

*Yearbook. American Philosophical Society* (1952), 5–12; and E. N. Harvey, "Edwin Grant Conklin," in *Biographical Memoirs. National Academy of Sciences*, 31 (1958), 54–91.

Particularly interesting is Conklin's brief autobiography, published as a chapter in *Thirteen Americans: Their Spiritual Biographies*, Louis Finkelstein, ed. (New York, 1953).

GARLAND E. ALLEN

**CONON OF SAMOS** (*b.* Samos; *fl.* Alexandria, 245 B.C.), *mathematics, astronomy, meteorology.*

Conon made astronomical and meteorological observations in Italy and Sicily before settling in Alexandria, where he became court astronomer to Ptolemy III (Ptolemy Euergetes). He became the close friend of Archimedes, who was in the habit of sending him mathematical propositions that he believed to be true but had not yet succeeded in proving. He is famous chiefly for his identification of the constellation *Coma Berenices*, named in honor of Ptolemy's consort. This must have taken place about 245 B.C.; and since he predeceased Archimedes by a considerable number of years, he must have died well before 212. His friend Dositheus took his place as Archimedes' correspondent. To Vergil and Propertius, Conon became a symbolic figure for the astronomer, probably through Callimachus' elegy on the discovery of *Coma Berenices*, which Catullus translated into Latin.

Apollonius relates that Conon, in a work sent to Thrasydaeus, treated the points of intersection of conic sections with each other and with a circle—but inaccurately, so that he was rightly attacked by Nicoteles of Cyrene. Pappus states that Conon enunciated "the theorem on the spiral" proved by Archimedes, but this contradicts what Archimedes himself says. For Archimedes tells Dositheus that he had sent Conon three groups of propositions which were subsequently proved in his treatises *On the Sphere and Cylinder*, *On Conoids and Spheroids*, and *On Spirals*—as well as two on sections of a sphere that were not correct—and Conon died before he was able to inquire into them sufficiently.

Claudius Ptolemy's *Risings of the Fixed Stars* attributes seventeen "signs of the seasons" to Conon. He clearly played a notable part in the development of the *parapegma*, the Greek astronomical and meteorological calendar. Seneca testifies that Conon diligently studied the records of solar eclipses kept by the Egyptians. The poetic assessment of his work in Catullus (66.1–4)—that he "discerned all the lights of the vast universe, and disclosed the risings and settings of the stars, how the fiery brightness of the sun is darkened, and how the stars retreat at fixed times"—seems, therefore, a fair summary. Probus' commentary on Vergil's *Eclogues* (3.40) ranks Conon

with the great astronomers of antiquity; and the Bern scholiast to this passage calls him *mathematicus, stellarum peritissimus magister* ("a mathematician and most skilled master of the stars").

Conon's chief claim to fame shows, however, his talent as a courtier rather than as an astronomer. Berenice had vowed to dedicate a lock of her hair in the temple of Arsinoë Zephyritis if her newly married husband returned victorious from the Third Syrian War, which had begun in 246 B.C. He quickly returned, and she duly fulfilled her vow. The following day the lock of hair disappeared; and Conon professed to see it in some stars between Virgo, Leo, and Boötes that have been known ever since as *Βερενίκης πλόκαμος, Coma Berenices*.

#### BIBLIOGRAPHY

According to Probus, Conon left a work in seven books, *De astrologia*. As noted above, Apollonius, *Conics*, IV, pref., records that he wrote a treatise, *Πρὸς Θρασυδαῖον*, on the points of intersection of conic sections with each other and with a circle. It is a fair deduction from Seneca, *Quaestiones naturales*, VII. iii, 3 that he wrote a book on eclipses of the sun. None of these works has survived.

The fullest modern account is Albert Rehm's article "Konon, 11," in Pauly-Wissowa, XI, 1338–1340. See also Gerald L. Geison, "Did Conon of Samos Transmit Babylonian Observations?," in *Isis*, 58, pt. 3, no. 193 (1967), 398–401.

IVOR BULMER-THOMAS

**CONRAD, TIMOTHY ABBOTT** (*b.* near Trenton, New Jersey, 21 June 1803; *d.* Trenton, New Jersey, 8 August 1877), *paleontology, malacology.*

Conrad was one of the first American paleontologists to correlate regional Tertiary strata on the basis of their contained fauna, to compare American fossils with foreign fossils, and to attempt intercontinental correlation. He was the son of Elizabeth Abbott and of Solomon White Conrad, a printer, a minister of the Society of Friends, and professor of botany at the University of Pennsylvania. The family often entertained such eminent naturalists as Say, Nuttall, and Rafinesque. In this environment young Conrad became so interested in science that he was removed from the rolls of the Society of Friends for taking nature walks on the Sabbath. He attended a Quaker school in West Town, Pennsylvania; and although he never went to college, he taught himself Latin, Greek, French, and natural history. He had a talent for drawing and learned lithography in his father's printing shop. These skills served him well in later