From 1920 to 1939, great progress was made in the understanding of the nature of the chemical bond through the determination of the structure of gas molecules by electron diffraction and in the application of the theory of quantum mechanics to the problem. The results of these studies, with emphasis on my research on the nature of the chemical bond between 1927 and 1933, were summarized in this book. The book has had a significant impact both on chemical education and in research in inorganic chemistry, organic chemistry, and physical chemistry. A paper on the theory of the chemical bond by Linus Pauling, which was my first year of college teaching, was my first year of college teaching. I read the 1916 paper by Gilbert Newton Lewis on the shared-electron-pair theory of the chemical bond and the 1919 papers by Irving Langmuir.

The next year, I returned to my undergraduate studies in chemical engineering at Oregon Agricultural College. I immediately began to study the structure of crystals by X-ray diffraction method under the guidance of Osborne Gilkey Dickinson. He was the first person to have received a PhD degree from that institution, which was just beginning to develop as an outstanding center of scientific research and education.

From Richard C. Tolman, Harry Bateman, and other remarkable teachers at Caltech, I obtained an excellent grounding in chemistry, physics, and mathematics, with emphasis on the old quantum theory and atomic structure. Quantum mechanics was discovered a few months after I had received my PhD degree. The Schrödinger papers on wave mechanics were published about the time that I arrived at the Institute for Theoretical Physics (Professor Arnold Sommerfield) at the University of Munich in 1926. I immediately began to apply an approximate quantum mechanical treatment to the problem of the structure of atoms with many electrons and to simple molecules, making use of the treatments of the hydrogen molecule and hydrogen molecule that had been formulated by Erwin Schrödinger and F. London. This effect led to the formulation of a set of atomic orbitals and systems of single and double bonds; the secondary structures of proteins and the importance of the hydrogen bond in proteins, polynucleotides, and other substances; and the nature of interatomic forces in metals. The book describing all of these developments, published in 1939, has been found useful by many chemists as well as students of the structure of molecules and crystals: an introduction to modern structural chemistry, Ithaca, NY: Cornell University Press, 1939. 429 p. It has been used in many universities as a textbook in courses in structural chemistry and has also been found useful by many chemists and other scientists in connection with their scientific work. See reference 10 for recent work in this field.

5. Burarras, A. Berechnung des Energiewertes des Wassertoff molekülions (H+) im Normalzustand. 1926. (Cited 50 times since 1955.)