

to facts, and in the coincidence with experience of results deduced from it by the most intricate analysis, that it is difficult to conceive it unfounded. If it be so, it is at least the most curiously artificial system that science has yet witnessed; and whether it be so or not, so long as it serves to group together in one comprehensive point of view a mass of facts almost infinite in number and variety, to reason from one to another, and to establish analogies and relations between them; on whatever hypothesis it may be founded, or whatever arbitrary assumptions it may make respecting structures and modes of action, it can never be regarded as other than a most real and important accession to our knowledge.

(291.) Still, it is by no means impossible that the Newtonian theory of light, if cultivated with equal diligence with the Huyghenian, might lead to an equally plausible explanation of phenomena now regarded as beyond its reach. M. Biot is the author of the hypothesis we have already mentioned of a rotatory motion of the particles of light about their axes. He has employed it only for a very limited purpose; but it might doubtless be carried much farther; and by admitting only the regular emission of the luminous particles at equal intervals of time, and in similar states of motion from the shining body, which does not seem a very forced supposition, all the phenomena of interference at least would be readily enough explained without the admission of an ether.

(292.) The optical examination of crystallized substances affords one among many fine examples of the elucidation which every branch of science is capable of affording to every other. The indefatigable researches of Dr. Brewster and others have shown that the phenomena exhibited by polarized light in its transmission through crystals afford a certain indication of the most important points relating to the structure of the crystals themselves, and thus become most valuable characters by which to recognise their internal constitution. It was Newton who first showed of what importance as a physical character,—as the indication of other properties,—the action