Tycho Brahe’s Contribution To Physics Essay, Research Paper

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TYCHO BRAHE

Tycho Brahe was born on December 14th, 1546 in a town called

Knudstrup in Scania, Denmark. His early years were filled with pain, as he

was kidnapped by his uncle and raised in his castle in Tostrup, Scania. His

education was backed by his uncle, and he went to the University of Copenhagen

to study law from 1559-1562. It was during this time that Brahe developed a

love for astronomy. He saw a solar eclipse of the Sun which was predicted for

August 21st 1560, and he found it fascinating how a prediction of that nature

could be made. He also developed small globes with the help of some of his

instructors at Copenhagen. In 1562, Brahe was sent to the University of Leipzeg

where he studied until 1565. During this period, he made his first astronomical

observation. He saw an overlapping of Jupiter and Saturn, and saw that the

almanacs and ephemerides of the time were inaccurate.

Between 1565 and 1570,

he traveled Europe, studying at Wittenberg, Rostock, Basel, and Augsburg. During

this time he gathered astronomical and mathematical instruments, including

a large quadrant. In 1571, he settled in Scania after inheriting the land of

his father and uncle and built a small observatory. Here, he discovered a star,

one which had not been seen, that was brighter than Venus. This supernova in

the constellation Cassiopeia shocked the scientific community because it suggested

that the universe was not in fact perfect and unchanging, as it was believed

to be at the time.

With the discovery of this “new” star, Brahe dedicated

himself to astronomy. Frederick II, king of Denmark and Norway, provided Tycho

with funds to construct and equip an astronomical observatory on the island

of Hven in 1576. Brahe named this observatory Uraniborg. For 20 years, the

observatory was the center for astronomical study and discovery in northern

Europe. In 1577 he proved that the orbit of the comet of 1577 did lay beyond

the moon. He also charted accurate positions for more than 777 fixed stars.

He also proposed a modified Copernican system which suggested that the planets

revolved around the Sun which in turn moved around the Earth, which was stationary.

Frederick II died in 1588 and his son Christian IV took over as king. Brahe

lost most of his income as a result. Tycho left Hven and his observatory in

1597.

He was offered a grant to Bohemia from the Holy Roman Emperor Rudolf

II, who gave him a pension of 3000 ducats and an estate near Prague. He started

building a new observatory, but died in 1601 before it could be completed.

Brahe?s work was indeed significant. His data that he had accumulated during

his lifetime was extremely accurate, and it allowed his assistant Johannes

Kepler to formulate his three laws of planetary motion. He also laid the ground

work for Sir Isaac Newton. Much of what we know about astronomy is thanks to

Tycho Brahe. His last words in Prague were, “Ne frustra vixisse videur,” or,

“May I not seemed to have lived in vain.” He indeed did not.

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