

Philo, Religion, and Mathematics 18

Philo Judaeus (20 B.C.–A.D. 50) was a Neoplatonist religious philosopher from Alexandria whose views on God disturbed mathematicians of his time. Philo believed that the world is dependent upon God, but that God is independent of the world—a fundamental assumption in Judaism, Christianity, and Islam. He maintained that God is omnipotent, which meant to him four things.

- God created the world out of nothing and implanted in it certain laws of nature by which it is governed.
- Before the creation of the world, God could have chosen not to have created it or to have created another type of world governed by another type of law.
- In the now-existing world, God can override the laws that are implanted in the world and can create what are called miracles.
- God can destroy this world and create in its stead a new world.

This view ran counter to the views of mathematicians who believed that mathematics was a permanent and infallible external truth. The possibility that mathematical law could be abolished by some authority troubled them—and other religious philosophers as well. Opinion was split on whether God’s omnipotence included the power to “bring it about that it should not follow from the nature of a triangle that its degrees should be equal to two right angles” (Wolfson, *Religious Philosophy*).

One opinion placed God at the pinnacle of power, able to control the laws of mathematics. The opposing opinion limited God’s power, seemingly separating God and mathematics.

The Platonic view of mathematics came close to equating the word *God* with the word *mathematics*, which meant that mathematics was independent of the world. Therefore, mathematics existed prior to and apart from the world, and if the world ever came to an end, mathematics would continue to exist. Because the word *world* has long referred to the whole physical cosmos, those involved with the early development of mathematics took on the task of discovering the mathematics that had always existed. They often found themselves asking: Are the laws of mathematics the laws of God? Even today, some scholars debate this question. ★



The relationship between the spiritual and the secular, illustrated as a discussion between Theologus and Astronomus, the personifications of theology and astronomy. From Alliaco's Concordatia astronomia et theologia (Augsberg, 1490).

Activities

1. Who were the Platonists and the Neoplatonists? What was the philosophy of each group?
2. How was the development of mathematics affected by the rise of Christianity? By Islamic beliefs? Do the religious beliefs of today's world affect the current study and development of mathematics? In what ways?
3. What reaction do you think Philo would have had to the discovery of non-Euclidean geometries? What about the early mathematicians who believed that mathematics was a permanent and infallible external truth? (For information on non-Euclidean geometries, see vignettes 63 and 66.)

Related Reading

Barrow, John D. *Pi in the Sky: Counting, Thinking, and Being*. New York: Oxford University Press, 1992.

Davis, Philip, and Reuben Hersh. *Descartes' Dream*. New York: Harcourt Brace Jovanovich, 1986.

Ferris, Timothy. *The Universe and Eye*. San Francisco, CA: Chronicle Books, 1993.

Hawking, Stephen. *A Brief History of Time*. New York: Bantam Books, 1988.

Jaki, Stanley L. *Cosmos and Creator*. Edinburgh: Scottish Academic Press, 1980.

Ross, Hugh. *The Fingerprint of God*. Orange, CA: Promise Publishing, 1989.

Thiel, Rudolf. *And There Was Light: The Discovery of the Universe*. New York: Alfred A. Knopf, 1957.

Wolfson, Harry. *Religious Philosophy*. Cambridge, MA: Harvard University Press, 1961.