

tion, and periodical colours, produced by crystals and by thin plates. We have, in these facts, a vast mass of properties and laws, offering a subject of study which has been pursued with eminent skill and intelligence. But these properties and laws, so far as has yet been discovered, exert no agency whatever, and have no purpose, in the general economy of nature. Beams of light polarised in contrary directions exhibit the most remarkable differences when they pass through certain crystals, but manifest no discoverable difference in their immediate impression on the eye. We have, therefore, here, a number of laws of light, which we cannot perceive to be established with any design which has a reference to the other parts of the universe.

Undoubtedly it is exceedingly possible that these differences of light may operate in some quarter, and in some way, which we cannot detect; and that these laws may have purposes and may answer ends of which we have no suspicion. All the analogy of nature teaches us a lesson of humility, with regard to the reliance we are to place on our discernment and judgment as to such matters. But with our present knowledge, we may observe, that this curious system of phenomena appears to be a collateral result of the mechanism by which the effects of light are produced; and therefore a necessary consequence of the existence of that element of which the offices are so numerous and so beneficent.

The new properties of light, and the speculations founded upon them, have led many persons to the belief of the undulatory theory; which, as we have said, is considered by some philosophers as demonstrated. If we adopt this theory, we consider the luminiferous ether to have no local motion; and to produce refraction and reflexion by the operation of its elasticity alone. We must necessarily suppose the tenuity of the ether to be extreme; and if we moreover suppose its tension to be very great, which the vast velocity of light requires us to suppose, the