

the sin of the first Adam has been expiated by the sacrifice of the second Adam, I will not shun but welcome the divine presence, and reckon the charms of nature infinitely more charming, when I can say in the language of the pious Cowper, 'My Father made them all.'\*

After these examples of balancing agencies, I invite attention to particular substances of great importance; of these I will instance Coal, Lime, and Metals.

#### I. COAL.

The history of COAL is a subject of great interest. We all know its value for economical purposes,

\* Another very beautiful example of compensation is derived from the relations of the animal and vegetable kingdoms to the atmosphere. The result of all changes of composition in animal bodies, is to deteriorate the atmosphere, and to render it unfit for supporting the life of sentient beings. Animals, by respiration, are continually throwing carbonic acid into the atmosphere, and indeed the final decomposition of the body after death, tends still further to load the air with unhealthy azotised matters. The purity of air, however, is maintained by the counteracting influence of the vegetable kingdom. Plants eagerly absorb the azotised matters, as ammoniæ, which afford them nourishment, and, above all, they decompose the carbonic acid, assimilating the carbon to their organs, and restoring the pure oxygen to the atmosphere again, fitted for the respiration of animals.—S.