

mediums. I have, at the end of Chapter iii., given the reasons which prevent my assenting to the assertion of a special analysis of light by absorption. In the same manner, with regard to other effects produced by media upon light, it is sufficient for the defence of the theory that it should be consistent with the possibility of the laws of phenomena which are observed, not that it should explain those laws; for they belong, apparently, to another province of philosophy.

Some of the optical properties of bodies which have recently attracted notice appear to be of this kind. It was noticed by Sir John Herschel,¹ that a certain liquid, sulphate of quinine, which is under common circumstances colorless, exhibits in certain aspects and under certain incidences of light, a beautiful celestial blue color. It appeared that this color proceeded from the surface on which the light first fell; and color thus produced Sir J. Herschel called *epipolic* colors, and spoke of the light as *epipolized*. Sir David Brewster had previously noted effects of color in transparent bodies which he ascribed to internal dispersion:² and he conceived that the colors observed by Sir J. Herschel were of the same class. Professor Stokes³ of Cambridge applied himself to the examination of these phenomena, and was led to the conviction that they arise from a power which certain bodies possess, of changing the color, and with it, the refrangibility of the rays of light which fall upon them: and he traced this property in various substances, into various remarkable consequences. As this change of refrangibility always makes the rays *less* refrangible, it was proposed to call it a *degradation* of the light; or again, *dependent emission*, because the light is emitted in the manner of self-luminous bodies, but only in dependence upon the active rays, and so long as the body is under their influence. In this respect it differs from *phosphorescence*, in which light is emitted without such dependence. The phenomenon occurs in a conspicuous and beautiful manner in certain kinds of fluor spar: and the term *fluorescence*, suggested by Professor Stokes, has the advantage of inserting no hypothesis, and will probably be found the most generally acceptable.⁴

It may be remarked that Professor Stokes rejects altogether the doctrine that light of definite refrangibility may still be compound, and may be analysed by absorption. He says, "I have not overlooked the remarkable effect of absorbing media in causing apparent changes

¹ *Phil. Trans.* 1845.

² *Edinb. Trans.* 1833.

³ *Phil. Trans.* 1852 and 1854.

⁴ See *Phil. Trans.* 1852.