

FORM 2717.

AIR MINISTRY, METEOROLOGICAL OFFICE, LONDON.

METEOROLOGICAL OFFICE, EDINBURGH.

15 FEB 1928

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 μ ²	Ak / π L (SEC.) ⁻¹
N	3 rd AUG. 1927	24.68	24.78	+0.014	46.5
E	4 th AUG. 1927	24.80	23.90	+0.117	41.2
Z	17 th 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.			PERIOD.	AMPLITUDE.			Δ	REMARKS.
		HR.	MIN.	SEC.		SEC.	A _n	A _e		
						μ	μ	μ	KM.	
JAN. 1.	eL F	0	38							
JAN. 1.	eP _z iPR _z eSE L _{NE} L _z M _{NE} F	9	38	15					9230	Epicentre (from St. Louis, Tucson and Kew data) = 15°N, 98°5W; off Southern Coast of Mexico. Records interrupted between 9 ^h 54 ^m and 10 ^h 1 ^m , owing to changing of charts.
		41	27							
		48	37							
		10	7							
		10	10							
		16			18					
		40								
JAN. 3.	Tr. z F	16	27							
			37							
JAN. 4.	eL F	0	16							
			35							
JAN. 4.	eL _{NE} M ₁ M ₂ F	22	(27)							
			39	48	21		-9			
			40	39	21	+12				
		23	35							
JAN. 5.	Tr. z F	14	34							Disturbed by wind and microseisms.
			50							
JAN. 6.	eP _z m _{NE} e _z ePR _{1z} e _N iS _{E,Z} SR _{NE} L _{NE} L _z	19	42	1					6890	Compression. * mm. on trace. Azimuth = 134° ± 2° E. of N. giving epicentre :- 0° (± 5) S, 39° (± 1) E near Mount Kenya.
			42	10		+3.3*	-3.0*	+		
			42	44						
			44	9						
			50	13						
			50	24						
			55							
			59							
		20	5							

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JANUARY 1928

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		HR.	MIN.	SEC.		SEC.	An	Ae		
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 F	22	3	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 F		5	28	13				-13	
JAN. 12.	eL	13	59							N record disturbed by wind.
	M ₁		7	53	20		+15			
	M ₂ F		8	7	18				-15	
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.	L E	4	10	32						
	F		?							
JAN. 17.	eL	8	20							
	F		30							
JAN. 18.	—									No records from 10 ^h 15 ^m to 10 ^h 35 ^m
JAN. 18.	eL	13	9							
	F		30							
JAN. 20.	eL	0	0							
	F		50							
JAN. 21.	—									No records from 9 ^h 54 ^m to 10 ^h 45 ^m
JAN. 24.	T _r	7	45							Disturbed by wind.
	F		55							
JAN. 26.	eL	22	40							
	F	23	10							
JAN. 27.	eL	23	10							
	F		25							
JAN. 29.	T _r 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							

J. G. Whipple

Sur.

3. 2. 1928.

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KEW OBSERVATORY, RICHMOND, SURREY, ENGLAND.

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DATE.	PHASE.	G.M.T.			PERIOD.	AMPLITUDE.			Δ	REMARKS.
		HR.	MIN.	SEC.		SEC.	A _n	A _e		
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, Phuzien and Helwan data indicate epicentre near 0°55' 87.5"E. (Indian Ocean)	
	e _E (S)		25	22						
	e _N (S)		25	43						
	L _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					
F	2	5				-25				

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		HR.	MIN.	SEC.		SEC.	A _n	A _s		
Feb. 10.	(i _z P)	4	50	42					(8880)	Dilatation. Jesuit Sers. Assoc. gives tentative epicentre :- Mexico, 19° 8' N, 98° 5' W.
	i S _E	5	0	46						
	L _{N,E}		17							
	M		23		27					
	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. Epicentre (according to Strasbourg) = 65° N, 150° E, Siberia.
	i S _{N,E}	20	7	40						
	L _{N,E}		18							
	M ₁		26	11	20	+18				
	M ₂		30	38	19		+20			
	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	e _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.
	e S _{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							

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		HR.	MIN.	SEC.		SEC.	A _n	A _e		
Feb. 28.	eL _{NE}	2	58			μ	μ	μ	KM.	
	eL _Z	3	5							
	F		15							
Feb. 28.	eL	10	5							
	F		35							
Feb. 29.	eL _{NE}	23	15							
	eL _Z		21							
(Mar. 1.)	M		28	49	21	+7				
	F	0	5							
Addition to Bulletin for January 1928										
Jan. 1.	L _Z P	18	54	37						
	eE	19	6.3							
	L		12.							
	F		25.							

T. G. Whipple
 Sup.
 6. 3. 28

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DATE.	PHASE.	G.M.T.			PERIOD.	AMPLITUDE.			REMARKS.
		HR.	MIN.	SEC.		Am	Ae	Az	
MAR. 4.	eLNE F	21	47						Traces on Z component.
		22	15						
MAR. 7	T _T F	10	12						
			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 38.5°N, 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			-28	
	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		28	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						



