
I Blessed Michael Faraday this Past Sunday!

**An article for *The Cathedral Times*
by the Very Rev. Sam Candler, *Dean of the Cathedral***

I blessed Michael Faraday this past Sunday! We transferred the Feast of Candlemas, the Feast of the Presentation, to the Sunday before its actual day, February 2. In the deepest part of mid-winter, we blessed light. We blessed candles! And I blessed Michael Faraday. Here is part of what I said about Faraday (from Sunday's sermon):

...on this day of candles, I salute another special character: Michael Faraday. I bless Michael Faraday. You might remember his name from your physics or chemistry classes, or from your early education about electricity and magnetism. An English physicist of the nineteenth century, he was the first person to create an electric current from a magnetic field. He thus invented the first electric motor and dynamo, and he discovered the effect of magnetism on light.

But what I especially admire about him was his famous ability to teach. Like Jesus, and like many of you, he was raised in a religious household; and he had the gift of being able to communicate complicated things directly, in ways that people could understand and even learn from.

In 1848, he delivered a series of brilliant lectures, simple lectures about a simple phenomenon. He titled the lectures, "The Chemical History of a Candle." Yes, a candle. In those six lectures, he demonstrated how the burning of a candle, the simple burning of candle, involves such a tremendous range of scientific processes. The lectures were so popular that they were published as a book in 1861, and I think the book remains in print: "The Chemical History of a Candle."

He starts the book by saying that "there is no better, there is no more open door by which you can enter into the study of science than by considering the physical phenomena of a candle." In examining the burning candle, Faraday introduced the concepts of mass, density, heat conduction, capillary action, and convection currents. He explained the difference between chemical and physical processes, such as melting, vaporization, incandescence, and all types of combustion.

For instance, Faraday showed in a fascinating way that it is not the wick that burns in candle light; it is the melted vapor right above the wick that is burning! Check it out! And the flame has different colors — blue to orange to red — because of heat variations. Faraday revealed the nature of gases in this lecture; he showed the properties of hydrogen, oxygen, nitrogen, and carbon dioxide.

He then used a candle to demonstrate respiration, how a candle takes oxygen from the air, combines it with carbon from the wax, and forms carbon dioxide and water, in the same way that a human being inhales oxygen and combines it with carbon-containing food to produce carbon dioxide and water, which are exhaled. (I take many of these notes from the book, Michael Faraday's *The Chemical History of a Candle*, by Bill Hammack & Don DeCoste, copyright 2016.)

Wow! The simple burning of a candle teaches us about all kinds of science. A candle teaches us about all kinds of life! It is good to celebrate candles and light today!

You can read more of the sermon [here](#). Thank you celebrating candles and light. In the midst of darkness, we light candles, in our hands and in our hearts. These candles have the light of life! And these candles can melt cold hearts and cold ice. Thank you for lighting candles of light and truth in today's world!

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A handwritten signature in black ink that reads "Sam Candler". The signature is fluid and cursive, with a long horizontal stroke extending to the right.

The Very Reverend Samuel G. Candler

Dean of the Cathedral of St. Philip

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