Table 8. This table corresponds to table 3, and is for transverse waves.

This table gives the time interval between the arrival Table 9. of the P waves and of the L or surface waves. It is less accurate than any of the preceding, due to the uncertainty of the velocity of propagation of the L waves. This uncertainty is partly due to the difficulty of reading the appearance of the L waves on the seismogram, necessary for deducing the rate of propagation. In an isotropic medium the velocity is constant, but not in the medium of the crust of the earth. From an examination here of 234 earthquake records of Pulkovo and Ottawa in each of which P, S and L are given, the mean velocity of 228 km. per minute, or 3.8 km. per second, has been adopted.

Plotting the velocities for the respective distances, the variation in velocity is found—as was expected—to be quite independent of the distance. Leaving out of account the uncertainty of reading cL, observations show that the velocity of L waves is not constant for different earthquakes and traversing different paths from the epicentre to the station, involving probably too, different depths of hearths. The velocities were examined too with reference to the paths over land and water; for it was believed that the paths under the ocean would dampen or reduce the velocity. This was found not to be the case. However, from a larger number of earthquakes and a careful analysis, this a priori conclusion may be ratified.

Hitherto the generally accepted value has been 3.5 km. per second, or 210 km. per minute, but this is decidedly too low for an average velocity. The identification of the first L waves, on which P and S waves are superimposed, is not easy. The long period, often 40 seconds, of the first Lwaves helps to identify them.

Table 10. This table is a counterpart of the immediately preceding table, and is based on table 6, and the time interval for L waves, L-O or I_{L} , from the epicentre, given in the next following table.