

Bill of Rights in Action



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WHO WAS HYPATIA OF ALEXANDRIA?



Yale Center for British Art, Paul Mellon Collection

A 19th century British artist's depiction of Hypatia teaching at Alexandria. As you read, notice how people's perceptions of Hypatia's story have varied over the centuries.

Hypatia of Alexandria was a philosopher, astronomer, mathematician, and political advisor of great renown in her day. Unfortunately, it is likely that none of her philosophical or mathematical written work survives. But several historical accounts of her life and work do. Her violent death in 415 CE at the hands of a Christian mob has been a source of debate ever since.

Hypatia was born sometime between 350 and 370 CE in Alexandria in northern Egypt. The Greek conqueror Alexander the Great founded the city in the third century BCE. Alexandria later became a cosmopolitan crossroads of the Roman Empire and was a major seaport and center of learning and industry.

Hypatia came from an academic family. Theon, her father, headed a school in Alexandria known as the Mouseion. Hypatia later taught there. (The Mouseion was named for the Greek muses, and it is the origin of the English word *museum*.)

In the 4th century CE when Hypatia lived, one major school of philosophy was Neoplatonism, which literally meant “new Platonism.” Neoplatonism was a renewal of Plato’s philosophy that forms (ideas) are more real than the physical world. Ideas could take on mystical and spiritual qualities. Neoplatonist philosophy even influenced several Christian thinkers in its time, as well as Jewish and Islamic thinkers later in the Middle Ages.

As a Neoplatonist, Hypatia had a primary interest in discovering the mathematical structures that undergird the natural world. Hypatia may have written commentaries on the works of Euclid and Ptolemy that were influential in her day but are now lost to history. She also studied astronomy. She is one of the only people in the world who was able to construct a plane astrolabe (see sidebar on page 2).

SCIENCE MATTERS

The first article in this issue analyzes the life and death of the philosopher, astronomer, and mathematician Hypatia of Alexandria in the Roman Empire. The second article examines the controversy surrounding a successful inoculation program against smallpox in the 18th century and Cotton Mather's key role in it. The third article is an updated account of a 2002 BRIA article on current political and scientific issues related to human-caused global warming.

World History: *Who Was Hypatia of Alexandria?* by Aimée Koeplin, Ph.D.

U.S. History: *Cotton Mather and Boston's Smallpox Inoculation Fight* by longtime contributor Carlton Martz

U.S. Government/Current Issues: *Global Warming and the Paris Agreement* by Carlton Martz, with contributions by Damon Huss

Supplemental Activities!

Teacher-leaders from CRF's T2T Collab have created innovative activities for lessons in this issue! Look for the T2T symbol to access activities in the online editions.

T2T

The Mouseion met in and around the buildings surrounding the celebrated Library of Alexandria and the temple of the Egyptian-Greek sun god Serapis. We know that Hypatia was a highly sought-after teacher in the Mouseion.

Her students and disciples included members of Alexandrian society as well as prominent families from all over the Roman Empire. Many of her students at the Mouseion were Christians. Some went on to become bishops in the Christian church. She was an advisor to Orestes, the Roman prefect (governor) in Alexandria. He, too, had been her student.

Visiting dignitaries and Roman emissaries visited Alexandria to hear Hypatia's lectures and ask her advice on matters of state. Hypatia may have even traveled to Athens for some years as a visiting scholar.

Religious Tensions

When Hypatia was born, all of the prominent ruling families of Alexandria were pagans who worshipped the Greek gods. Hypatia also was a pagan. In 313 CE, Christianity became legal throughout the Roman Empire. For many years, pagans and Christians coexisted peacefully in Alexandria.

Toward the end of the 4th century CE, tensions between old-guard pagans and newly ascendant Christians rose. In 380 CE, Christianity became the official religion of the Roman Empire. This marked a profound social change. The religious balance in Alexandria shifted very quickly, and Christians who had been previously criminalized for their religious beliefs became the ruling class. In 391 CE, Theophilus, the Christian bishop of Alexandria, ordered the destruction of the highly regarded Temple of Serapis, an important location for members of Hypatia's Mouseion. A mob cut the statue of Serapis into pieces and then burned them.

Alexandria also had the largest Jewish population of any ancient city outside of ancient Israel. During conflicts in 414 or 415, Bishop Theophilus's successor, St. Cyril of Alexandria, expelled the Jewish community from the city, seizing their property and places of worship.

Caught in the Middle

Hypatia found herself in the crossfire of several political feuds. She was a pagan in a time when Christianity was expanding. As Christians increased in number, they gained political influence. And conflicts with pagans increased, too.

