

Indeed, at the very outset of our work, the inquiry, What is a mineral species? is encumbered with considerable difficulty; involving as it does the chemical doctrine of isomorphous substitution, and being unprovided with any rule by which the essential elements of a mineral may be distinguished from the foreign matter with which it is almost universally mixed.

Spinnelle affords an instance of the uncertainty which follows a strict chemical discrimination of kinds among a considerable number of apparently similar minerals; and we do not perceive any clear rule for deciding whether the individuals which form such apparently natural groups should be kept together as varieties of the same mineral as we have arranged them, or be regarded chemically as distinct species, and be denoted by the different names assigned to them by other authors.

2. Another embarrassment arises from the introduction of several substances among minerals which do not appear to belong to mineralogy.

No part, for example, of the tribe of combustibles of vegetable origin ought, we think, to be classed among minerals.

Modern turf certainly cannot claim a place among them; and passing from this through the wood coal of Bovey and other places, to the fossil beds of ancient forests, the whole appears to belong to the series of organic remains which constitute so important a branch of geological investigation. Yet, in conformity with the practice of other authors, we have retained this series in our system.

Some other substances introduced into works on mineralogy are also retained in this treatise, although more properly belonging to geology. We allude to some of the slates and clays, and to some of the hydrous silicates of alumina of variable character and composition.

3. Of the minerals described in this work, there are many which we have not seen, and the descriptions of which are consequently given on the authority of other observers.

Of several of these, we have repeatedly endeavoured, but in vain, to obtain specimens, having been desirous of adding something to the very bare descriptions of some of them; and of assisting in supporting, or otherwise, the claims of others to be regarded as separate species: for it appears to us very uncertain whether some of the supposed new substances are really other than accidental mixtures of the elements of other minerals, or, impure varieties, containing uncertain and variable proportions of different kinds of foreign matter.

It is also probable that some of the apparent differences in the chemical constitution of particular minerals may have been occasioned by the analysis of misnamed specimens, instead of the substances purported to be examined.