

HYPATIA

Around 400 CE, Alexandria, the capital of Egypt with a population of 600,000, was one of the greatest intellectual centers in the days when Athens and Rome still ruled the world. Alexandria is famed for its magnificent library and its stupendous temple of Serapis. Antagonism between Christianity and Paganism often was the occasion of street riots, feuds and civil war. At the time mathematician and philosopher Theon, who according to the Byzantine encyclopedia *The Suda*, was the last head of the Museum at Alexandria, was one of the most educated men in the city. He raised his gifted daughter **Hypatia** (c. 370 – 415 CE) to be a perfect human being, sharing with her his knowledge and cultivating her all-compelling passion for the life of the mind. The most significant contributions of Theon were an edition of Euclid's *Elements*, a commentary on Ptolemy's *Almagest*, and for encouraging and guiding his far more brilliant daughter's mathematical, scientific and philosophical education. Hypatia was the first woman known to make a substantial contribution to the development of mathematics.



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Hypatia persuaded her father to send her to Athens where her brilliance and devotion to the cultivation of the mind won her the laurel wreath, an honor that the University of Athens only conferred on its most outstanding students. Hypatia wrote *The Astronomical Canon* and commentaries [textbooks for students] on Diophantus and the *Conics* of Apollonius. She made the concepts of hyperbolas, parabolas, and ellipses easier to understand, thus ensuring the work would survive throughout the centuries. None of her works are extant and what is known of her life depends mostly on secondary sources, some of which are not reliable. Primary sources giving information about the life and works of Hypatia are an entry in the *Suda* Lexicon, an excerpt from the *Ecclesiastical History of Socrates Scholasticus*, a passage from *The Chronicle of John, Coptic Bishop of Nikiu*, a collection of letters

written by Hypatia's student, Synesius of Cyrene, and a series of four short extracts from other works. In 1995, Harvard University Press published Maria Dzielska's book-length biography *Hypatia of Alexandria*. Over the centuries many fictional accounts of Hypatia's life and death have appeared. Generally, the authors of these works were more interested in expressing their philosophical ideas or biases than in being historically accurate. While many of the anecdotes about her life are apocryphal, they contribute to an interesting legend, related here with a caveat.

By most accounts Hypatia was an extremely virtuous woman, very learned and of singular beauty, modesty, and wisdom. Around 400 A.D., she became the head of the Platonist school at Alexandria. She was the most popular person in the city. Poets called her the "Virgin of Heaven," "the spotless star," "of highest speech the flower." Students from Rome and Athens and all the great cities of the empire came to Alexandria to attend her eloquent lectures on mathematics and philosophy. Letters written and addressed simply to the "philosopher" were delivered to her. She would put on her philosopher's cloak and laurel wreath and walk through the city publicly interpreting Plato, Aristotle, or the works of other philosophers for those who gathered around her. Hypatia was articulate and eloquent in her speaking and devoted herself diligently to all philosophy.

Hypatia had a powerful friend in the person of Orestes, the Roman prefect of Alexandria, and they shared a powerful enemy, Cyril, the patriarch of Alexandria. The latter felt the talent and popularity of this pagan woman was a threat to Christianity. No doubt Cyril feared that the populace would embrace her dangerous teachings, which included sentiments such as: "All formal dogmatic religions are fallacious and must never be accepted by self-respecting persons as final," "Reserve your right to think, for even to think wrongly is better than not to think at all" and "To teach superstitions as truth is a most terrible thing." Her brilliance meant nothing to Cyril. It appalled him that this frail woman dared to be free and think for herself. He believed if she were out of the way, the people would turn to God and

away from her paganistic neoplatonic philosophy.

One day in 415 A.D. as Hypatia left her house to go to her school, she was attacked by a mob. Some sources claim it consisted of some 500 monks, led by Cyril's right-hand man Peter the Reader. She was dragged into the church called Caesareum, where they completely stripped her and there before the altar, her skin was scraped from her body with pieces of broken pottery. After mutilating her body they took it to a place called Cinaron and flung her into a burning pyre.

Did Cyril order her tragic death? It is believed that he spread virulent rumors about her and this inspired some of his followers to take her life. Whatever his complicity, the Catholic Church later canonized Cyril. With her death, Hypatia's legend was born. She has been a favorite heroine for artists, writers, poets and feminists ever since.

Quotation of the Day: “[Hypatia was], among the women of antiquity what Sappho was in poetry and what Aspasia was in philosophy and eloquence – the chiefest glory of her sex. In profundity of knowledge and variety of attainments she had few peers among her contemporaries and she is entitled to a conspicuous place among such luminaries of science as Ptolemy, Euclid, Apollonius, Diophantus and Hipparchus.” – J.J. Moznas