MARCH 1928

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		HR.	MIN.	SEC.		SEC.	A _n	A _e		
						μ	μ	μ	KM.	
MAR. 9	e _z	11	12							
	e		23							
	LNE		48							
	Lz		56							
	F	12	15							
MAR. 9	eP _z	18	18	35					9910	Indian Ocean.
	iP _z		18	43						According to Strasbourg -
			21	58						Epicentre: 1°S, 89°5 E
	PR ₁ { e _z		22	7-9						and O = 18° 5' 15"
	{ e _N		22	16						Bombay gives P 18° 11' 8"
	{ i _z		24	19						S 18° 15' 51"
	i _z PR ₂		29	7						Δ 3000 km.
	[S] _E		29	29						Gutenberg ScPcS.
	iS _N		30	46						Very large on E comp.
	PS _{zE}		35	33						
	SR _{1E}		35	39						
	SR _{1N}		39	19						
	SR _{2N}		43							
	LN		51	10						
	Lz		58	4	21	-162				
	M ₁		3	23	18		+131			
	M ₂	19	3	27	18			-99		
	M ₃		4	35	20	(-350)				Just off edge of chart
	M ₄		5	22	19		+202			
	M ₅		5	28	18			-176		
	M ₆		6	1	19	+234				
	M ₇		6	54	18			-146		
	M ₈		8	48	17			-176		
	M ₉		8	52	18			(-225)		In time-break
	M ₁₀		9	55	20	+214				
	M ₁₁		10	22	17			+118		
	M ₁₂		22	25						
MAR. 10	eL	4	7							
	F		30							
MAR. 11	Tr.	8	0							
	F	9	0							
MAR. 12	CL	17	47							
	F	18	10							
MAR. 13	BL	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)		7	(31)						
	e _N		12							

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		HR.	MIN.	SEC.		SEC.	A _n	A _e		
MAR. 13	L _{NE}	19	30							
Contd.	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° 55' S, 171° E.
	i _Z		24	12						0. 5 ^h 0 ^m 51 ^s
	i _{NZ} PR ₁		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			
	L _{eZ}		(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.
	F		22							N and E compts. disturbed by wind.

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						μ	μ	μ	KM.		
MAR. 18	eLz F	13 14	24 0							Nand E compts. disturbed by wind.	
MAR. 18	eN eZ F	23	56.8 57 59	11						Very small; probably near.	
MAR. 22	iPEZ PRIEZ PR ₂ E iS _N iS _E iS _Z PS _Z SR ₁ SR ₂ LN LEZ M ₁ M ₂ M ₃ M ₄ M ₅ M ₆ M ₇ M ₈ M ₉ M ₁₀ M ₁₁ M ₁₂ F	4	29 32 33 39 39 39 40 44.3 49.0 52 55 55 56 57 0 0 0 3 5-7 6 7 15 15 15 40	17 9 36 37 40 43 27			-1.9* +6.0* +9.5*	+6.0* +9.5*	+9.5*	9190	* mm on chart. Compression. Azimuth: 285°, giving epicentre 15°N, 97.5°W. Felt in Mexico. Strasbourg gives - 19°N, 95.5°W. and O = 4 ^h 16 ^m 53 ^s . Bombay gives - P 4 ^h 36 ^m 37 ^s S 4 ^h 50 ^m 1 ^s Δ 13900
					29 32 25 24 24 23 21 18 19 18 16 17	+144 +173 -198 +274 +348 -147	+316 +580	+334 +143 -160		Negative maximum is off the chart. negative and positive maxima off chart. negative maximum is off the chart.	
MAR. 23	eL F	21 22	25 5								
MAR. 26	e(P) e(S) L M ₁ M ₂ M ₃ F	5 6 6 7	45 54 19 36 36 36 15	50 54 19 24 41 44	20 18 19	+12 +8			(7730)		
MAR. 26	eL _{NE} M F	7 8	35 46 15							Traces on Z comp.	
MAR 26	eL F	9	0 45								

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		HR.	MIN.	SEC.		SEC.	An	Ae		
MAR. 26	(eP _Z)	14	43	1					(1020)	? Compression. Probably same epicentre as for following shock.
	(eS _{NE})		44	51						
	L		45	52						
	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. Dilatation. Azimuth = 117° ± 3°, giving epicentre 47°N, 12°E, in Carinthian Alps. Destructive in N.E. Italy.
	iS _{NE}		36	49						
	i _Z (S)		36	54						
	L _{NE}		37	36						
	M ₁		38	16	12	+96	+55			
	M ₂		38	50	13		-66			
	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 _Z	5	18	19					8980	Compression. S very sharp and large
	iS _{NE}		28	24						
	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. Compression. Azimuth = 124° ± 3° giving epicentre ca. 36°N, 24°E. Destructive near Smyrna.
	S		39	15						
	iN		40	21						
	iE		40	34						
	L _{NE}		40.8							
	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			-136		
	F	2	0							
MAR. 31.	eE	5	21	57						Very small. Probably a repetition of preceding shock.
	L _N		24.6							
	M _N		25.8							
	F		33							

R. Watson,
for Dept.

5:4:28.

FORM : 3717.

AIR MINISTRY, METEOROLOGICAL OFFICE, LONDON.

OFFICE, EDINBURGH.
17 MAY 1928

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 / π L (SEC) ⁻¹
N	3 rd AUG. 1927	24.68	24.78	+0.014	46.5
E	4 th AUG. 1927	24.80	23.90	+0.117	41.2
Z	17 th 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.			PERIOD.	AMPLITUDE.			Δ	REMARKS.
		HR.	MIN.	SEC.		SEC.	A _n	A _e		
						μ	μ	μ	KM.	
APR. 1	eL F	18	59							
		19	8							
APR. 2/3	eL F	23	50							
		0	10							
APR. 8	eL _E M F	17	12	58	19		-15			
			40							
APR. 7	e _z L M _N F	20	53							
		21	4		23					
			9							
			30							
APR. 9	e _z S _{PS} e _e S L _{sz} PS (SR ₁) (SR ₂) L _E L _Z M ₁ M ₂ M ₃ M ₄ M ₅ F	17	57	34					(9700)	Z comp ^t record defective before 17 ^h 53 ^m No N comp ^t record.
			57	53						
			58	58						
		18	42							
			7.6							Felt in PERU. Jesuit Seis. Assoc. gives 12°.4 S, 69°.6 W.
			13		28					
			16							
			20	10	23	+34				
			21	59	20	+36				
			22	4	20			+41		
			24	6	18	+33				
			24	10	18			+41		
		19	45							
APR. 10	T _z F	1	16							
			22							
APR. 12.	eL F	18	57							
		19	35							

SEISMOLOGICAL BULLETIN.

