	i		54	51						
	e_Z		56	1						
	L	4	19							
	M_N		33	14	25	-16				
	F	6	5							
SEPT. 13	eL	19	16.6							
	F		20							
SEPT. 14	eP	8	10	23					(5000)	
	eS_N		17	(6)						
	L_{NE}		22							
	L_Z		23.1							
	M_N		24		23					
	F		50							
SEPT. 16	e	3	8							
	F		12							
SEPT. 18	eP_Z	17	28	51	- - -	- - -	- - -	- - -	} 6240	
	iS_N		36	40	- - -	- - -	- - -	- - -		
	eS_{EZ}		36	44						
	$e(SR)_N$		42	40						
	$e(SR_2)_{NZ}$		45.6							

SEISMOLOGICAL BULLETIN.

DATE.	PHASE.	G.M.T. HR.	G.M.T. MIN.	G.M.T. SEC.	PERIOD. SEC.	AMPLITUDE. An μ	AMPLITUDE. Ae μ	AMPLITUDE. Az μ	Δ KM.	REMARKS.
SEPT. 18 cont.	L	17	(46)							Commencement of L very indistinct.
	M_1		56	32	14		+19			
	M_2		56	41	14			-20		
	M_3		56	44	15	+20				
	F	19	50							
SEPT. 18	(eP_Z)	20	2	16	...	...	...	...	...	This may be a microseism.
	iP_Z		2	22					6260	
	iPR_2		5	46						
	iS_{NE}		10	6	...	...	...	...		
	$e(SR_1)_E$		15	6						
	$e(SR_2)_N$		16	33						
	L_{NE}		20							
	L_Z		22							
	M_1		25	39	17	+12				
	M_2		29	4	18			+7		
	M_3		29	10	18		+10			
	F	22	0							
SEPT. 19	eL_{NE}	9	5							
	F		35							No Z record.
SEPT. 21	$e(P)_Z$	13	39	37						
	$e(PR_1)_Z$		43	13						
	L	14	(5)							
	F		35							
SEPT. 22	e_Z	6	16							
	F		30							
SEPT. 22	eL	7	15							
	F		?							
SEPT. 22	$e(P')_Z$	7	50	44						
	$e(PR_1)_Z$		53	34					(15000)	
	e_{NE}		54	32						
	$e(ScPcS)_N$		56	42						
	e_{EZ}		57.3							
	$e(PPS)_Z$	8	6	8						
	$e(SR_1)_{EZ}$		12.7							
	L_{NE}		32							
	L_Z		38							
	M_1		53	56	20	+35				
	M_2		54	43	20			-40		
	M_3		56	52	20	+32				
	M_4		57	37	20		+24			
	F	12	0							
SEPT. 23	eL	6	0							
	F	8	0							
SEPT. 23	eL	14	23							
	F		40							
SEPT. 24	eL	10	17							
	F		40							

FORM : 3718.

KEW OBSERVATORY, RICHMOND, SURRI

SEISMOLOGICAL BULLETIN.

SEPTEMBER 1928.

DATE.	PHASE.	G.M.T. HR.	MIN.	SEC.	PERIOD. SEC.	AMPLITUDE. An μ	Ae μ	Az μ	Δ KM.	REMARKS.
SEPT. 25	eL	5	45							Overlapped by following disturbance.
	F		?							
SEPT. 25	iP_Z	8	14	50					8980	Dilatation
	ePR_{1Z}		17	56						
	eS_{NE}		24	59						
	$e(PS)_Z$		25	45						
	L		43							
	M_{NZ}		58							
	F	11	0							
SEPT. 25	$e(P)_Z$	19	6	33					(2830)	
	eS		11	3						
	L_N		13							
	F		25							
SEPT. 25	eL	19	42							
	F		50							
SEPT. 27	P_Z	0	54	27					6910	Epicentre probably under Caribbean Sea. Felt in Barbados.
	cS_N	1	2	51						
	eSR_{1E}		7	1						
	SR_{2N}		10	15						
	L		13.7							
	M		16.0							
	F	2	45							
	CORRECTION TO BULLETIN FOR					AUGUST		1928		
FOR										
AUG. 19	eP	2	24	28					(2110)	
READ										
AUG. 19	eP	2	54	28					(2110)	

J.J.W.
Oct 4th 1928

KEW OBSERVATORY, RICHMOND, SURREY, ENGLAND.

