

Wulff Dieter Heintz (1930-2006)

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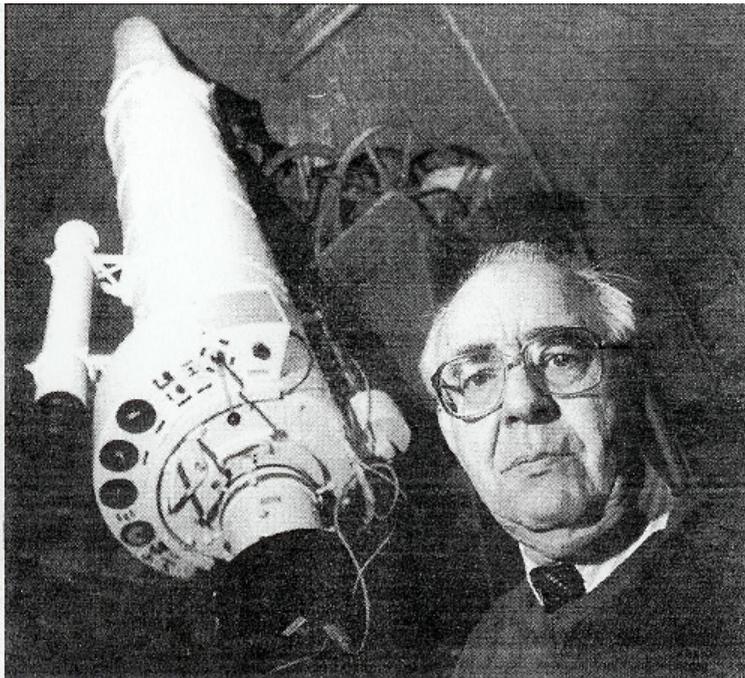


Figure 1. Wulff with the Sproul refractor.

Wulff Dieter Heintz, Professor Emeritus of Astronomy at Swarthmore College, passed away at his home on 10 June 2006, following a two-year battle with lung cancer. He had just turned 76 a week earlier. Wulff was one of the leading authorities on visual double stars, and was also a chess master. A prominent educator, researcher, and scholar, Wulff was noted for being both succinct and meticulous in everything he did. Wulff Heintz was born on 3 June 1930 in Würzburg (Bavaria), Germany. Naturally left-handed, the young Wulff's elementary school teachers forced him to learn to write "correctly" using his right hand, and so he became ambidextrous. During the 1930s, Wulff's family saw the rise of Adolph Hitler and lived under the repressive Nazi regime. Conditions were austere, and it was often difficult to find fuel to keep the house warm. As a teenager during World War II, Wulff listened to his family radio for any news from the outside world. He used to say that he loved the blackouts during the bombing runs because it made it much easier to see the stars. One night, an incendiary bomb landed on the roof of

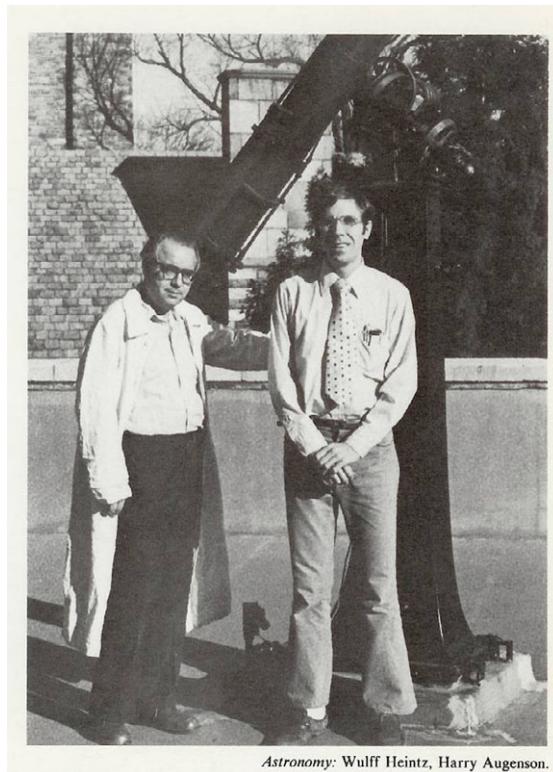
his family home, and Wulff climbed up to the roof and extinguished it. The next morning, he saw that his high school had been completely leveled by Allied bombs. As Germany continued to suffer massive losses on the Russian Front, primarily due to unexpectedly severe winters, teenage boys were inducted into the military and sent off to replenish the troops. To avoid an uncertain fate, Wulff hid out in a farmhouse in the countryside outside Munich. When the Allied troops invaded Germany in 1945, the young Wulff volunteered to translate information from the American and British soldiers to the local villagers. During this time, the soldiers taught Wulff how to smoke cigarettes, a habit which he continued until his final days, even after having been diagnosed with lung cancer.



