

CHAPTER XL.

THE CYCLES OF MATTER.

OF what, now, is this stupendous result the consequence? This is the goal toward which, for millions of ages, the forces of matter have been struggling. During every moment of this long history, gravitation has striven to draw these myriads of worlds together. They have embraced each other at last, and gravitation has retired to slumber. While yet these worlds were in active life, every sun was a heated globe, dispensing warmth through infinite space; and every planet may have been the seat of life, enjoying the boundless munificence of heat. As long as heat remained to be dispensed to planetary orbs, they were the seat of all those myriad activities of which solar heat is the origin and source—currents in the atmosphere and in the waters—ascending vapors and descending rains—the nurture of vegetable and animal life and motions—the disintegration of continents, and the strewing of ocean bottoms with layers of sediments for the upbuilding of new continents. Through numberless interactions of heat, and electricity, and light, and magnetism, and mechanical forces, and chemical affinity, the web of material and organic history was woven. The equilibrium of the heat of our universe has now been attained. No farther interactions and transformations can ensue. Every particle of matter is equally cold. Every corner of space is equally dark. The electricities that have been worried with disturbances and divorces innumerable are now firmly locked in each other's embraces. Every chemical element has united with its