APRIL 1928

DATE.	PHASE.	G.M.T.			PERIOD.	AMPLITUDE.			△	REMARKS.
		HR.	MIN.	SEC.		SEC.	An	As		
						μ	μ	μ	KM.	
APR. 13/ 14	ePz	23	28	33					9030	Small disturbance. Jesuit Seis. Assoc. gives 13°N, 95°W. (South of Mexico)
	eSE		38	45						
	L _{NE}		57							
	F	0	40							
APR. 14	iP	9	4	32		-3.0mm	+8.5mm	-5.3mm	2290	Dilatation. Destructive in Bulgaria (Chirpan etc.) Azimuth = 107°±2°, giving epicentre near 42°N 27°E.
	iS		8	20						
	LN		9	25	(38)					
	LEZ		10.4							
	M ₁		10.9		(19)	>280*				
	M ₂		12	0	10			+265†		
	M ₃		12-13		(15)	>270*	>320*			
	M ₄		13.1		10			>320*		
	M ₅		14.6		(15)		>340*			
	M ₆		15	11	10			+320†		
	M ₇		15	40	13		+230†			
	M ₈		16	22	12	+26d				
	M ₉		16	44	10			+330†		
F	11	0								
APR. 14	ePz	10	32	14					2410	Probably a repetition of preceding shock. Overlapped.
	eSE		36	12						
	F		?							
APR. 16	T _{zL}	9	29							
	F		40							
APR. 17	iPz	3	37	27					8760	Compression. Felt in Mexico. Jesuit Seis. Assoc. give tentative epicentre - 16.2°N, 95.6°W.
	iZ		37	57						
	iSE		47	25						
	iE		47	46						
	eSR _{1E}		52.5							
	eN		59.3							
	LEZ	4	3.6		38					
	M ₁		4	17	33		+38			
	M ₂		5	10	32	+18				
	M ₃		11	15	21	+7				
	M ₄		11	29	20		+22			
M ₅		11	33	20			+29			
F	5	5								
APR. 17	T _z	5	58							
	F	6	5							
APR. 18	eLN	4	28							Traces on E and Z comp ^{ts} .
	F		30							
APR. 18	ePz	19	27	21					2200	Dilatation. Destructive in Bulgaria (Phillipopolis etc.) Azimuth = 112°±2°, giving epicentre near 41.5°N, 24°E.
	iPNEZ		27	23		-2.8mm	+6.0mm	-4.0mm		
	iS		31	1						
	LN		32.2		(38)					
	LE		32.4							

SEISMOLOGICAL BULLETIN.

DATE.	PHASE.	G.M.T.			PERIOD.	AMPLITUDE.			△	REMARKS.
		HR.	MIN.	SEC.		SEC.	An	Ae		
APR. 18 (contd.)	M ₁	19	33-35		(16)	>300*			KM.	* 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		7370*			
	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	CL	22	27						2230	? 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						
	LN,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	Tr.	1	22							
	F		27							
APR. 19	-									No records from 4 ^h 0 ^m to 6 ^h 50 ^m
APR. 19	Tr.	22	48						2230	Probably repetitions from the Bulgarian epicentres.
	LN		51							
	F		59							
APR. 20	eLN	6	26							
	F		33							
APR. 22	eE	5	15	56						Doubtful if seismic. No disturbance on N or Z compts.
	F		18							
APR. 22	e _z	20	4.6						2350	Probably a fore-shock of the following disturbance
	e		8.3							
	L		10.4							
	M		11	32	16					
	F		?							
APR. 22	iP	20	18	41		-0.35mm	+0.65mm	-1.0mm	2350	Overlapped.
	i _z		19	10						
	iS		22	34						
	iN		23	22						
	LN		24.7		(37)					
	M ₁		25	54	20		+72			
	M ₂		26	6	16		-210			
	M ₃		27	14	10		+85			



SEISMOLOGICAL BULLETIN.

APRIL 1928

DATE.	PHASE.	G.M.T.		PERIOD.	AMPLITUDE.			Δ	REMARKS.
					An	Ae	Az		
		HR.	MIN.	SEC.	SEC.	μ	μ	μ	KM.
APR. 22.	M4	20	27	44	13		-69		
(contd.)	M5		28	8	10			+46	
	F	21	40						
APR. 24	eL	20	29						
	F		50						
APR. 24	e	0	40						
	L		42.4						
	MN		43.6		16				
	F	1	0						
APR. 25	ePz	9	30	30					2260
	eSNE		34	15					
	eS2		34	19					
	L		36						
	M1		37-38		16	+9			
	M2		38	57	12		+14		
	M3		39	5	14			+15	
	F	10	0						
APR. 27	F.N	0	10						
	F		14						
APR. 27	eL	14	45						
	F		50						
APR. 27	ePz	20	47	40					(10000)
	e2		47	59					
	e (S ₁ PS)		58	(15)					
	e (S)		58	(4)					
	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	ePz	18	3	39					2240
	eSN		7	22					
	LN		9.2						
	MN		11.2						
	F		30						
APR. 29	e2(P)	9	54	30					(2120)
	eN5(S)		58	(4)					
	L	10	0						
	M		1.5						
	F		15						
CORRECTION TO BULLETIN FOR MARCH 1928									
FOR									
MAR. 18	e2	12	9	4					
READ									
MAR. 18	e2	12	19	4					

Probably a repetition of Corinth earthquake of the 22nd APR.

Compression.
Probably a repetition from Bulgarian epicentre

No Z comp. record.

Very uncertain.

Compression

Compression.

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

KEW OBSERVATORY, RICHMOND, SURREY, ENGLAND.