SEISMOLOGICAL BULLETIN FOR OCTOBER 1928

Lat. 51° 28′ 6″ N, Long. 0° 18′ 47″ W, Height above M.S.L. 5m.

LITHOLOGIC FOUNDATION : RIVER GRAVEL RESTING ON LONDON CLAY.

INSTRUMENTS :. GALITZIN APERIODIC SEISMOGRAPHS, PHOTO-GALVANOMETRIC REGISTRATION, THREE COMPONENTS.

CONSTANTS : FOR NOTATION SEE FÜRST B. GALITZIN "VORLESUNGEN ÜBER SEISMOMETRIE" (LEIPZIG, 1914) OR G. W. WALKER "MODERN SEISMOLOGY" (LONDON, 1913).

COMPONENT.	DATE FROM WHICH CONSTANTS APPLY.	GALVANOMETER FREE PERIOD T_1 (SEC).	PENDULUM FREE PERIOD T (SEC).	DAMPING CONSTANT μ^2	$Ak/\pi L$ (SEC.)$^{-1}$
N	13th. JUNE 1928	24·68	24·8	−0·01	46·9
E	18th. JUNE 1928	24·80	24·7	+0·02	43·3
Z	21st. AUG. 1928	13·04	14·2	+0·08	112

TIME SERVICE : MINUTE TIME-MARKS ARE MADE ELECTROMAGNETICALLY BY CONTACT CLOCK (MORRISON); TIME COMPARISONS ARE MADE DAILY WITH SIGNALS FROM GREENWICH OBSERVATORY. SEISMOMETRIC READINGS CAN BE DETERMINED TO THE NEAREST SECOND.

DATE.	PHASE.	G.M.T. HR.	MIN.	SEC.	PERIOD. SEC.	AMPLITUDE. An μ	Ae μ	Az μ	Δ KM.	REMARKS.
OCT. 2	e	14	28							
	F		29.5							Uncertain if seismic.
OCT. 3	e_N	1	4·4							
	e_E		7·2							Disturbed by microseisms and wind.
	L_N		9							
	F		30							
OCT. 4	e_Z	11	24	24						
	L_{NE}		27							
	F		45							
OCT. 4	e_D	18	32	29						
	ePR_{1Z}		34	39					6060	Probably a forerunner of the shock on 1928 Oct. 15d. 14h.
	S_{NZ}		−0	8						
	e_E		40	17						
	SR_{1NE}		43·9							
	L_{1NE}		48							
	L_Z		53·0							
	M		55	58	16		+10			
	F	19	35							
OCT. 9	iP	3	13	29		−3·1	+8·6	+19·1	9210	Compression.
	PR_1		16	37		mm. on trace				
	S_E		23	50	...	...	...	...	....	This may be ScPcS.
	iS_Z		23	57						Azimuth = 288° ± 1°, giving epicentre near 16°N, 100°W.
	iS_N		24	1						Destructive in Mexico.
	PS_Z		24	35						
	iSR_{1E}		28	32						
	iSR_{2E}		33	33						Bombay telegraphs:
	e_N		35·0							P at 3h. 20m. 46s.
	L_N		36							S-P = 804 sec.
	L_E		40·0							Δ = 14000 km.
	L_Z		41							

P 634.16662.1150.20-11/28

Neiby & Sons Ltd S

SEISMOLOGICAL BULLETIN.

