

cations of light painting, which of late have received so many new extensions; we can hardly conceive of any that can be more valuable than this suggestion, for not only are the structures so minute and so delicate, but so varied and so numerous, that it is most difficult even for the fully initiated to clearly define them so as to make them clear to a bystander. Hence there is little wonder that a non-professional artist who knows not what he is to see, should be puzzled to make them out, and still more so to depict them. Of this every writer, Mr. Hogg* among the number, complains, and all find it most difficult and costly, sometimes almost impossible, to obtain truthful representations of those numerous changes in the eye, which the pathologist is so anxious to

secure. Should hereafter photography be capable, as we now incline to hope it may be (it has already been most usefully employed in depicting accurately and cheaply external changes and diseases), at no very distant time, of illustrating the hitherto hidden recesses of the human eye, it will supply a desideratum of no ordinary importance; for an absolutely correct picture of the living eye in health and disease will then be within the easy reach of every student of medicine, and thus one great cause of ignorance will be removed. While, therefore, Dr. Rosebrugh cannot as yet lay claim to complete success, he deserves credit for the advance which he has made on the road to it."

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Selected Articles.

PROCEEDINGS OF THE SOCIETY OF ARTS.

CANTOR LECTURES.

"ON CHEMISTRY APPLIED TO THE ARTS." BY DR. F. GRACE CALVERT, F.R.S., F.C.S.

LECTURE IV.

Delivered on Thursday Evening, April 21st, 1864.

ANIMAL FATTY MATTERS, the various processes for liberating them from the tissues in which they are contained. Their composition and conversion into soap. Composite candles. The refining of lard. *Old-liver, sperm, and other oils. Spermaceti and wax.*

It will be quite out of the question for me to enter upon a general description of the properties and compositions of fatty matters, as to do so would be to undertake far too wide a field of research. All that I can attempt in this lecture is to give an idea of their composition, and to describe

some of their most recent applications to arts and manufactures.

The question of the source of the fatty matters in herbivorous animals has been the subject of a great number of scientific researches, but those of Baron Liebig, Dumas, Boussingault, Payen, and Milne Edwards, have left no doubt that when the food of an animal contains a sufficient amount of fatty matter, this is simply extracted from the food, and stored or consumed according to the animal's habits, that is to say, its consumption is in ratio to the activity of the animal; thus, an animal in a state of great activity is comparatively thin, but when confined in a pen or stall it quickly fattens. These gentlemen also proved that when the food is deficient in fatty matters a portion of the amy-laceous or saccharine matter becomes converted into fatty matter. The most decisive experiments on this head were made by Mr. Milne Edwards, who found that when bees were confined under a glass shade, with no food but honey, they converted the greater portion of it into wax. Notwithstanding these proofs, however, chemists found it difficult to understand how substances so rich in

* Manual of Ophthalmoscope Surgery.