Figure 2. Young Wulff (middle) at a chess match.

Shortly after the war ended, Wulff enrolled at Würzburg University, eventually completing his studies in 1950 with two majors, mathematics and chemistry. In 1950 he enrolled for graduate studies at Munich University. There, along with fellow classmates and future colleagues Edward Geyer and Theodor Schmidt-Kaler, Wulff received a thorough instruction in astronomy from, among others, Wilhelm Rabe (binary stars) and Felix Schmeidler (astrophysics and galactic astronomy). He also gained practical training in meridian circles and position micrometers, and learned to make binary star observations with the old (1835) Fraunhofer refractor of the Munich Observatory. It was here that his passion for binary stars was born. In 1953, Munich University awarded Wulff the degree of Dr. Rer. Nat. in Astronomy, which he completed under the direction of Felix Schmeidler. Wulff was almost immediately recruited by the Munich University Observatory to serve as the Scientific Assistant at the Southern Station in Mount Stromlo, Australia. He worked at Mount Stromlo from 1954 to 1955, then served as Research Officer from 1956–1969, during which time he visited both the United Kingdom and the United States. Wulff was involved in observations of the planet Mars, and in particular the dust storms which were occurring on that planet around the time of the 1956 opposition. His sketches

of the Red Planet were quite detailed, and showed then-unknown surface features which spacecraft visiting the planet years later revealed to be large volcanoes.



Astronomy: Wulff Heintz, Harry Augenson.

Figure 3. Wulff with one of the authors (HJA).

In 1960, Wulff published an early but substantial paper, “Die Doppelsterne im FK4,” which was very important in the construction of the FK4 and was still used in 1988 for the FK5. Subsequently, in 1961, he was invited to attend the IAU Symposium on *Visual Double Stars* at the University of California, Berkeley. The experience was inspirational, and solidified Wulff’s devotion to double star research. By the end of the decade, in 1969, he published the results of an extensive statistical study of binary stars in a classic paper which became a much-referenced contribution to the field. On 14 June 1957, Wulff married Dietlind (Linde) Laschek, and the couple spent their honeymoon at the Royal Greenwich Observatory at Herstmonceux Castle in England. The marriage produced two children, a daughter Ruth, born in 1965, and a son Robert, in 1967. Wulff earned a Privatdozent (advanced postdoctoral degree) at Technological University Munich in 1967. Shortly thereafter, he accepted an invitation from Professor Peter Van de Kamp to come to the United States as a visiting astronomer at Swarthmore College, located outside Philadelphia. Wulff joined the Department of Astronomy permanently as an Associate Professor in 1969, and moved his family from Germany to the United States the following year. Wulff became Chairman of the Department in 1972 and served in that capacity until 1982. Wulff was promoted to the rank of Professor in 1973, and was a full-time faculty member at Swarthmore until his retirement in 1998. Wulff continued to teach introductory astronomy courses as an adjunct professor at nearby Widener University until 2005.



Figure 4. Wulff at the telescope.