OCTOBER 1928

DATE.	PHASE.	G.M.T. HR.	MIN.	SEC.	PERIOD. SEC.	AMPLITUDE. An μ	Ae μ	Az μ	Δ KM.	REMARKS.
OCT. 9. cont.	M_1	3	43	51	24	-185				
	M_2		45	49	23		(+450)*			* negative maxima off the charts.
	M_3		46	18	21			+400*		
	M_4		47	54	20		(+390)*			
	M_5		50	21	20	-240				
	M_6		52	1	20		+250*			
	M_7		54	36	18		+270*			
	M_8		54	45	18	+155				
	M_9		55	24	16			+210		
	F	8	0							
OCT. 10	—									9h.40m. to 10h.40m. - no records
OCT. 10	eL	21	32							
	F		55							
OCT. 12	eL	0	20							Earlier phases masked by microseisms.
	F	1	0							
OCT. 12	P_Z	7	41	(38)						
	L	8	11							
	M		16		20					
	F		50							
OCT. 13	eL	13	53							
	F	14	10							
OCT. 13	eP_Z	15	45·5							
	L	16	15							
	F		45							
OCT. 15	$e(P)_Z$	9	1							
	L_N		31							
	M_N		43		24					
	F	10	50							
OCT. 15	iP_{EZ}	14	29	10		0 mm	-0·6 on trace		6080	Compression.
	i_{EZ}		34	14						Azimuth = 90° ± 5°, giving epicentre near 26°N, 66°E. (Coast of Baluchistan)
	S		36	50						
	PS_E		37	4						
	SR_{1E}		41	22						
	e_N		42	13						
	e_N		42	55						Bombay telegraphs :
	L_{NE}		47·7							Pat 14h. 22m. 14s.
	M_1		53	52	21	+165	-74			S-P : 180 sec.
	M_2		55	48	16	+123				Δ : 1800 km.
	M_3		59	47	16		-89			
	M_4	15	0	10	14	+80				
	M_5		0	13	14			-110		
	F	17	25							
OCT. 17	eL_Z	7	40							No N record.
	F	8	0							
OCT. 17	e_Z	15	50							masked by microseisms.
	L	16	15							
	M_N		34		20					
	F	17	10							

FORM : 3718.

KEW OBSERVATORY, RICHMOND, SU

SEISMOLOGICAL BULLETIN.

OCTOBER 1928.

DATE.	PHASE.	G.M.T. HR.	G.M.T. MIN.	G.M.T. SEC.	PERIOD. SEC.	AMPLITUDE. An μ	AMPLITUDE. Ae μ	AMPLITUDE. Az μ	Δ KM.	REMARKS.
OCT. 19	$e(P')_Z$	10	37	49						Probably a very distant shock.
	$e(PR)_Z$		42	11						
	L	11	43							
	M_N		48·5		20					
	F	12	45							
OCT. 20	—									10h.31m. to 11h.31m. : No records.
OCT. 20	eL_{NE}	13	34							
	eL_Z		36							
	M_{NE}		40		21					Disturbed by wind and microseisms.
	M_Z		45		19					
	F	14	10							
OCT. 21	eL	17	15							
	F	18	10							
OCT. 22	eL	4	16							
	F		25							
OCT. 23	iP_Z	18	4	0					9610	
	eS_Z		14	40						
	L		32							
	M_E		40		21					
	F	19	25							
OCT. 25	iS_{NE}	12	55	53					(7500)	P masked by microseisms.
	SR_{1E}	13	0	36						
	SR_{2E}		3	58						
	L		10							
	M_1		13	58	22		+47			
	M_2		16	6	19			+40		
	M_3		16	33	19	+27				
	F	14	25							
OCT 30	$e(P)_Z$	4	35·7							
	L_E	5	3							
	F	5	30							
OCT. 31	eL_{NE}	20	48							Z record disturbed by microseisms.
	F	21	15							

J.J.W.
5. XI. 28.

FORM : 2717.

AIR MINISTRY, METEOROLOGICAL OFFICE, LONDON.

KEW OBSERVATORY, RICHMOND, SURREY, ENGLAND.

SEISMOLOGICAL BULLETIN FOR NOVEMBER 1928

Lat. 51° 28′ 6″ N, Long. 0° 18′ 47″ W, Height above M.S.L. 5m.

LITHOLOGIC FOUNDATION : RIVER GRAVEL RESTING ON LONDON CLAY.

INSTRUMENTS : GALITZIN APERIODIC SEISMOGRAPHS, PHOTO-GALVANOMETRIC REGISTRATION, THREE COMPONENTS.

CONSTANTS : FOR NOTATION SEE FÜRST B. GALITZIN "VORLESUNGEN UBER SEISMOMETRIE" (LEIPZIG, 1914) OR G. W. WALKER "MODERN SEISMOLOGY" (LONDON, 1913).

COMPONENT.	DATE FROM WHICH CONSTANTS APPLY.	GALVANOMETER FREE PERIOD T_1 (SEC).	PENDULUM FREE PERIOD T (SEC).	DAMPING CONSTANT μ^2	$Ak/\pi L$ (SEC).
N	13th. JUNE 1928	24·68	24·8	−0·01	46·9
E	18th. JUNE 1928	24·80	24·7	+0·02	43·3
Z	21st. AUG. 1928	13·04	14·2	+0·08	112

TIME SERVICE : MINUTE TIME-MARKS ARE MADE ELECTROMAGNETICALLY BY CONTACT CLOCK (MORRISON); TIME COMPARISONS ARE MADE DAILY WITH SIGNALS FROM GREENWICH OBSERVATORY. SEISMOMETRIC READINGS CAN BE DETERMINED TO THE NEAREST SECOND.

