

BOOK IX.

PHYSICAL OPTICS.

Photography.

I HAVE, at the end of Chapter xi., stated that the theory of which I have endeavored to sketch the history professes to explain only the phenomena of radiant visible light; and that though we know that light has other properties—for instance, that it produces chemical effects—these are not contemplated as included within the domain of the theory. The chemical effects of light cannot as yet be included in exact and general truths, such as those which constitute the undulatory theory of radiant visible light. But though the present age has not yet attained to a *Science* of the chemistry of Light, it has been enriched with a most exquisite *Art*, which involves the principles of such a science, and may hereafter be made the instrument of bringing them into the view of the philosopher. I speak of the *Art of Photography*, in which chemistry has discovered the means of producing surfaces almost as sensitive to the modifications of light as the most sensitive of organic textures, the retina of the eye: and has given permanence to images which in the eye are only momentary impressions. Hereafter, when the laws shall have been theoretically established, which connect the chemical constitution of bodies with the action of light upon them, the prominent names in the Prelude to such an Epoch must be those who by their insight, invention, and perseverance, discovered and carried to their present marvellous perfection the processes of photographic Art:—Niepce and Daguerre in France, and our own accomplished countryman, Mr. Fox Talbot.

Fluorescence.

As already remarked, it is not within the province of the undulatory theory to explain the phenomena of the absorption of light which take place in various ways when the light is transmitted through various