A Plane Astrolabe

Wikimedia Commons/
Luis Garcia (CC BY 3.0)



Hypatia was one of the few people who had the knowledge necessary to construct a plane astrolabe. The plane astrolabe measures the inclined position of heavenly bodies (stars and planets). Astronomers used it to predict the movements of heavenly bodies. Sailors used it to navigate at sea. Others used it to survey land and for timekeeping. The plane astrolabe had a more compact and easily usable size than the globe astrolabe, and it remained in use into the 19th century.

Bishop Theophilus declared one school of Neoplatonic thought to be a heresy. Heresy is a belief that conflicts with established Christian beliefs. But Theophilus favored Hypatia's version of Neoplatonism and allowed its study to continue.

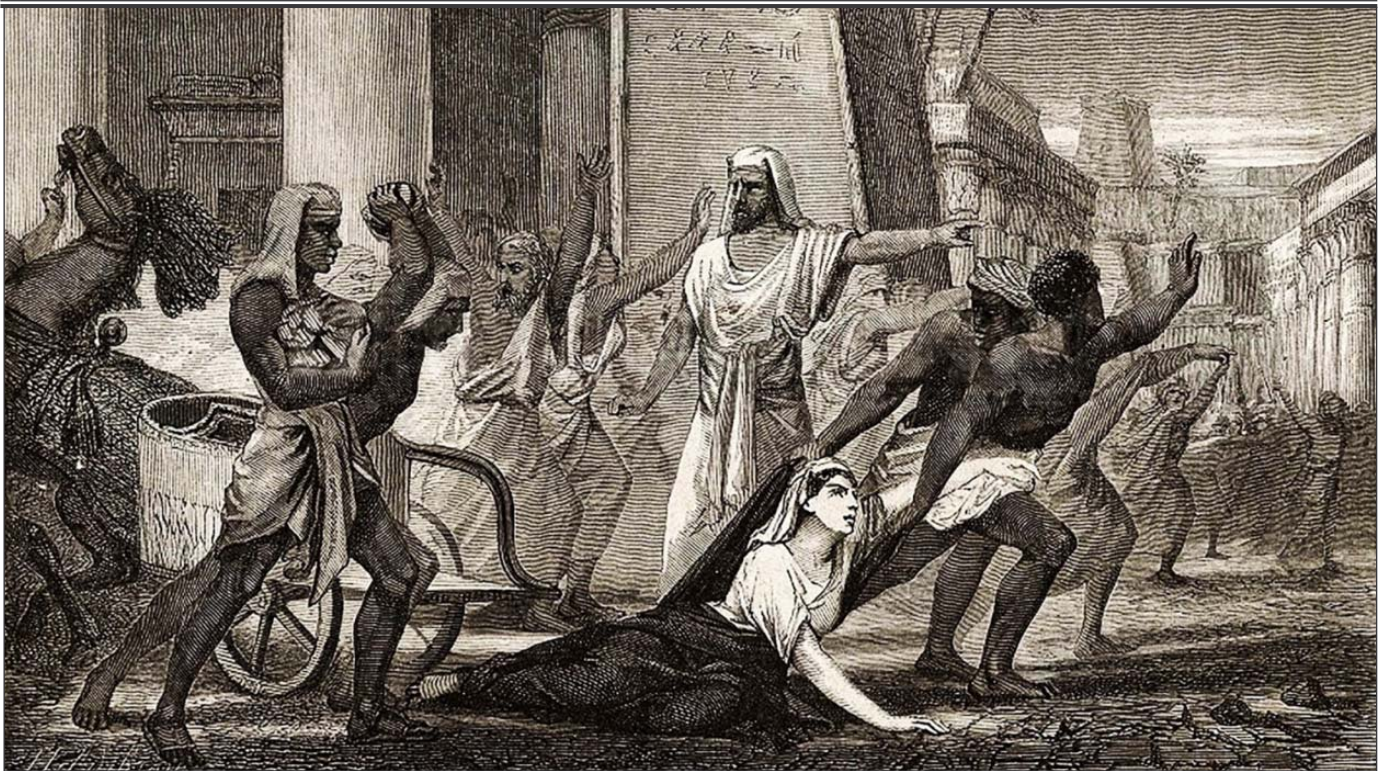
When Theophilus died unexpectedly in 412, a dispute broke out over who would succeed him. Would the new bishop be Timothy, Theophilus's acolyte and heir apparent? Or would it be Cyril, Theophilus's nephew? Hypatia backed Timothy, who had been a student of hers at the Mouseion. But Cyril was eventually chosen to be bishop.

Cyril entered into a bitter dispute with the governor of Roman Egypt, Orestes — another student of Hypatia's. Orestes was a former pagan who recently converted to Christianity. He and Cyril clashed over who would have greater authority in the Egyptian province. Orestes represented Roman authority, while Cyril represented local Christian authority.