DATE.	PHASE.	G.M.T. HR.	MIN.	SEC.	PERIOD. SEC.	AMPLITUDE. An μ	Ae μ	Az μ	Δ KM.	REMARKS.
10.	iP_Z	4	24	52					8710	Dilatation.
	PR_{1Z}		27	50						NORTHERN MEXICO: 25°N,
	eS_G		34	46						106°W, (according to U.S.A.)
	PS_E		35	25						
	e_Z		35	51						
	SR_{1NE}		39	58						
	L_{NE}		48·4							
	L_Z		52							
	M_1		53	12	20	−12				
	M_2		58	45	15		+14			
	M_3		58	50	14			+13		
	F	5	40							
Nov. 1	eL	16	41							
	F	17	35							
Nov. 3	e_Z	9	58							
	L	10	4							Not very distant.
	F	10	0							
Nov. 6	iP'_Z	4	24	48					(16500)	Compression.
	$e(PR)_N$		28	51						Azimuth about North.
	e_E		38	28						Epicentre probably near
	e_{NE}		49							New Hebrides or Fiji.
	L_E	5	9							
	L_Z		14							
	M_1		30	42	23		−14			
	M_2		31	20	22	+16				
	M_3		32	56	20			+14		
	F	7	0							

FORM : 3718.

KEW OBSERVATORY, RICHMOND, SURREY, ENGLAND.

SEISMOLOGICAL BULLETIN. ...NOVEMBER 1928

DATE.	PHASE.	G.M.T. HR.	MIN.	SEC.	PERIOD. SEC.	AMPLITUDE. An μ	Ae μ	Az μ	△ KM.	REMARKS.
Nov. 7	eL	16	7							
	F		30							
Nov. 10	iP'_Z	12	47	22						? Repetition of 1928 Nov. 6d. 4h.
	L	13	46							
	M_{NZ}		56		19					
	F	14	40							
Nov. 11/12	eL	23	35							
	F	0	15							
Nov 14	eL_N	5	0							Traces on E and Z records
	F		25							
Nov. 20	iP_Z	20	48	34					10900	Compression.
	PR_{1EZ}		52	27						
	$(P')_Z$		52	38						
	$ScPcS_E$		59	8						
	$e(S)_{NE}$		59	28						
	$i(S)_N$	21	0	11						
	PS_E		1	15						
	$i(PPS)_E$		1	31						
	SR_{1E}		6	21						
	SR_{2E}		10	20						
	L_{NE}		17.5		(50)					
	L_Z		21.3							
	M_1		27	16	24		+79			
	M_2	—	27	18	22	+48				
	M_3		27	23	22			+74		
	F	23	15							
Nov. 21	eL	17	49							Earlier phases masked by microseisms.
	F	18	15							
Nov. 22	e_E	8	42							
	e_N		55	46						No Z record until 9h. 51m.
	e_{NE}	9	5							
	L_{NE}		16		40					
	M_1		19	47	32		+39			
	M_2		27	34	24	+28				
	F	11	0							
Nov. 27	e_Z	9	58							N and E records disturbed by wind.
	F	10	5							
Nov. 28	eL_{EZ}	2	(8)							
	F		(35)							
Nov. 28	L_{NE}	7	47							
	F		55							

FORM : 3718.

KEW OBSERVATORY, RICHMOND, SURREY, ENGLAND.

SEISMOLOGICAL BULLETIN.