26 JUN 1928

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	$A_k / \pi L$ (SEC.) ⁻¹
N	3 rd . AUG. 1927	24.68	24.78	+0.014	46.5
E	4 th . AUG. 1927	24.80	23.90	+0.117	41.2
Z	17 th . AUG. 1927 to 21 st . 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.			PERIOD.	AMPLITUDE.			Δ	REMARKS.
		HR.	MIN.	SEC.		SEC.	An	Ae		
						μ	μ	μ	KM.	
MAY 1	eL F	1	7	40						
MAY 1	-									No records from 14 ^h 5 ^m to 14 ^h 53 ^m
MAY 1	ePz eSN SRi L M F	19	5	0					6830	
			13	20						
			18							
			24		20					
			31							
		20	40							
MAY 2	eP eP eSN eSE ez LN M1 M2 M3 M4 F	21	59	40					} 2600	Destructive in Anatolia. Azimuth = 113° ± 3°, giving epicentre near 39°N, 27°E
			59	42		+0.6mm	-1.25mm	+2.7mm		
		22	3	53						
			3	55						
			4	3						
			5	46	(34)					
			7	54	17	+170				
			8	5	15		-37			
			8	42	12			-37		
			8	50	14	-49				
		23	15							
MAY 3	eL F	1	37	45						
MAY 8	eP ez(PR1) ez(PR2) eSE eE	4	56	53		+0.8mm	-0.05mm	-2.3mm	7490	Dilatation. Azimuth = 356° ± 4°, giving epicentre near 61°N, 172°E (Behring Sea)
			59	53						
			1	31						
			5	47						
			6	8						

FORM : 3718.

KEW OBSERVATORY, RICHMOND, SURREY, ENGLAND.

SEISMOLOGICAL BULLETIN.

MAY 1928

DATE.	PHASE.	G.M.T.			PERIOD.	AMPLITUDE.			Δ	REMARKS.
		HR.	MIN.	SEC.		SEC.	A _n	A _s		
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. Azimuth slightly west of south
	eS _{NE}		44	56						
	e _z (PS)		45	6						
	L _{NE}		55							
	M _E		57	36	15		+5			
	F	21	35							
MAY 14	oP _{EZ}	22	27	30					9480	Compression Azimuth: 259° ± 3°, giving epicentre near 3°S, 78°W. Destructive in Peru (Chachapoyas) and in Ecuador.
	iP _Z		27	35		+0.2mm	+1.2mm	+		
	i _z		27	43						
	eS _E		38	4						
	iS _N		38	21						
	e _E (PS)		39	8						
	e _N		39	40						
	SR ₁ E		44.2							
	L _{NE}		52.9							
	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.			PERIOD.	AMPLITUDE.			△	REMARKS.
		HR.	MIN.	SEC.		SEC.	An	As		
						μ	μ	μ		
MAY 17	eL F	11	38 50							
MAY 17	T _r L F	12	4 12							
MAY 19	T _r F	0	13 16							
MAY 19	e _z LNE F	4	5 14 45	5						
MAY 19	eL F	5	1 50							
MAY 19	-									No records from 9 ^h 21 ^m to 10 ^h 13 ^m (oiling clocks)
MAY 19	eL M F	10	13 27 45							
MAY 20	eP _z e _{NE} (S) LNE F	16	41 52 17 50	49 21					(9440)	Compression. Felt near Tokyo, (according to Press)
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	eLNE F	6	14 40							No Z record.
MAY 26	e _N (S) L _N M F	6	2 50 6-7 20							
MAY 26	e _E (S) L F	14	26.6 46 15 0							No Z record.
MAY 27	iP _z iPR ₁ ePR ₂ iS _{NE} i _z i _E (PS) i _E (PPS) iSR _{1E} iSR _{2E} L _{NE} L _Z M ₁ M ₂	10	2 6 8 13 13 14 14 18 22 27 33 33 34	52 7 8 12 28 0 22 50 7	34 31	-175mm	-0.95mm	+	9190	Compression. Azimuth = 32° ± 3° giving epicentre near 39°N, 136°E (Sea of Japan) Bombay gives (by telegram) P 10 ^h 0 ^m 47 ^s S-P 504s. Δ 6850km.
										-350
						+160				

FORM : 3718.

KEW OBSERVATORY, RICHMOND, SURREY, ENGLAND.

SEISMOLOGICAL BULLETIN.

..... **MAY** 1928

DATE.	PHASE.	G.M.T.			PERIOD.	AMPLITUDE.			Δ /	REMARKS.
		HR.	MIN.	SEC.		SEC.	A _n	A _e		
MAY 27 (contd.)	M ₃	10	35	55	27	μ	μ	μ	* Positive maxima are off the charts. Values of A _z cannot be given pending a redetermination of the constants of the vertical pendulum.	
	M ₄		39	30	21	*	-300*			
	M ₅		39	59	21	-300				
	M ₆		40	(43)	23	*		-		
	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 _z		51	20						
	eS		58	29						
	SR _{1E}	16	3.8							
	SR _{2E}		7.1							
	LNE		16							
	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							
	LNE	8	.9							
	M		15							
	L		40							
MAY 31	e _z	14	2							
	L		(35)							
	F	15	5							
MAY 31	T _z 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	e	0	40	etc.						
-READ APR. 25	e	0	40	etc.						

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

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 μ ²	Ak / π L (SEC.) ⁻¹
N	13 th JUNE 1928*	24.68	24.80	-0.009	46.9
E	18 th 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.			PERIOD. SEC.	AMPLITUDE.			Δ KM.	REMARKS.
		HR.	MIN.	SEC.		An μ	Ae μ	Az μ		
JUNE 1	T _r L F	9	8							
JUNE 1	e _Z L F	12	36.0							
		13	12							
			?						F overlapped by next shock.	
JUNE 1	LP PR ₁ Z LS SR ₁ E LE LZ M ₁ M ₂ M ₃ M ₄ F _Z	13	24	51					9230	Compression.
			28	(5)						
			35	13						
			40	39						
			53.3							
			58							
		14	0	48	21		+30			
			2	42	20		+28			
			3	31	22	+32				
			3	(50)	22			+		
		15	45							
JUNE 1	T _r L F	15	55							
		16	20							
JUNE 1	eL F	19	12							
			22							
JUNE 1	eL F	22	53							
		23	10							
JUNE 3	T _r L F	4	0							
			25							

KEW OBSERVATORY, RICHMOND, SURREY, ENGLAND.