When Cyril expelled Jews from Alexandria, Orestes was outraged. Cyril attempted to make peace with Orestes, but Orestes refused. Some Christian monks falsely accused Orestes of being pagan and even attacked him in the street. Orestes, in turn, had a prominent monk tortured to death. Other Christians accused Hypatia of counseling Orestes not to make amends with Cyril and for keeping him away from the influence of the Church.

In March of 415, Hypatia became a victim of these tensions. On her way home from a lecture, an angry Christian mob linked to Bishop Cyril captured her carriage.

Hypatia found herself in the crossfire of several political feuds.



A depiction of Hypatia's death published in France in 1865.

They dragged her through the streets and into a church known as the Caesareum. This was the main church in the city and the seat of Bishop Cyril.

Inside the Caesareum, they stripped Hypatia naked and hacked her to death with “ostraka.” (*Ostraka* could be translated as either “roof tiles” or “oyster shells”.) As with the statue of Serapis, the mob dragged her dismembered limbs into the streets and burned them outside the city walls. She was probably over 60 years old when she died.

Interpreting Hypatia

How should we understand Hypatia's story? After all, it is difficult to know after the centuries everything that really happened. We have only five documents that are considered primary sources for Hypatia's life and death. Of these five, three seem especially useful for understanding her story.

The first account we get of her death is Socrates Scholasticus's *Ecclesiastical History* (ca. 440). Scholasticus wrote 25 years after Hypatia's murder. He was a Christian and attributes her death to political rivalries between Cyril and Orestes.

The second account was Damascius's *Life of Isidore* (ca. 465). Damascius was a pagan who had recently been exiled by the Christian emperor Justinian. So we can infer that he had a less favorable attitude toward Christianity. Damascius wrote 50 years after the incident. He seems to attribute Hypatia's murder to Bishop Cyril's jealousy of her wisdom, her learning, and the number of students she attracted.

The third account was John of Nikiu's *Chronicle* (ca. 690), written more than 250 years after the incident. John of Nikiu was a Christian bishop who cast Hypatia as deserving of her fate. He invoked the idea of sorcery and claimed that she “beguiled many people through Satanic wiles.” He also claimed that Hypatia “enchanted” Prefect Orestes and led him away from the church.

The Story of Saint Catherine

Hypatia's story bears a striking resemblance to the legendary story of St. Catherine of Alexandria. According to legend, Catherine lived from 287 – 305 CE. She was a well-educated Alexandrian, conversant in philosophy and mathematics. At age 14, Catherine converted to Christianity after having a vision of the Madonna and Child.

Christianity was still an illegal, underground religion during Catherine's life. Eventually, pagan authorities discovered Catherine's faith. Like other Christians at the time, she was imprisoned and whipped by order of the Emperor Maxentius.

According to medieval sources, Catherine had great spiritual power. During her imprisonment, 200 visitors came to see her. All of the visitors converted to Christianity and were subsequently martyred, or executed for their beliefs. Torture failed to get Catherine to renounce her faith, so the emperor deployed 50 pagan philosophers to persuade her with reason. But instead of convincing Catherine, Catherine persuaded all 50 philosophers of the truth of Christianity. The philosophers were then martyred by burning.

Finally, Catherine was sentenced to death by a torture device known as “the spiked wheel.” But the wheel broke as soon as she touched it. (The broken wheel, or Catherine Wheel, became an artistic symbol of St. Catherine in the Middle Ages). Catherine was then beheaded.

Scholars note that we do not have any primary source documents recording the story of St. Catherine. The earliest written account of St. Catherine does not appear until the year 976 CE. Historians say her story seems to be derived from the Hypatia story, only with the Christian as the victim.

Later Interpretations

Hypatia’s story has captured people’s imagination throughout the years and even today. Different groups interpret Hypatia’s story in different ways, often for their own purposes.

In his history *The Decline and Fall of the Roman Empire*, published in 1776, Edward Gibbon takes the view that her death was the result of Christian aggression. A student of the Enlightenment, Gibbon generally portrays Christianity as intolerant of science and most learning. “[T]he murder of Hypatia,” Gibbon wrote, “has imprinted an indelible stain on the character and religion of Cyril of Alexandria.”

In the Victorian period, Charles Kingsley wrote a fiction novel, *Hypatia: New Foes with an Old Face*. Kingsley places the blame solely on Roman Catholics. Kingsley’s novel was adapted into stage plays that ran in Europe and the U.S. And so while Kingsley’s work did

a lot to popularize the Hypatia story in the modern era, it has been described as “militantly anti-Catholic.”

Christianity has sometimes gotten a reputation of taking a less than favorable view of women. Hypatia’s murder represents a perfect storm of suspicion of intellectualism plus misogyny. The 2009 Alejandro Amenàbar movie, *Agora*, follows Gibbon in this portrayal of Hypatia’s murder.

