

Wang Zhenyi (1768-1797)

Astronomer,
Poet, and
Mathematician



Early Life:

Wang Zhenyi was born in 1768 in Nanjing, China, during the Qing Dynasty. She came from a Manchu family of scholars. Her grandfather and father encouraged her curiosity, and she was allowed to access an extensive library. Travelling across China with her father gave her a broad understanding of the country. Her access to physical activity, travel, and education was unusual for the time, and supported her intellectual development.

Education:

Zhenyi received guidance from her family but was mostly self-taught. Her grandfather taught her astronomy, while her father taught her medicine, geography, and mathematics. Her grandmother taught her poetry, and she continued her education through reading and travel. She studied literature, natural sciences, and advanced mathematics, including trigonometry. She also practiced horse riding, archery, and martial arts.

Contributions to their field:

Wang Zhenyi made important contributions to astronomy by explaining lunar and solar eclipses and the equinoxes. She conducted experiments using a table, mirror, and crystal lamp to model the movements of the Earth, Moon, and Sun. Her work helped the Chinese understanding of celestial mechanics and supported a Sun-based calendar. In mathematics, she simplified ideas and wrote *Simple Principles of Calculation* at 24. She also conducted meteorological studies to improve weather prediction.

Fun fact:

In 1994, a crater on Venus was named after her.

Unique circumstances/adversity:

Wang Zhenyi pursued science and mathematics at a time when women were discouraged from formal education. She had to prove herself in fields dominated by men. Male critics often judged her work by her gender rather than quality. Many of her original scientific works were lost after her death. She died young in 1797, limiting the recognition she received during her lifetime.

Fun fact:

She married Zhan Mei at 25, which was considered old for the time.