SEISMOLOGICAL BULLETIN.

JUNE 1928

DATE.	PHASE.	G.M.T.			PERIOD.	AMPLITUDE.			△	REMARKS.
		HR.	MIN.	SEC.		SEC.	An	Ae		
JUNE 3	ePz	8	43	42					(9250)	
	eSE		54	(5)						
	LNE	9	16							
	M1		21	34	18		+25			
	M2		27	(2)	14					
	M3		27	3	15	-40	-31			
	F	10	40							
JUNE 3	eL	22	57							
	F	23	15							
JUNE 5	e _z (P)	6	8	16						
	LNE		40							
	F	7	5							
JUNE 6	eL	20	26							
	F		50							
JUNE 7	T _r L	3	58							
	F	4	10							
JUNE 7	T _r	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	T _r	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)						
	iScPS		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							
	LNE	7	1							
	Lz		6							
	M ₁		5	42	26		-71			
	M ₂		7	27	23	+100	-82			
M ₃		13	26	19		-64				

SEISMOLOGICAL BULLETIN.

1920

DATE.	PHASE.	G.M.T.			PERIOD.	AMPLITUDE.			△	REMARKS.
		HR.	MIN.	SEC.		SEC.	An	Ae		
JUNE 15	M4	7	16	41	19	+62	μ	μ		
cont.	M5		16	(55)	18			+		
	F	9	25							
JUNE 15	e _z (P)	17	30.7						(11000)	Probably a repetition of preceding shock. N and E components disturbed by wind.
	e _z PR ₁		34	38						
	LNE	18	5							
	M ₁		9	18	27	+55	-67			
	LZ		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	L _P	3	31	49		-275 mm.	+785 mm.	+12.0 mm.	9280	Compression. Azimuth = 288° ± 1° giving epicentre near 16°N., 100°W. (off Pacific coast of Mexico).
	L _{PR_{1E}}		34	55					Bombay telegraphs P 3 ^h 36 ^m 0 ^s . S-P : 816 Δ : 14600	
	e _{PR₂}		37.3							
	L _{SE}		42	13						
	SR _{1E}		47.3							
	SR _{2E}		51.5							
	L _N		58	16						
	L _E		58	27						
	L _Z		59.5							
	M ₁		58	34	29	+215		†		
	M ₂	4	0	9	30		+530			
	M ₃		3	(19)	24			†	† negative maximum off the edge of chart. * positive and negative maxima off chart.	
	M ₄		3	33	25	+250	*			
	M ₅		3-4		24		>440			
	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	L _Z	7	0	37						Overlapped by preceding disturbance. Traces of short period oscillations on N and E components.
	F		?							
JUNE 17	L _P e _Z	22	33	27					9170	
	e _S e _N		43	46						
	L _{NE}	23	0							
	M _E		10		18					
	F		35							

SEISMOLOGICAL BULLETIN.

JUNE 1928

DATE.	PHASE.	G.M.T.			PERIOD.	AMPLITUDE.			Δ	REMARKS.
		HR.	MIN.	SEC.		SEC.	A _n	A _s		
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(PRI)	11	1	36						
	eE		22.2							
	L		(41)							Very irregular long waves.
	M ₁	12	36	14	21	+16				
	M ₂		37	(2)	19			+		
	M ₃		39	4	18		-15			
F	13	50								
JUNE 21	iP	16	37	58					7340	Compression.
	i		38	10						Azimuth slightly west of south.
	PR ₁ z		40	24						Epicentre probably near Alaska.
	PR ₂		41	47						
	iS NE		46	44						
	i z		46	58						
	iE(PS)		47	53						
	SR ₁ N		51.0							
	SR ₂ E		54	31						
	L NE		58							
	L z	17	1							
	M ₁		1	41	25	-75				
	M ₂		3	49	20		+72			
	M ₃		7	30	19	+85				
	M ₄		7	(45)	18			+		
	M ₅		8	38	15		+60			
M ₆		9	20	18	+80					
L ₂	18	57								
F	19	55								
JUNE 24	ePI	4	43	33					I(5570)	Probably two shocks, I and II.
	iPI		44	12					II(5690)	
	PR ₁ II		46	13						
	(SI)		50	46						
	(SII)		51	32						
	SR ₁		54	56						



SEISMOLOGICAL BULLETIN.

JUNE 1928

DATE.	PHASE.	G.M.T.			PERIOD.	AMPLITUDE.			Δ	REMARKS.
		HR.	MIN.	SEC.		SEC.	A _n	A _s		
						μ	μ	μ	KM.	
JUNE 24	L	5	2							
cont.)	M _N		5							
	M _E		9							
	F		20							
JUNE 25	eL	8	9							
	F		25							
JUNE 27	e	2	29							
	F		32							
JUNE 29	eL	20	(40)							JUNE 29. No records from 9 ^h 20 ^m to 10 ^h 9 ^m .
	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 _{NS} (S)	8	52	37						Part lost owing to changing of charts.
	L	9	(12)							
	F		35							
										JGW Whipple 5. 7. 28.

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	13 th . JUNE 1928	24.68	24.80	-0.009	46.9
E	18 th . 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.			PERIOD.	AMPLITUDE.			Δ	REMARKS.
		HR.	MIN.	SEC.		SEC.	An	Ae		
						μ	μ	μ	KM.	
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 ^h 45 ^m to 6 ^h 25 ^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							
	F		?							N and E records disturbed by wind.
JULY 5	See page 3.	3								
JULY 6	eL	3	35							
	F		45							
JULY 7	iPEZ	3	46	23					9320.	Compression.
	eS _E		56	49						
	LNE	4	14							
	LZ		20.4							
	F		45							
JULY 7	eP _z	18	12	43					(9480)	
	e _E		22	51						
	eE(S)		23	17						
	LNE		43							
	LZ		46							

FORM : 3718.