NOVEMBER 1928

DATE.	PHASE.	G.M.T. HR.	MIN.	SEC.	PERIOD. SEC.	AMPLITUDE. An μ	Ae μ	Az μ	△ KM.	REMARKS.
NOV. 28	(eP$_2$)	10	58·5						(12000)	Times are uncertain owing to failure of contact clock.
	PR$_1$z	11	3	(4)						
	(PS)		12	(41)						
	eNE		25·0							? Foretunner of 1928 Dec. 1d. 4h. (Chile)
	eNE		28·3							
	LNE		38		(40)					
	M$_1$		58	(19)	21	+25				
	L$_2$	12	47							} Long waves via antipodes
	M$_2$		55		18	+6				
	F	13	35							
NOV. 29	eL	13	13							
	F		30							
NOV. 29	eLNz	15	10							
	F		25							
NOV. 29	eP$_2$	16	3·0							
	e(PR$_1$)z		7	8						
	L	17	9							
	F	18	0							
NOV. 29	eP$_2$	18	20	8					(12000)	? Foretunner of 1928 Dec. 1d. 4h.
	PR$_1$z		24	17						
	(PPS)$_N$		35	0						
	SR$_2$E		44	10						
	eE	19	0	4						
	LN		17		(30)					
	LEz		23							
	M$_N$		30		20					
	F	20	45							
NOV. 29/30	eP$_2$	23	29	50					(12000)	? Foretunner of 1928 Dec. 1d. 4h.
	ePR$_1$z		33	59						
	(SR$_2$)$_E$		53·8							
	LN	0	27		(30)					
	LEz		32							
	M$_N$		39		20					
	F	1	45							

CORRECTION TO BULLETIN FOR OCTOBER 1928.

FOR OCT. 26	1S$_{NE}$	12	55	53	etc.
READ OCT. 25	1S$_{NE}$	12	55	53	etc

J. J. S. W.
6. 12. 1928.

FORM : 3717.

AIR MINISTRY, METEOROLOGICAL OFFICE, LONDON.

KEW OBSERVATORY, RICHMOND, SURREY, ENGLAND.

SEISMOLOGICAL BULLETIN FOR DECEMBER 1928.

Lat. 51° 28′ 6″ N, Long. 0° 18′ 47″ W, Height above M.S.L. 5m.

LITHOLOGIC FOUNDATION : RIVER GRAVEL RESTING ON LONDON CLAY.

INSTRUMENTS : GALITZIN APERIODIC SEISMOGRAPHS, PHOTO-GALVANOMETRIC REGISTRATION, THREE COMPONENTS.

CONSTANTS : FOR NOTATION SEE FÜRST B. GALITZIN "VORLESUNGEN ÜBER SEISMOMETRIE" (LEIPZIG, 1914) OR G. W. WALKER "MODERN SEISMOLOGY" (LONDON, 1913).

COMPONENT.	DATE FROM WHICH CONSTANTS APPLY.	GALVANOMETER FREE PERIOD T_1 (SEC).	PENDULUM FREE PERIOD T (SEC).	DAMPING CONSTANT $\mu 2$	$Ak/\pi L$ (SEC)$^{-1}$
N	13th. JUNE 1928	24·68	24·8	−0·01	46·9
E	18th. JUNE 1928	24·80	24·7	+0·02	43·3
Z	21st. AUG. 1928	13·04	14·2	+0·08	112

TIME SERVICE : MINUTE TIME-MARKS ARE MADE ELECTROMAGNETICALLY BY CONTACT CLOCK (MORRISON); TIME COMPARISONS ARE MADE DAILY WITH SIGNALS FROM GREENWICH OBSERVATORY. SEISMOMETRIC READINGS CAN BE DETERMINED TO THE NEAREST SECOND.

DATE.	PHASE.	G.M.T. HR.	MIN.	SEC.	PERIOD. SEC.	AMPLITUDE. An μ	Ae μ	Az μ	△ KM.	REMARKS.
DEC. 1	eP_Z	4	20	24					12100	Amplitudes of iP as read in mm. — N E Z −1·6 −2·1 −5·0
	iP		20	35						
	eP′		24	5						
	PR_1		24	58						
	$ScPcS_E$		31	8						
	eS_{NE}		32·5							Azimuth = 235°, giving epicentre near 37°S, 73°W. Destructive near Talca, CHILE.
	iPS		34	19						
	$iPPS_Z$		35	16						
	SR_1		40	5						
	SR_{2N}		44·1							Bombay telegram gives: iP — 4h. 25m. 49s. iS−iP = 821 sec. △ = 14800 km.
	e_{NE}		55·9							
	L_{NEZ}		59·9							
	M_1	5	1	14	25		+450*			
	M_2		3	41	23			+410		
	M_3		3	59	23	+310				
	M_4		5·9		(20)	>320†	>370†	>470†		* Negative maxima off the charts
	M_5		10	40	18			+250		
	M_6		11	5	19		>370*			† Positive and negative maxima off the charts.
	M_7		12	48	20	+270				
	M_8		16	25	17	+200				
	F	9	0							
DEC. 1	eL	10	13							
	M		20		20					
	F		50							
DEC. 1	eL	19	27							
	M		33		20					
	F		55							

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Malby & Sons Ltd S

KEW OBSERVATORY, RICHMOND, SUR

SEISMOLOGICAL BULLETIN.

