
The History, and the Light, of a Candle!

A sermon by the Very Rev. Sam Candler
The Feast of the Presentation

"The child grew and became strong, filled with wisdom." –Luke 2:40

Blessings to Michael Faraday!

Today, we joyfully keep the Feast of the Presentation, remembering how Joseph and Mary presented the child Jesus in the temple, some forty days after his birth. It was the customary thing to do. Then, they had heard the wise words of Simeon and Anna, who were at their customary places in the temple. Then, the holy family departed; and young Jesus grew and increased in wisdom. Filled with wisdom, he grew.

Early in Christian history, this Feast of the Presentation came to be known as Candlemas, a celebration of light. Christian churches began special prayers to bless light on February 2. This time of year (as you know from the past week!) is the bleak mid-winter, the deepest darkest part of year, exactly between the winter solstice and the spring equinox. Christians began to bless light in the darkness. We blessed candles.

And we still do! In the darkness, we bless light. Today, we give thanks for light! We bless candles! Candles of all shapes and sizes!

Well, 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!

I hope these candles today inspire us to study good science, and I hope they inspire us to study good light. Of course, since the time of Faraday, science has continued to study light; and its exact definition eludes us! Is light made up of particles or waves? Quantum packets? The famous slit experiment bewilders us.

I am a mere amateur and ignorant scientist; and I don't know exactly what light is, physically. But I know I crave light. I need light, especially at night when I am using lenses to see the stars. Binoculars need wide apertures to let light in! Cameras need wide apertures to let light in!

Churches need wide doors to let light in. Human beings need wide hearts to let light in. Light shows us the world. Light shows us truth, truth which is objective and true for all!

I don't know exactly who God is, physically. God is like light that way, tremendous and mysterious in deep holiness, so awesome that the Hebrew scriptures told us we are not supposed to look at God. If so, we would be blinded. Scientists teach us the same thing about the sun, and its tremendous – and dangerous – light. If we look directly at the sun, we will be blinded.

So, we make do with lesser lights. Lesser lights, but trustworthy lights, can approximate and accurately reflect the great grand light of God.

Yes, "Light" is a good metaphor, and good word, to use for God. Just like love, justice, mercy, truth, all are good words for God. But God is somehow bigger and larger than those words, too.

God is like light. I don't know exactly what light is, but it sure shows me the way. Light shows me the truth. I do not know exactly who God is, but God shows me truth and love.

So, these candles contain a history of chemistry, and they can also show us the depth and infinity of God, the Holy! These candles produce life-giving light and heat. These candles can melt ice. Please watch them! Pray with them! Observe and be fascinated! And we will touch the scientific secrets of life!

As you can tell, I lament a present-day ignorance of science in our world today. We are among people with an almost proud, unashamed ignorance of scientific observation. This is embarrassing. Science teaches us to be precise. Science teaches us to use precise words, to use precise numbers, to use accurate numbers. Science teaches us to tell the truth. And the civilized world progresses with accurate observation of the truth.

Thus, I say to all on this Feast of the Presentation, this Candlemas: But I say it especially to younger people: Be scientists! Absorb and reflect truth! Absorb and reflect light, just like these candles do.

Be candles of light and truth in the world! And like Jesus, grow! Be filled with wisdom, and increase in wisdom. The presentation in the temple, the presentation in this church, means to increase in wisdom and in years. Be students of science! Be students of light! Be students of the holy!

Light the candle!
Watch the candle!
Be the candle!

Be light and truth in the world!

AMEN.