While, therefore, it is natural that the roots or branches should repel each other, yet the roots and branches, did nothing else interfere, should each attract the other. The only instance we have of it, however, is the banyan tree, but it is a remarkable instance of it.

Botanists have also said that it is absurd for us to pretend to say what the force of a tree or plant is unless we have examined its cells with a microscope, and, in fact, that it is only by the microscope we can ever discover how plants grow. We wonder how long it would take a physicist to ascertain the force of a magnet if he looked for it in the crystals of the iron with a microscope. The merest tyro would of course say, never. We know of the force of a magnet only by its external and visible influence on similar bodies smaller than itself. So with plants or trees, we can only attain to a knowledge of their force by observing their external and visible influence and action.

Admitting, therefore, that a plant is a magnet, we find that although we take cuttings off it, yet these cuttings will still show themselves magnets by growing when placed in suitable soil, continuing the induction, as Professor Tyndall did with the iron magnet, and we reach the conclusion that the most minute invisible atom of a plant is also a complete magnet with two poles.

We proceed still further, and say that from an observation of their character and action, the animal is also a magnet. Reduce animals to atoms, we have also complete minute animal magnets. But as animal matter is only another form of the vegetable, we merge it into the latter. Further, finding that all vegetable atoms are magnets, and that iron, one of the minerals, is magnetic, suppose we assume, by way of argument, that all mineral atoms are magnets. As there are no neutral substances on the earth (there is no need of excepting one or two that chemists are not sure of) we thus assume that all the material of the earth is magnetic, or composed of atoms which are complete magnets. As, then, a magnet, which is added to and increased in size by having other magnets incorporated with it, does not become a number of magnets, with a number of poles, but remains still one magnet, in like manner, if, as we assume, our earth is composed of an aggregation of minute magnets, the earth itself, as one grand whole, should be a magnet. *And so we find it.* It has only two poles, and they