Over his long and distinguished career, Wulff Heintz pursued numerous research interests, including fundamental astrometry, stellar statistics, planetary studies, radial velocities, and, in his last years, monitoring slow variable stars using a CCD detector. Together with the committed staff of the Sproul Observatory, Wulff determined about 800 precise trigonometric parallaxes of mostly faint, high-proper motion stars. The lion's share of his attention over the period 1954–1997 was devoted to double and multiple stars, orbit theory, and relative astrometry. An assiduous observer, Wulff logged many hours at the 24-inch Sproul refractor, striving to equal or better the record for total number of observations by a single observer set by William Herschel at the beginning of the 19th century. Over several decades, Wulff made a total of 54,000 micrometer measurements of double stars and discovered over 900 new pairs. Some of his resolutions of new binaries have only been confirmed with speckle interferometry or by the Hipparcos satellite. In fact, in the latter case, several of the “new” binaries resolved by Hipparcos had actually been previously resolved by Wulff years earlier.

As a dynamicist, Wulff had unquestioned skill in the calculation and analysis of binary star orbits. He fully employed both micrometry and photography, and also incorporated published spectroscopic data to calculate orbits of approximately 500 systems. He tackled some of the most complex systems which can be unraveled — astrometric systems where the secondary or tertiary is hidden and can only be disentangled by careful analysis of available observations. His prolific calculation of binary star orbits earned him the title of the “Swarthmore Orbit Machine” among some of his colleagues. Historically, only W.H. van den Bos made more observations of pairs than Wulff. Before the advent of interferometry the highest quality observations of the closest pairs were made by Wulff and his

collaborator Charles Worley at the USNO. Wulff and Charles both concentrated on the closest pairs. These were not only the most difficult to split but also, astrophysically, the most important, as from these faster-moving systems one could calculate orbits and in some cases determine masses. Wulff and Charles collaborated on the *Fourth Catalog of Orbits of Visual Binary Stars*, (US Naval Observatory, 1983), the last paper version of this catalogue, which was a standard reference for many years. Even the more recent versions of the catalogue list more orbits by Wulff than by any other calculator.



Figure 5. Wulff at IAU Colloquium 135 in 1992 with (left to right), Hal McAlister, Paul Couteau, and Doug Gies.

Wulff was the author of some 150 research papers, plus several articles in the popular literature and Encyclopedia articles. He was the author, co-author, or editor of 9 books. His early monograph *Doppelsterne* (Goldmann, 1971) was recrafted and translated into English to become *Double Stars* (D. Reidel, 1978). This was the standard binary star text for many years, and continues to serve as the definitive text on the subject. Those familiar with Wulff's style of writing will know why it was referred to as the "Terse Tome," but it contained all relevant information. Wulff also translated the German *Handbuch für Sternfreunde* into the English *Compendium of Practical Astronomy* (Springer-Verlag, 1994). In addition to his professional pursuits, Wulff was an acknowledged chess master, and he authored *Praktische Schachbuch* (*Practical Chess Book*), which had 13 printings in the period 1968–1981. He was also an adept pianist, and was especially fond of playing Chopin, Liszt, and Rachmaninov. Wulff enjoyed teaching immensely, and taught courses at all levels, including introductory astronomy for both science students and for the general student population, meteorology, positional astronomy, cosmology, galactic astronomy, and the history of astronomy. He also served as a Shapley Lecturer for the American Astronomical Society, in which he visited and gave talks at colleges and universities which lacked formal astronomy programs. One of Wulff's favorite activities was running the public viewing sessions at Sproul Observatory, in which he used the large 24-inch refractor to observe the Moon, planets, double stars, nebulae, and star clusters.

Wulff also took time to run special telescope sessions for Cub Scouts, Brownie troops, church groups, and amateur astronomical societies.



Figure 6. Wulff at IAU Colloquium 135 in 1992.

Over the span of half a century, Wulff Heintz made valuable contributions to the astronomical database. A truly international scholar, Wulff was a Fellow of the Royal Astronomical Society and had been a member of the Astronomisches Gesellschaft and the American Astronomical Society. He was active in the International Astronomical Union, serving as President of Commission 5 (Documentation and Astronomical Data) during the interval 1979–1985. He also was a representative and Executive Committee member in ICSTI (International Council on Scientific and Technical Information) during that same period of time. His role as an educator was no less significant, and he no doubt inspired numerous young individuals to pursue astronomy as a career, or at the very least, as a hobby. After having lived a career which was so rich and productive, Wulff will be much missed by the astronomical community, and especially those working in the areas of astrometry and binary stars.

Acknowledgements

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