KEW OBSERVATORY, RICHMOND, SURREY, ENGLAND.

SEISMOLOGICAL BULLETIN.

JULY 1928

DATE.	PHASE.	G.M.T.			PERIOD.	AMPLITUDE.			Δ	REMARKS.
		HR.	MIN.	SEC.		SEC.	A _n	A _o		
JULY 7	M	18	47							
Cont.	F	19	20							
JULY 8	e _z (P)	12	8	30						
	L		40							
	F	13	0							
JULY 9	e _z (P')	21	45	31						
	e _z NE(P')		46	31					>13000	Z record missing from 21 ^h 42 ^m to 21 ^h 44 ^m ; P probably arrived during this interval.
	e _E		57	31						
	e _Z		57	35						
	e _{NE} (SR)	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						
	eS _{NE}		25	20					9150	
	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						
	iP _Z		38	47					2720	Destructive at Smyrna and Torbali.
	eS _{NE}		43	5						
	eS _Z		43	13						
	L _{NE}		45.5							
	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	+0.65	+2.0		
	iPR _{1,2}		21	8		mm.	mm.	mm.	9440	Compression.
	iS		28	23						This may be S _c P _c S
	iNE		28	36						This may be S (giving Δ=9710)
	iN(?)PS		29	17						Amplitude: 258° ± 5°;
	iE		29	35						epicentre near 3°S, 77°W;
	SR ₁		34	21						Chacapoyas, Peru.

KEW OBSERVATORY, RICHMOND, SURRI



JULY 1928

SEISMOLOGICAL BULLETIN.

DATE.	PHASE.	G.M.T.			PERIOD.	AMPLITUDE.			Δ	REMARKS.
		HR.	MIN.	SEC.		SEC.	A _n	A _s		
JULY 18	LN	19	42	3						
Cont.	LE		43	1						
	L ₂		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 ₂ (P)	20	25	19						
	L		57							
	F	21	10							
JULY 19/20	e ₂ P	23	57	26					(7760)	
	e ₂ S	0	6	(34)						
	L		29							
	M		36		22					
	F	1	25							
JULY 20	eL	18	4							
	F		50							
JULY 20	T _r	19	58							
	F	20	2							
JULY 21	e ₂	2	59	27						
	L	3	40							
	F	4	25						9090	
JULY 22	eP ₂	7	40	35						
	eS _N		50	50						
	L	8	14							
	F	9	0							
JULY 23	e ₂	8	2	31						
	L	9	14							
	F	10	0							
JULY 23	T _r	16	15							
	F		20							
JULY 26	eL	13	23						No E record.	
	F		42							
JULY 29	e ₂	20	8							
	L		39							
	F	21	15							
JULY 29	T _r	18	27							
	F		33							
JULY 30	e ₂	2	56	0						
	L	3	20		19					
	M		27							
	F	4	10							
JULY 31	eL	20	16							
	F		40							
JULY 5	T _r	23	18							
	F		24							
CORRECTION TO BULLETIN FOR					JUNE	1928				
FOR JUNE 20	e ₂	4	5	45 etc						
READ JUNE 21	e ₂	4	5	45 etc						

J. G. Whitcomb.
Aug 4th 1928.

FORM : 3717.

AIR MINISTRY, METEOROLOGICAL OFFICE, LONDON. EDINBURGH.

METEOROLOGICAL OFFICE,
EDINBURGH.
18 SEP 1928

KEW OBSERVATORY, RICHMOND, SURREY, ENGLAND.

SEISMOLOGICAL BULLETIN FOR AUGUST 1928

Lat. 51° 28' 5" 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/-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. 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.			PERIOD.	AMPLITUDE.			Δ	REMARKS.
		HR.	MIN.	SEC.		SEC.	A _n	A _e		
						μ	μ	μ	KM.	
AUG. 1	(e _x)	19	12	39						
	L		55							
	F	20	5							
AUG. 1	e	20	32							
	F	21	5							
AUG. 2	eL	7	20							
	F		35							
AUG. 3	e _z	7	20	16						
	L		30							
	F		50							
AUG. 3	ePNZ	11	54	16					6100	
	iS _N , eE _Z	12	1	57						
	L		11.2							
	M		14	26	25	+10				
	F	13	10							
AUG. 4	e _x	4	24	54						
	eE _Z		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 , eN		38	38		max on trace			9360	
	iPR ₁		41	48						
	iS		49	5	---	---	---	---		? ScPcS
	iE		49	22	---	---	---	---		? S.
	PS _Z		50	3						Azimuth = 288° ± 1°, giving epicentre near 15°N, 100°W.
	SR ₁ NE		53	41						

FORM : 3718

KEW OBSERVATORY, RICHMOND, SURREY, ENGLAND.

SEISMOLOGICAL BULLETIN.

AUGUST 1928

DATE.	PHASE.	G.M.T.			PERIOD.	AMPLITUDE.			Δ	REMARKS.
		HR.	MIN.	SEC.		SEC.	An	Ae		
AUG. 4	SR ₂	18	59	2						
Cont.	L ₁₁	19	0	16						
	CN		18							
	LNE		42							
	LZ		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 _{00P}	14	55	18						
	e(S ₀ E ₀ S ₁ N ₁ E)		5	54						
	eNE		6	14						
	L		30							
	M		41		18					
	F	16	10							
AUG. 8	eL	3	10							
	F		35							
AUG. 10	iP _z , eNE	15	42	30					(4200)	
	iPR _z , ee		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							
	eNE		33	39						
	e _z		37	6						
	eN		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 , eE	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						
	ePSN		38	44						
	eSR ₁ , N		42.7							
	eSR ₂ , N		45	28						
	LNE		52.5							
	F	18	40							

KEW OBSERVATORY, RICHMOND, SURREY, ENGLAND.

