

easy to suppose the principle, caloric, to have an effect in increasing the expansive power of bodies, and thus augmenting their volume.

The transmission of heat through a vacuum has also been considered a proof of the materiality of caloric, in opposition to Davy's hypothesis. This conclusion we would admit if the statement had been proved; but a vacuum cannot be formed; for although the amount of elastic fluid contained in any given space may be decreased by artificial means, yet it is impossible to extract it entirely, and therefore this argument is of no value to the theorist. The same remark applies to electricity, and might be extended to light.

When governed by curiosity, we feel some anxiety to ascertain the nature of these agents which have been so improperly called the imponderable bodies. But we do not know how science would be benefited by the determination of the question, or what practical results would follow from the discovery, except that many given to speculation might be better employed, were one of the subjects, on which it has been so profusely dispensed, thrown out of the catalogue of queries. It is sufficient for us to ascertain the effects produced; and, however mortifying it may be to the man who prides himself on the variety of his learning and the extent of his investigations, to confess ignorance of all the great secondary causes which hold government over matter, yet it is desirable that we should be sensible of our relation to Him who gave all things birth. We shall not, therefore, dwell upon speculative principles, but proceed to make a few remarks upon those laws of action which have an influence in producing or modifying the phenomena which we observe upon, or believe to be produced beneath, the surface of the earth.

DILATATION BY HEAT.

The volume of bodies is generally increased with an increase of temperature. There are, however, a few exceptions. Some metals, for example, expand at the instant of congelation; and clay contracts with the addition of heat. This last result, however, can scarcely be considered as an exception to the law, for it is the liberation of the water which is combined with the clay that causes it to contract.

All substances do not suffer the same increase of volume with a certain increase of temperature. Gases and vapours