

carbonic acid, in which the coal plants are supposed to have flourished. Some imagine the air to have been so full of choke-damp during the ancient era alluded to, that it was unfitted for the respiration of warm-blooded quadrupeds and birds, or even reptiles, which require a more rapid oxygenation of their blood than creatures lower in the scale of organization, such as have alone been met with hitherto in the Carboniferous and older strata. It is assumed that an excess of oxygen was set free when the plants which elaborated the coal subtracted many hundred million tons of carbon from the carbonic acid gas which previously loaded the air. All this carbon was then permanently locked up in solid seams of coal, and the chemical composition of the earth's atmosphere essentially altered.

But they who reason thus are bound to inform us what may have been the duration of the period in the course of which so much carbon was secreted by the powers of vegetable life, and, secondly, what accession of fresh carbonic acid did the air receive in the same. We know that in the present state of the globe, the air is continually supplied with carbonic acid from several sources, of which the three principal are, first, the daily putrefaction of dead animal and vegetable substances; secondly, the disintegration of rocks charged with carbonic acid and organic matter; and, thirdly, the copious evolution of this gas from mineral springs and the earth, especially in volcanic countries. By that law which causes two gases of different specific gravity, when brought into contact, to become uniformly diffused and mutually absorbed through the whole space which they occupy, the heavy carbonic acid finds its way upwards through all parts of the at-