

**A COURSE OF SIX LECTURES
ON THE CHEMICAL HISTORY OF
A CANDLE: TO WHICH IS ADDED
A LECTURE ON PLATINUM**

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A Course of Six Lectures on the Chemical History of a Candle: To Which is Added a Lecture on Platinum by Michael Faraday & William Crookes

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MICHAEL FARADAY & WILLIAM CROOKES

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COURSE OF SIX LECTURES
ON THE
CHEMICAL HISTORY OF A CANDLE:

TO WHICH IS ADDED
A LECTURE ON PLATINUM.

BY
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*Delivered before a JUVENILE AUDITORIUM at the ROYAL INSTITUTION of GREAT
BRITAIN during the Christmas Holidays of 1800-1.*

EDITED BY WILLIAM CROOKES, F.C.S.

WITH NUMEROUS ILLUSTRATIONS.

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PREFACE

FROM the primitive pine torch to the paraffin candle, how wide an interval! between them how vast a contrast! The means adopted by man to illuminate his home at night, stamp at once his position in the scale of civilisation. The fluid bitumen of the far East, blazing in rude vessels of baked earth; the Etruscan lamp, exquisite in form, yet ill adapted to its office; the whale, seal, or bear fat, filling the hut of the Esquimaux or Lap with odour rather than light; the huge wax candle on the glittering altar; the range of gas lamps in our streets,—all have their stories to tell. All, if they could speak (and after their own manner they can), might warm our hearts in telling, how they have ministered to man's comfort, love of home, toil, and devotion.

Surely, among the millions of fire worshippers and fire users, who have passed away in earlier ages, *some* have pondered over the mystery of

fire; perhaps some clear minds have guessed shrewdly near the truth. Think of the time man has lived in hopeless ignorance: think that only during a period which might be spanned by the life of one man, has the truth been known!

Atom by atom, link by link, has the reasoning chain been forged. Some links too quickly and too slightly made have given way, and been replaced by better work; but now the great phenomena are known, the outline is correctly and firmly drawn, cunning artists are filling in the rest, and the child who masters these Lectures knows more of fire than Aristotle.

The candle itself is now made to light up the dark places of nature: the blowpipe and the prism are adding to our knowledge of the earth's crust, but the torch must come first.

Among the readers of this book some few may devote themselves to increasing the stores of knowledge; the Lamp of Science *must* burn. "Alere flammam."

W. C.

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LECTURES
ON THE
CHEMICAL HISTORY OF A CANDLE.

LECTURE I.

A CANDLE: THE FLAME—ITS SOURCES—
STRUCTURE—MOBILITY—BRIGHTNESS.

I PURPOSE, in return for the honour you do us by coming to see what are our proceedings here, to bring before you, in the course of these lectures, the Chemical History of a Candle. I have taken this subject on a former occasion, and were it left to my own will I should prefer to repeat it almost every year; so abundant is the interest that attaches itself to the subject, so wonderful are the varieties of outlet which it offers into the various departments of philosophy. There is not a law under which any part of this universe is governed which does