

We have had occasion to point out how complex is the machinery of the atmosphere, and how varied its objects; since, besides being the means of communication as the medium of sound, it has known laws which connect it with heat and moisture; and other laws, in virtue of which it is decomposed by vegetables. It appears, in like manner, that the ether is not only the vehicle of light, but has also laws, at present unknown, which connect it with heat, electricity, and other agencies; and other laws through which it is necessary to vegetables, enabling them to decompose air. All analogy leads us to suppose that if we knew as much of the constitution of the luminiferous ether as we know of the constitution of the atmosphere, we should find it a machine as complex and artificial, as skilfully and admirably constructed.

We know at present very little indeed of the construction of this machine. Its *existence* is, perhaps, satisfactorily made out; in order that we may not interrupt the progress of our argument, we shall refer to other works for the reasonings which appear to lead to this conclusion. But whether heat, electricity, galvanism, magnetism, be fluids; or effects or modifications of fluids; and whether such fluids or *ethers* be the same with the luminiferous ether, or with each other; are questions of which all or most appear to be at present undecided, and it would be presumptuous and premature here to take one side or the other.

The mere fact, however, that there is such an ether, and that it has properties related to other agents, in the way we have suggested, is well calculated to extend our views of the structure of the universe, and of the resources, if we may so speak, of the Power by which it is arranged. The solid and fluid matter of the earth is the most obvious to our senses; over this, and in its cavities, is poured an invisible fluid, the air, by which warmth and life are diffused and fostered, and by which men communi-