

## 6 THE FITNESS OF THE ENVIRONMENT

For them, in fact, the environment, in its past, present, and future, has been an independent variable, and it has not entered into any of the modern speculations to consider if by chance the material universe also may be subjected to laws which are in the largest sense important in organic evolution. Yet fitness there must be, in environment as well as in the organism. How, for example, could man adapt his civilization to water power if no water power existed within his reach?

adjustment to each other of the magnitudes and laws thus selected, the constitution of the world is what we find it, and is fitted for the support of vegetables and animals in a manner in which it could not have been, if the properties and quantities of the elements had been different from what they are. We shall here recapitulate the principal of the laws and magnitudes to which this conclusion has been shown to apply.

1. The Length of the Year, which depends on the force of the attraction of the sun, and its distance from the earth.

2. The Length of the Day.

3. The Mass of the Earth, which depends on its magnitude and density.

4. The Magnitude of the Ocean.

5. The Magnitude of the Atmosphere.

6. The Law and Rate of the Conducting Power of the Earth.

7. The Law and Rate of the Radiating Power of the Earth.

8. The Law and Rate of the Expansion of Water by Heat.

9. The Law and Rate of the Expansion of Water by Cold, below 40 degrees.