

and appearances of the atmosphere, parts of a great scheme, of which every discoverable purpose is marked with beneficence as well as wisdom.

CHAPTER XII.

The Laws of Magnetism.

MAGNETISM has no very obvious or apparently extensive office in the mechanism of the atmosphere and the earth: but the mention of it may be introduced, because its ascertained relations to the other powers which exist in the system are well suited to show us the connexion subsisting throughout the universe, and to check the suspicion, if any such should arise, that any law of nature is without its use. The parts of creation when these uses are most obscure, are precisely those parts when the laws themselves are least known.

When indeed we consider the vast service of which magnetism is to man, by supplying him with that invaluable instrument the mariners' compass, many persons will require no further evidence of this property being introduced into the frame of things with a worthy purpose. As however, we have hitherto excluded *use in the arts* from our line of argument, we shall not here make an exception in favour of navigation, and what we shall observe belongs to another view of the subject.

Magnetism has been discovered in modern times to have so close a connexion with galvanism, that they may be said to be almost different aspects of the same agent. All the phenomena which we can produce with magnets, we can imitate with coils of galvanic wire. That galvanism exists in the earth, we need no proof. Electricity, which appears to be only galvanism in equilibrium, is there in abundance;