DECEMBER 1928

DATE.	PHASE.	G.M.T. HR.	MIN.	SEC.	PERIOD. SEC.	AMPLITUDE. An μ	Ae μ	Az μ	△ KM.	REMARKS.
DEC. 2	ePz	4	34	42					(12000)	Probably a repetition of 1928 Dec. 1d. 4h. (CHILE)
	PR_1		39·0							
	$ScPcS_{NE}$		45	19						
	iPS_E		48	32						
	SR_{1N}		54·2							
	L_{NE}	5	6							
	L_Z		10							
	M_1		21	24	21		-80			
	M_2		22	48	19			-85		
	M_3		22	52	19	+83				
	M_4*	6	34	42	20	+12				*Via antipodes.
	F	7	55							
DEC. 3	eL_E	5	36·0							Not very distant. Azimuth approximately north or South.
	eL_{NZ}		37·9							
	M		39							
	F		50							
DEC. 3	eL	13	6							
	F		30							
DEC. 7	(e_Z)	9	34							? Repetition of 1928 Dec. 1d. 4h. (CHILE.)
	e_{NE}		55							
	L_{NE}	10	5		(60)					
	M		20	10	21	+25				
	F	11	45							
DEC. 9	eL	1	7							
	F	2	0							
DEC. 9	e_Z	5	26							
	L	6	5							
	F	7	50							
DEC. 9	e_Z	10	6							Traces on N and E records.
	F		20							
DEC. 9	eL	19	15							
	F		45							
DEC. 10	iP_{eZ}	7	8	7					2560	Compression.
	iS		12	17						Epicentre near Crete: 36°N, 24°E. (according to Oxford)
	L		12·8							
	F		20							
DEC. 12	iP'_Z	20	39	42					(17500)	Dilatation.
	PR_{1Z}		43	46						
	iSR_{1Z}	21	3	38						
	L_{NE}		40							
	L_Z		42							
	M_N		50	22	20	+20				
	F	23	0							

FORM : 3718.

KEW . OBSERVATORY, RICHMOND, SURREY, ENGLAND.

SEISMOLOGICAL BULLETIN.

DECEMBER. 1928

DATE.	PHASE.	G.M.T.			PERIOD.	AMPLITUDE.			Δ	REMARKS.
						An	Ae	Az		
		HR.	MIN.	SEC.	SEC.	μ	μ	μ	KM.	
DEC. 14	eLN	1	1·2							
	F		20							
DEC. 14	eL	2	50							
	F		30							
DEC. 16	eLz	19	44							N and E records disturbed by wind.
	F		50							
DEC. 19	ePz	11	51	22						Epicentre : South of MINDANAO ; 6°N, 124·5 E, (according to Strasbourg)
	iPR, z		55	39						
	eNE	12	2·3							
	iz		6	37						
	iSR, NE		10	43						Bombay telegram gives:
	LNE		29·1		(38)					iP - 11h. 46m. 19s.
	Lz		35		(27)					iS-iP = 444 sec.
	M1		35	2	26		(-270)*			Δ = 5700 km.
	M2		36	27	23	-310*				
	M3		39	20	23		(-260)*			* Positive maxima off the charts.
	M4		40	16	21	-280*				
	M5		43	6	18			+120		
	M6		48	32	16			+80		
	F	16	20							
DEC. 20	eL	7	30							
	F		50							
DEC. 26	e	21	55							
	F	22	20							
DEC. 27	eL	5	46							
	F	6	15							
DEC. 28	ez	14	36·4							
	iNE		44	27						Bombay telegram gives:
	eE (SR)	15	2	1						iP - 14h. 28m. 48s.
	LNE		10							iS-iP = 414 sec.
	Lz		17							Δ : 5200 km.
	M1		17	8	23	+45				
	M2		18	7	20		-30			
	M3		25	29	19			+30		
	F	17	0							

J. J. W. Whipple.

5. 1. 1929.