

THE RIDDLE OF THE UNIVERSE

and eternally in motion; the conversion of kinetic into potential energy, and *vicissim*, goes on uninterruptedly; and the sum of this actual and potential energy remains constant. The second thesis of the mechanical theory of heat contradicts the first, and so must be rejected.

The representatives of the theory of entropy are quite correct as long as they confine themselves to distinct processes, in which, *under certain conditions*, the latent heat cannot be reconverted into work. Thus, for instance, in the steam-engine the heat can only be converted into mechanical work when it passes from a warmer body (steam) into a cooler (water); the process cannot be reversed. In the world at large, however, quite other conditions obtain—conditions which permit the reversion of latent heat into mechanical work. For instance, in the collision of two heavenly bodies, which rush towards each other at inconceivable speed, enormous quantities of heat are liberated, while the pulverized masses are hurled and scattered about space. The eternal drama begins afresh—the rotating mass, the condensation of its parts, the formation of new meteorites, their combination into larger bodies, and so on.

II.—MONISTIC GEOGENY

The history of the earth, of which we are now going to make a brief survey, is only a minute section of the history of the cosmos. Like the latter, it has been the object of philosophic speculation and mythological fantasy for many thousand years. Its true scientific study, however, is much younger; it belongs, for the most part, to the nineteenth century. The fact that the earth is a planet revolving round the sun was deter-