

Vale: Harold Walter Kroto, 1939-2016

Harry Kroto was born on October 7, 1939 in Cambridgeshire, England and died on April 30, 2016 in East Sussex, England of complications due to amyotrophic lateral sclerosis, commonly called Lou Gehrig's disease. In 1996 he shared the Nobel Prize in Chemistry for his contributions to the discovery of a new form of the 60-carbon structure named 'buckminsterfullerene', now widely known as 'buckyballs'.

Dr Kroto was a former president of the Royal Society of Chemistry and he was knighted in 1996 for his many contributions to science and society. In 1985 Harry and his colleagues focused a strong laser on a thin layer of graphite and produced a soccer-ball-like structure consisting of 12 pentagons and 20 hexagons. Their work has resulted in a great deal of research in nanotechnology.



In addition to his many honors in chemistry, Harry was an active science educator and a secular humanist who spoke out against what he believed were the many negative aspects of religion. His strong commitment to humanism included support of the British Humanist Association and in 2003 he was one of 22 Nobel Laureates who signed Humanist Manifesto III, that included the following central beliefs: empiricism, unguided evolutionary change, and ethical naturalism.

During his early school years Harry developed a keen interest in physical science and mathematics, later completing a BSc in chemistry (1961) and a PhD in molecular spectroscopy (1964) at the University of Sheffield. As a youngster he was fascinated with a Meccano set, similar to the Erector set in the U.S., that he credited with helping to develop his interests in science and mathematics. Following his PhD completion Harry continued his research in molecular spectroscopy at the National Research Council in Ottawa, Canada (1964-1966) and Bell Labs in the U.S. (1966-1967). Then in 1967 Dr. Kroto accepted an academic position at the University of Sussex where he taught and continued his research, becoming a full professor in 1975. During this time and continuing through 1985, Harry and his research colleagues showed that stable C₆₀ molecules can form from a condensing carbon vapor. His 1985 research paper "C₆₀ Buckminsterfullerene", with colleagues Heath, O'Brien, Curl, and Smalley, eventually led to his 1996 Nobel Prize in Chemistry and many other honors. Following the discovery of C₆₀, Harry worked on its implications for chemistry and materials science.

In 2004 Dr. Kroto accepted a position in the Chemistry Department at Florida State University in Tallahassee to continue his research on carbon vapor and the properties of nano-structured systems and he continued science curriculum development that he had started in the 1990s. Vega Science Trust produced hundreds of programs for educational TV and in 2009 GEOSSET (Global Educational Outreach for Science, Engineering and Technology) was initiated to increase knowledge of science by the public. It was during his time in Tallahassee that Harry became involved in the local Freethinker Forum and the Center for Inquiry as

Honorary President. His work there on behalf of science education and secular humanism reflected his strong commitment to Enlightenment ideals and one of his favorite quotes is by Albert Einstein: “I believe in Spinoza’s God who reveals himself in the orderly harmony of what exists, not in a God who concerns himself with the fates and actions of human beings.” Commenting on Kroto’s opposition to religion, Richard Dawkins said it was inspired by ...”his equally passionate love of science and his commitment to sharing his enthusiasm.”

On May 2, 2015, just before they left Tallahassee to return to England a dinner was held to honor and celebrate Harry and Margaret Kroto’s contributions to FSU, and the local community, including the Freethinker Forum and Center for Inquiry. At that dinner I asked them if a biography of Harry was planned and he said a different kind of biography would be available soon. What he meant can now be found at www.kroto.info, and it consists of a comprehensive set of information about Harry’s life and work, including: main contributions, autobiography, family, timeline, research strategy, teaching and education initiatives, lectures, Where I stand!, skepticism & humanism, and many other topics, including Harry’s Nobel acceptance speech. The Where I stand category should be of particular interest to persons interested in secular humanism and philosophy.

As an alternative to the standard book biography, www.kroto.info is a great internet resource for anyone interested Harry’s life. He was a wonderful example of a world-class scientist who understood the importance of teaching children about the wonders of science and helping adults see the value of using scientific habits of mind in dealing with life’s questions and problems.

Ronald Good