SEISMOLOGICAL BULLETIN.

AUGUST 1928

DATE.	PHASE.	G.M.T.			PERIOD.	AMPLITUDE.			Δ	REMARKS.
		HR.	MIN.	SEC.		SEC.	An	Ae		
AUG. 16	eL F	8	3							
			20							
AUG. 19	eP e(S) _N L M F	2	24	28					(2110)	
			58	1						
		3	0							
			25							
AUG. 19	eL F	4	30							
			40							
AUG. 20	eL F	2	45							
		3	0							
AUG. 20	—									9h.50m to 11h.5m. } No records 13h.15m to 16h.0m }
AUG. 21	eL F	19	30							
			50							
AUG. 22	eL F	7	17							
			30							
AUG. 23	e _Z e _Z LNE F	1	28	40						
			30	44						
			37	30						
			45							
AUG. 23	e(P) e(S) _N L M F	4	13.3						(3800)	Felt in Persia.
			19.0							
			21							
			21	25	20	-7				
			40							
AUG. 23	e F	6	35.1							
			40							
AUG. 24	eP _{NZ} eS _{NZ} LNE M ₁ L ₂ M ₂ M ₃ F	9	48	(5)					1910	Absolute times uncertain.
			51	(20)						
			52.2							
			53	(8)	13		-33			
			53.8							
			54	(33)	12	+16				
			54	(41)	11					
		10	15							
AUG. 24	e _Z e _{NZ} e _{NE} LNE F	22	2	38						
			6	24						
			25							
			(36)							
		23	55							
AUG. 25	eLNE F	0	22							
			50							
AUG. 25	eLNE F	2	30							No Z record.
			50							
AUG. 25	eL F	17	4							
			20							

KEW OBSERVATORY, RICHMOND, SURREY, ENGLAND.

SEISMOLOGICAL BULLETIN.

AUGUST 1928

DATE.	PHASE.	G.M.T.			PERIOD.	AMPLITUDE.			△	REMARKS.
		HR.	MIN.	SEC.		SEC.	An	Ae		
						μ	μ	μ	KM.	
AUG. 25	(e _z)	21	10							
	(e _L)		15.5							
	M _N		16.0							
	F		25							
AUG 26	e _L	5	10							
	F	6	30							
AUG. 26	e _z	5	16	26						Overlapping preceding disturbance.
	F		?							
AUG. 26	e _L	19	4							
	F		15							
AUG. 28	e _L	1	50							
	F		55							
AUG. 28	e _{Lz}	9	34							N and E records disturbed by wind.
	F		50							
AUG. 29	e _L	3	55							
	F	4	30							
AUG. 29	e _L	18	5							
	F		25							
AUG. 30	e _{Pz}	6	44	5					9940	
	e _{PRz}		47	38						
	e _{PRz}		50	31						
	e _{SE}		55	0						
	e _{PSEz}		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	e _L	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. G. Whipple.
 Supt.
 6. 9. 28.

KEW OBSERVATORY, RICHMOND, SURREY, ENGLAND.

SEISMOLOGICAL BULLETIN FOR SEPTEMBER 1928

Lat. 51° 28' 0" 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 / -L SEC. ²
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.			PERIOD. SEC.	AMPLITUDE.			Δ KM.	REMARKS.
		HR.	MIN.	SEC.		A _n μ	A _e μ	A _z μ		
SEPT. 1.	ePz	6	18	39				6230		
	S _{NE}		26	27						
	L _{NE}		38							
	Lz		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	ePz	0	6	15				8840		
	eSE		16	19						
	L		32.5							
	M		43		18					
F	1	35								
SEPT. 1	eLz	8	49						N and E records disturbed by wind.	
	F	9	50							
SEPT. 2	-								No records from 4h. 30 m. to 7h. 25m.	
SEPT. 2	e _z	17	16	35					No N records.	
	L _z	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	Q(P) _z	3	10	(17)					N record defective.	
	L _E		49							
	M _E	4	3		24					
	F	5	10							



SEISMOLOGICAL BULLETIN.

SEPTEMBER 1928

DATE.	PHASE.	G.M.T.			PERIOD.	AMPLITUDE.			△	REMARKS.
		HR.	MIN.	SEC.		SEC.	An	Ae		
						μ	μ	μ	KM.	
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)
	e _{SE}		57	49						
	i _{SE,EN}		57	56						
	eP _{SN}		58	29						
	e _{SR,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)	
	i _{PR,Z}		39	48						
	i _{PR,Z}		43	28						
	e(_{SR,SN}) _{NZ}		45	48						
	e _{PS,EZ}		49	36						
	e _{PPS,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	e _L	19	16.6							
	F		20							
SEPT. 14	e _P	8	10	23					(5000)	
	e _{SN}		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	
	i _{SN}		36	40	---	---	---	---		
	e _{SAZ}		36	44						
	e(_{SR,N}) _N		42	40						
	e(_{SR,Z}) _{NZ}		45.6							

SEISMOLOGICAL BULLETIN.



