

SCIENCE

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SOME CHEMISTRY OF LIGHT¹

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FROM the dawn of history, chemistry has had much to do with the production of artificial light, and I wish now to recall to your minds a few illustrations. I will not burden your ears with a long story on physics or mechanics of light, but intend treating the subject of artificial light so as to show you that it has always been largely a subject for chemical investigation. I want to impress upon your minds that it is still a most green and fertile field for the chemist. I have tried to arrange a few familiar experiments to illustrate some of the facts touched upon, and it should be borne in mind that I am trying to interest an audience of chemists from widely different fields, rather than to present a chronological record of recent experimental research.

I can not tell just when chemistry was first scientifically applied to a study of artificial light. Most cardinal discoveries are made by accident and observation. The first artificial light was not made by design nor was the first improvement the result of chemical analysis. It is supposed that the first lamps were made from the skulls of animals, in which oil was burned. Herodotus, describing events about three centuries before Christ, says of the Egyptians:

At the times when they gather together at the city of Sais for their sacrifices, on a certain night they all kindle lamps many in number in the open air round about the houses: now the lamps are saucers full of salt and oil mixed and the wick

¹Presidential address delivered at the Boston meeting of the American Chemical Society, December 29, 1909.