

direction perpendicular to the retinal surface. "The celebrated D'Alembert," Sir David himself writes, in an article published in the *Philosophical Magazine* for May, 1844, "maintains that the action of light upon the retina is conformable to the laws of mechanics; and he adds that it is difficult to conceive how an object could be seen in any other direction than that of a line perpendicular to the curvature of the retina at the point of excitement."—The opinion here expressed was abandoned by D'Alembert in consequence of conclusions to which he was led from the erroneous data with which he was furnished as to the structure of the eye; but, as the consideration which seemed to him to give an *a priori* likelihood to a law of visible direction identical with that which Sir David Brewster supposes himself to have experimentally established, may perhaps be thought by some to possess a measure of weight, I would observe that neither D'Alembert's conjecture, nor the inference which he drew from it, is in the least degree warrantable. On the one hand, it is by no means to be admitted that the action of light upon the living nerve, where the objective and subjective meet together, must, as a matter of course, take place according to the ordinary mechanical laws that prevail within a strictly objective sphere. And, on the other hand, even were that allowed, it would furnish no presumption in favour of the idea that we see objects in a direction perpendicular to the surface of the retina at the point of excitement. For who does not perceive that the question as to the direction to which the mind refers the stimulus that produces vision remains entirely undetermined, whatever be the conclusion we adopt as to the direction in which the retina is impressed?

Not only has Sir David Brewster failed in proving his law of visible direction, but it may without difficulty be shewn that the mind does not instinctively refer its visual affections to a remote stimulus lying in any determinate direction whatever from the point of the retina excited, so that *no definite Law of Visible Direction exists*. This view, and also the ground on which it rests, were hinted at in a previous part of the paper; but it may be proper to bring it out more fully. It is based on the elementary metaphysical distinction between immediate and mediate knowledge—immediate knowledge being realised, when a thing is known in itself; and mediate, when a thing is known inferentially, through means of something else. Now, when the mind refers an affection of which it is immediately cognizant, to a remote stimulus, the judgment of the mind assigning a perpendicular direction or position to the stimulus, is mediate. No immediate,