Hypatia was an example of a woman of great learning and renown in the ancient world. Her fame as a scholar in the Roman world inspires women in today’s academia. Many women philosophers and mathematicians especially consider her a hero. The leading journal in feminist philosophy in the English-speaking world, for example, is *Hypatia: a Journal of Feminist Philosophy*.

WRITING & DISCUSSION

1. Explain the tensions between the main religious groups in Alexandria in the 4th century CE.
2. One historian claims that “Hypatia’s death sent shockwaves throughout the empire.” What evidence is there in the article that that is true? What evidence is there in the article that that is untrue?
3. Is it possible to know which interpretation of Hypatia’s story is most accurate? How might the identity of an author, the historical time period of a written account, and any other factors affect the accuracy of an interpretation of her story? Cite three examples from the article in your answer.

ACTIVITY: The Meaning of Hypatia’s Life and Death

As disclosed in the article there are different interpretations about Hypatia’s life and death. Consider these three hypothetical statements:

Statement 1: Hypatia is a symbol of Christian oppression of pagan philosophy and religion.

Statement 2: Hypatia’s death was the result of the political feud between Prefect Orestes and Bishop Cyril.

Statement 3: Hypatia is a powerful symbol for female scientists because of her status as a mathematician, philosopher, and astronomer, and because of her death at the hands of those wanting to suppress women.

Conduct a discussion following these steps:

1. Divide the class into groups of four or five students each.
2. Review each statement with reference to the article and discuss: What evidence supports this statement? What evidence contradicts this statement? Based on the evidence, is the statement valid?
3. In a whole-class discussion, each group should report and discuss its findings.



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Sources

Hypatia of Alexandria

Booth, Charlotte. *Hypatia: Mathematician, Philosopher, Myth*. Fonhill Media, 2017. • Deakin, M. A. B. "Hypatia of Alexandria." History of Mathematics Section, *Function*. Melbourne: Monash University Mathematics Department, 16 (1): 17–22, 1992. • Deakin, Michael. "The Primary Sources for the Life and Work of Hypatia of Alexandria." *History of Mathematics*, 63, 1995. • Dzielska, Maria. *Hypatia of Alexandria*. Cambridge: Harvard University Press, 1996. • Dzielska, Maria. "Learned women in the Alexandrian scholarship and society of late Hellenism." *What Happened to the Ancient Library of Alexandria?*, edited by Mostafa el-Abadi and Omnia Mounir Fathallah. Leiden: Brill, pp. 129–148, 2008. • Hinge, George, and Jens A. Krasilnikoff. *Alexandria: A Cultural and Religious Melting Pot*. Aarhus University Press, 2009. • Rosman, Artur. "Bye-Byr Hypatia Science Martyr?." *Cosmos in the Lost*, 16 Mar. 2014, www.patheos.com. Accessed 24 Aug. 2018. • Watts, Edward J. *Hypatia: Life and Legend of an Ancient Philosopher*. Oxford University Press, 2017. • Whitfield, Bryan J. "The Beauty of Reasoning: A Reexamination of Hypatia and Alexandria." *The Mathematics Educator*. University of Georgia, 6(1): 14–21, 1995.

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Standards Addressed

Hypatia of Alexandria

California History Social Science Standard 6.7. Students analyze the geographic, political, economic, religious, and social structures during the development of Rome. (7) Describe the circumstances that led to the spread of Christianity in Europe and other Roman territories.

California History Social Science Standard 10.1. Students relate the moral and ethical principles in ancient Greek and Roman philosophy, in Judaism, and in Christianity to the development of Western political thought. (1) Analyze the similarities and differences in Judeo-Christian and Greco-Roman views of law, reason and faith, and duties of the individual.

National World History Standard 9. Understand how major religious and large-scale empires arose in the Mediterranean Basin, China, and India from 500 BCE to 300 CE. Middle School: (5) Understands the status and role of women in Roman society. (6) Understands the influence of Christian beliefs on political, social, and cultural aspects of society.

National World History Standard 11. Understands major global trends from 1000 BCE to 300 CE. Middle School: (2) Understands the development of large regional empires (e.g., . . . state bureaucracy . . . belief systems . . .). Knowledge/skill statement 4: Understands the significance of belief systems in the development of large regional empires.

Common Core State Standards: SL.6-8/9-10-12.1, SL.6-8/9-10.3, RH.6-8/9-10.1, RH.6-8/9-10.2, RH.6-8/9-10.3, RH.6-8/9-10.4, RH.6-8/9-10.10, WHST.6-8/9-10.1, WHST.6-8/9-10.2, WHST.6-8/9-10.9, WHST.6-8/9-10.10.

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601 South Kingsley Drive, Los Angeles, CA 90005
213.487.5590 • Fax 213.386.0459
crf@crf-usa.org • www.crf-usa.org

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