Max Karl Ernst Ludwig Planck

BY: Nicole Husky

Early Life

- Max Karl Ernst Ludwig Planck was born on April 23, 1858 in Kiel, Germany.
- He was the sixth child in a quite intelligible family.
- In 1867 his family moved to Munich, and Planck was enrolled in Munich's Königliches Maximiliansgymnasium, where he was influenced by Hermann Müller, a mathematician who taught him astronomy and mechanics as well as mathematics. It was from Müller that Planck first learned the principle of conservation of energy. Planck graduated early, at age sixteen.
- It is somewhat strange that Planck chose to pursue physics because he was very musically talented.

University Life

- In 1877 he went to Berlin for a year of study with the famous physicists Hermann von Helmholtz and Gustav Kirchhoff and also the mathematician Karl Weierstrass.

- Planck studied at the Universities of Munich and Berlin. He had well-renowned teachers during his learning career. He received his doctorate of philosophy at Munich in 1879.

- He briefly taught mathematics and physics at his former school in Munich.

QuickTime™ and a
TIFF (Uncompressed) decompressor
are needed to see this picture.

Initial Career Moves

- Planck started as an unpaid private lecturer in Munich, anxiously waiting to be offered an academic position.
- He was ignored by the academic community at first.
- In April 1885 the University of Kiel appointed Planck an associate professor of theoretical physics.
- In 1889 Planck changed to being a professor at Berlin University. He taught at Berlin University up until his retirement in 1926.
- Following his retirement he became part of the President of the Kaiser Wilhelm Society for the Promotion of Science.
- He became a member of the Prussian Academy of Sciences in 1894 and was appointed Secretary of the Academy in 1912.

Work and Studies

- Planck initiated the study of quantum mechanics when he announced in 1900 his research in regards to the radiation and absorption of heat and light by a black body.

- His theoretical research displayed that the energy emitted by a resonator could only take on discrete values. The energy for a resonator of frequency v is hv where h is a universal constant, now called Planck's constant.

- His work is summarized in two books *Thermodynamik* (Thermodynamics) published in 1897 and *Theorie der Wärmestrahlung* (Theory of heat radiation) published in 1906.

Awards & Achievements

- In 1918, Planck was awarded the Nobel Prize for Physics.
- In 1926, he was elected to Foreign Membership of the Royal Society, and was awarded the Society's Copley Medal in 1928.
- In 1937 Planck was one of three hundred and thirty mathematicians to be awarded as a Fellow of the Royal Society of Edinburgh.
- Planck is also one of about 300 mathematicians who have lunar features named after them. These lunar features are usually craters.

Quotations

- “An important scientific innovation rarely makes its way by gradually winning over and converting its opponents: it rarely happens that Saul becomes Paul. What does happen is that its opponents gradually die out, and that the growing generation is familiarized with the ideas from the beginning.(New York 1949).”
- “If anybody says he can think about quantum problems without getting giddy, that only shows he has not understood the first thing about them.”
- “His name stands magnificently over the portal of classical physics, and we can say this of him; by his birth James Clerk Maxwell belongs to Edinburgh, by his personality he belongs to Cambridge, by his work he belongs to the whole world.”

Personal Life

- He was a great pianist.
- He remained in Germany during the time of the Nazi government, which deeply troubled him.
- He married twice. In 1885, he married Marie Merck, a professor in his native town. Later he married her cousin, Marga von Hösslin.
- Three of his children died young, leaving him with only two sons.
- He died at Göttingen on October 4, 1947.

Works Cited

"Max Karl Ernst Ludwig Planck." School of Mathematics and Statistics. October 2003. University of St. Andrews. 9 April 2006 <http://www-groups.dcs.st-and.ac.uk/~history/Mathematicians/Planck.html>.

"Max Planck-Biography." NobelPrize.org. April 14 2005. Nobel Foundation. 11 April 2006 <http://nobelprize.org/physics /laureates/1918/planck-bio.html>.