

and recently, Mr. Fox\* has shown by experiment that metalliferous veins, as they lie in the earth, exercise a galvanic influence on each other. Something of this kind might have been anticipated; for masses of metal in contact, if they differ in temperature or other circumstances, are known to produce a galvanic current. Hence we have undoubtedly streams of galvanic influence moving along in the earth. Whether or not such causes as these produce the directive power of the magnetic needle, we cannot here pretend to decide; they can hardly fail to affect it. The Aurora Borealis too, probably an electrical phenomenon, is said, under particular circumstances, to agitate the magnetic needle. It is not surprising, therefore, that, if electricity have an important office in the atmosphere, magnetism should exist in the earth. It seems likely, that the magnetic properties of the earth may be collateral results of the existence of the same cause by which electrical agency operates; an agency which, as we have already seen, has important offices in the processes of vegetable life. And thus magnetism belongs to the same system of beneficial contrivance to which electricity has been already traced.

We see, however, on this subject very dimly and a very small way. It can hardly be doubted that magnetism has other functions than those we have noticed.

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## CHAPTER XIII.

### *The Properties of Light with regard to Vegetation.*

THE illuminating power of light will come under our consideration hereafter. Its agency, with regard to organic life, is too important not to be noticed,

\* Phil. Trans. 1821.