Robert Burns Woodward (1917–1979)  
A Personal Profile

Gie me ae spark o’Natures fire, That’s a’ the learning I desire.  
– Robert Burns (1759–1796)

Robert Burns Woodward was born in Boston on April 10, 1917, Massachusetts, to Margaret (née Burns, an immigrant from Scotland) and Arthur Chester Woodward, Roxbury, Massachusetts. When Robert was one year old, his father died in the flu pandemic of 1918.

Although his mother remarried, she was soon abandoned by her second husband and left to bring up her son in straitened circumstances. Woodward received his primary and secondary education in the public schools of Quincy, Massachusetts, where he was allowed a triple promotion, enabling him to enrol in MIT (Massachusetts Institute of Technology) at age of 16! In the remarkably short span of four years Woodward completed both his BS (1936) and PhD (1937) in chemistry at the with the sympathetic support of Professor James Flack Norris, who remarked in June 1937 that “we saw we had a person who possessed a very unusual mind and we wanted it to function at its best. If the red tape necessary for less brilliant minds had to be cut, we let it go. We did for Woodward what we have done for no other person like him in our department. We think he will make a name for himself in the scientific world” (Boston Globe, 8 June 1937).

From a very early age, Woodward was attracted to and engaged in private study of chemistry while he attended the public primary and secondary schools of Quincy, Massachusetts. By the time he entered high school, he had already managed to perform most of the experiments in Ludwig Gattermann’s then widely used textbook of experimental organic chemistry. In 1928, Woodward contacted the Consul-General of the German Consulate in Boston, and through him, managed to obtain copies of a few original papers published in German journals. Later, in his Cope lecture, he recalled how he had been fascinated when, among these papers, he chanced upon Diels and Alder’s original communication about the Diels–Alder reaction. Throughout his career, Woodward was to repeatedly and powerfully use and investigate this reaction, both in theoretical and experimental ways. Woodward’s doctoral work involved investigations related to the synthesis of the female sex hormone estrone. MIT required that graduate students have research advisors. Woodward’s advisor was Avery A Ashdown, although it is not clear whether he actually took any of his advice. After a short postdoctoral stint at the University of Illinois, he took a Junior Fellowship at Harvard University from 1937 to 1938, and remained at Harvard in various capacities for the rest of his life. In the 1960s, Woodward was named Donner
Professor of Science, a title that freed him from teaching formal courses so that he could devote his entire time to research.

What kind of a person was Bob, and how do we remember him? He was a genius and a very sensitive individual with a prodigious memory. He also had a drive to solve difficult problems and liked teaching in the broadest sense of the word. His lectures were models of clarity, originality, and insight. He enjoyed starting at the upper left-hand corner of a very large blackboard and finishing at the lower right-hand corner with precise formulation of his ideas and thoughts and a total package that was characteristically Woodwardian. He eschewed the use of slides and drew structures by using multicolored chalk. Typically, to begin a lecture, Woodward would arrive and lay out two large white handkerchiefs on the countertop. Upon one would be four or five colors of chalk (new pieces), neatly sorted by color, in a long row. Upon the other handkerchief would be placed an equally impressive row of cigarettes. The previous cigarette would be used to light the next one. His Thursday seminars at Harvard often lasted well into the night.

He had a fixation with blue, and many of his suits, his car, and even his parking space were coloured in blue. In addition, in his later years he had a well-loved blue Mercedes sedan that occupied this parking space during the days and nights when he was doing science in Converse Memorial Laboratory. He detested exercise, could get along with only a few hours of sleep every night, was a heavy smoker, and enjoyed Scotch whisky and martinis.

As Woodward’s post-doctoral student I have imbibed his personal work habits. On an average he used to put in 14–15 hours a day (Saturday half day); when I joined he told me that he expected me to work for 100 hours a week! Towards the end it came to much more than that. His only regular round was between 10:30–11:00 pm perhaps ensuring our presence.

His intensity as a scientist is well known (vide supra), but he was just as intense in the non-scientific areas of his life. When he wanted to be, he was quite a social person. I remember some of the parties at his Belmont, Massachusetts, home, where puzzles and games were played at his behest and with his participation. He loved such challenges, and as an example, I should tell you that he loved doing The New York Times crossword puzzle every day, but of course, only in ink. It wasn’t necessary for him to erase. He loved and appreciated good food and also good drink.

As we know from some of his scientific activities, symmetry played a large part in his thinking and, in fact, it played a part in his personal life. He had a very symmetrical license plate, and he tried to have symmetrical relations with his children, although that was not always successful. I can testify that he also liked adventure in areas other than science. I remember well when I bought a new twin engine fishing boat in 1960, and we tried it out one day by going from Cuttyhunk to Doxie’s homeport of Bridgehampton on Long Island. The day was very foggy, and we did not have