From the ISC collection scanned by SISMOS

DATE.	PHASE.	G.M.T.			PERIOD.	AMPLITUDE.			△	REMARKS.
		HR.	MIN.	SEC.		SEC.	An	As		
SEPT. 18	L	17	(46)			μ	μ	μ	KM.	Com. and mov. of L very indistinct.
cont.	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	} 6260	This may be a microseism.
	iP _z		2	22						
	iPR ₂		5	46						
	iSNE		10	6			
	e(SR) _{1E}		15	6						
	e(SR) _{2N}		16	33						
	LNE		20							
	Lz		22							
	M ₁		25	39	17	+12				
	M ₂		29	4	18			+7		
	M ₃		29	10	18					
	F	22	0				+10			
SEPT. 19	eLNE	9	5						} No Z record.	
	F		35							
SEPT. 21	e(P) _z	13	39	37						
	e(PR) _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					} (15000)	
	e(PR) _z		53	34						
	eNE		54	32						
	e(SOPES) _N		56	42						
	e _z		57.3							
	e(PPS) _z	8	6	8						
	e(SR) _{1EZ}		12.7							
	LNE		32							
	Lz		38							
	M ₁		53	56	20	+35				
	M ₂		54	43	20			-40		
	M ₃		56	52	20	+32				
	M ₄		57	37	20					
	F	12	0				+24			
SEPT. 23	eL	6	0							
	F	8	0							
SEPT. 23	eL	14	23							
	F		40							
SEPT. 24	eL	10	17							
	F		40							

KEW OBSERVATORY, RICHMOND, SURRI



SEISMOLOGICAL BULLETIN.

SEPTEMBER 1928.

DATE.	PHASE.	G.M.T.			PERIOD.	AMPLITUDE.			Δ	REMARKS.
		HR.	MIN.	SEC.		SEC.	An	Ae		
						μ	μ	μ	KM.	
SEPT. 25	eL F	5	45	?						Overlapped by following disturbance.
SEPT. 25	iP _z ePR _{1z} eS _{NE} e(P _S) _z L M _{Nz} F	8	14	50					8980	Dilatation
			17	56						
			24	59						
			25	45						
			43							
			58							
		11	0							
SEPT. 25	e(P) _z eS LN F	19	6	33					(2830)	
			11	3						
			13							
			25							
SEPT. 25	eL F	19	42							
			50							
SEPT. 27	P _z eS _N eSR _{1E} SR _{2N} L M F	0	54	27					6910	Epicentre probably under Caribbean Sea. Felt in Barbados.
		1	2	51						
			7	1						
			10	15						
			13.7							
			16.0							
		2	45							
CORRECTION TO BULLETIN FOR AUGUST 1928										
FOR										
AUG. 19	eP	2	24	28					(2110)	
READ										
AUG. 19	eP	2	54	28					(2110)	

Jgw.
Oct 4^o 1928

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 / π L (SEC.) ²
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	11.2

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.			PERIOD. SEC.	AMPLITUDE.			Δ	REMARKS.
		HR.	MIN.	SEC.		A _n	A _e	A _z		
OCT. 2	e F	14	28	29.5						Uncertain if seismic.
OCT. 3	eN eE LN F	1	44	7.2 9 30						Disturbed by microseisms and wind.
OCT. 4	e _z LNE F	11	24	24 27 45						
OCT. 4	eD ePRIZ SNZ eE SRINE LNE LZ M F	18	32	29 34 39 40 17 43.9 48 53.0 55 58	16				6060	Probably a forerunner of the shock on 1928 Oct. 15d. 14h.
OCT. 9	iP PR1 SE iS _z iS _N PS _z iSR _{1E} iSR _{2E} eN LN LE Lz	3	13	29 37 50 57 1 35 32 33 35.0 36 40.0 41		-3.1	+8.6	+19.1	9210	Compression. This may be SePeS. Azimuth = 288° ± 1°, giving epicentre near 16°N, 100°W. Destructive in Mexico. Bombay telegraphs: P at 3h. 20m. 46s. S-P = 804 sec. Δ = 14000 km.

SEISMOLOGICAL BULLETIN.

OCTOBER 1928

DATE.	PHASE.	G.M.T.			PERIOD.	AMPLITUDE.			△	REMARKS.
		HR.	MIN.	SEC.		Am	Ae	Az		
OCT. 9. cont.	M ₁	3	43	51	24	-185	μ	μ	* Negative maxima off the charts.	
	M ₂		45	49	23		(+450)*			
	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 ₂	7	41	(3P)						
	L	8	11		20					
	M		16							
	F		50							
OCT. 13	eL	13	53							
	F	14	10							
OCT. 13	eP ₂	15	45.5							
	L	16	15							
	F		45							
OCT. 15	e(P) ₂	9	1							
	L _N		31		24					
	M _N		43							
	F	10	50							
OCT. 15	iPEZ	14	29	10		0	-0.6	6080	Compression. Azimuth = 90° ± 5°, giving epicentre near 26°N, 66°E. (Coast of Baluchistan)	
	iEZ		34	14		mm	on trees			
	S		36	50						
	PSE		37	4						
	SR _{1E}		41	22						
	EN		42	13						
	eN		42	55						
	LNE		47.7							
	M ₁		53	52	21	+165	-74			
	M ₂		55	48	16	+123				
	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 ₂	7	40						
F		8	0							
OCT. 17	eL	15	50						masked by microseisms.	
	L	16	15		20					
	M _N		34							
	F	17	10							

SEISMOLOGICAL BULLETIN.

OCTOBER 1928.

DATE.	PHASE.	G.M.T.			PERIOD.	AMPLITUDE.			Δ	REMARKS.
		HR.	MIN.	SEC.		SEC.	A _n	A _s		
OCT. 19	e(P) _z	10	37	49		μ	μ	μ	9610	Probably a very distant shock.
	e(PR) _z		42	11						
	L	11	43							
	MN		48.5		20					
	F	12	45							
OCT. 20	-									10h.31m. to 11h.31m. : No records.
OCT. 20	eL _{NE}	13	34						21	Disturbed by wind and microseisms.
	eL _z		36							
	M _{NE}		40		19					
	M _z		45							
	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					21	
	eS _z		14	40						
	L		32							
	M _E		40							
	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					
	F	14	25			+27				
OCT. 30	e(P) _z	4	35.7							
	LE	5	3							
	F	5	30							
OCT. 31	eL _{NE}	20	48							Z record disturbed by microseisms.
	F	21	15							

Jgw.
5. XI. 28.

