

which accomplished the separation of light from darkness, or, as he also expressed it, the separation of the more *active* elements of the universe from the more *passive*. A further differentiation of the inactive elements, according to their stability and degree of resistance, determined the dry land and the oceans. The escape of heated material from the interior of the earth produced slaggy spots on the earth's surface, and as these increased a glassy crust was formed. Thus the earth was gradually converted from the condition of a radiant sun to a dark planet. The cosmical theories of Leibnitz suffered in the original from a want of clearness in the diction, and are strained on account of the author's conscientious effort to present a historical account of the earth's surface that should be in harmony with the Mosaic genesis.

That part of the *Protogæa* which deals with mineralogy is much more practical. His official position at the Court of Hanover enabled Leibnitz to become acquainted with the mines and the natural products of the Harz mountains, and he gave an account of the mode of occurrence of the metals and minerals. He also supplied a detailed description, with illustrations, of a number of fossils occurring in Hanover and Brunswick in the copper schists.

If Leibnitz was careful to make his theory of the earth conform with the Mosaic account of Creation, this feeling was far more strongly expressed in England.

Dr. Thomas Burnet, in his *Sacred Theory of the Earth*, published 1681, thinks that in the beginning our earth was a chaotic mixture of earth, water, oil, and air, which gradually consolidated into a spherical form. The various rock-ingredients separated out from the primitive chaos according to their weight, the heaviest material accumulating round the earth's centre; this in its turn was surrounded by water, on whose surface the oily material floated, and the atmosphere enveloped the whole. Gradually, the finer particles that had been held in suspension in the atmosphere settled upon the oil and formed a fatty superficial layer that afforded nourishment for the first plants, animals, and human beings.

The earth was oval, and its axis stood upright, in the same plane as the earth's path, hence there were no alternating seasons, no mountains, no seas, no rivers, no storms. It rained only at the poles, but the water filtered at once into the earth's interior. This state of earthly paradise lasted 1600