

10. Period of Earthquake Vibration at Hitotsubashi.

To see the dependence, if any, of the period of vibration on the magnitude of earthquakes or on the position of the centres, I have constructed Table XVII which gives, for the 34 earthquakes whose origins and areas of disturbance are definitely known, the following quantities :

T = Average period of vibration ;

d = Distance of earthquake origin from Tokyo ;

r = Mean radius of propagation.

The earthquakes are arranged in order of r .

As will be seen from Table XVII (and also from the results contained in Table XII), there is no relation at all between the T (or T_0) and the distance (d) or the mean radius (r). The conclusion is that the period T at Hitotsubashi is essentially characteristic to the locality itself, and depends little on the distance of the origin or on the magnitude of the earthquake. Such is probably also true of other districts, where the soil is very soft.

TABLE XVII.—TABLE SHOWING THE CONSTANCY OF
THE PERIOD OF VIBRATION AT HITOTSUBASHI.

Group.	No.	Average period (sec.)	d (km).	Mean r (km).
IV	137	0.77	41	32
III	49	0.74	32	34
IV	161	0.62	35	38
”	126	0.77	38	44
III	14	0.83	52	51
V	42	0.89	90	57
IV	82	0.74	63	58
II	76	0.76	44	59
IV	10	0.54	49	63
II	59	0.71	53	65
”	38	0.85	80	76
III	142	0.83	29	82
II	50	0.70	60	84
III	155	0.74	40	87
IV	84	0.78	56	87
”	86	0.76	52	90
”	21	0.63	22	92
V	71	0.88	140	100
II	123	0.71	62	105
IV	62	0.85	63	115
II	83	0.84	58	128
V	97	0.71	144	144
VII	94	0.85	280	164
V	131	0.77	190	180
”	19	0.77	125	185
”	122	0.78	150	185
”	23	0.83	160	230
II	65	0.76	69	240
VI	103	0.78	270	265
II	78	0.83	56	265
VI	138	0.75	380	270
”	56	0.67	390	390
”	48	0.45	600	600
V	39	0.83	150	—