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Biophysical Chemistry 105 (2003) 169–170

Biophysical Chemistry

www.elsevier.com/locate/bpc

# Reminiscences about Walter Kauzmann

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Received 14 November 2002; accepted 14 November 2002

My late wife, Agnes, our 5-year-old daughter, and I left Hungary in 1956 and arrived in New York city in early 1957. I worked as a research associate at Cornell University Medical College, and Agnes, also a research chemist, found work across the street at Sloan-Kettering Institute. In 1958, when the Squibb Institute for Medical Research wanted to build a peptide group for which they thought I could be a nucleus, we moved to Princeton, NJ. Thus, Agnes was once again looking for an opening. It was our good luck that Professor Walter Kauzmann was looking for a new co-worker, and, thus, my wife became a member of the Princeton University research staff. Although her experience was mainly in organic chemistry, Agnes had had good training in physical chemistry, having studied even quantum chemistry, and so seemed suitable to assist Kauzmann ably.

Under Walter's guidance, Agnes, among others, experimented with conformational changes in polyglutamic acid using dilatometry, one of Walter's favorite methods [1]. Two joint papers, published in 1962, were also based on dilatometry [2,3]. In about 1965, Walter, always interested in optical rotation as a tool for studying the architecture of proteins, decided to acquire for his laboratory an instrument for the determination of optical rotary dispersion and entrusted to Agnes the comparison of the spectrometers that had just become available. When I moved to Western Reserve (later Case Western Reserve) University in 1966, Agnes, with considerable regret, left the Kauzmann laboratory.

In Cleveland, Agnes joined my research group. When she noticed an unused ORD instrument of the same model she had selected for the Princeton Laboratory, we decided to have a look at the conformation of the peptide hormone secretin, which I had recently synthesized with my group at Squibb. In the very first spectrum, Agnes recognized a conspicuous similarity to the spectra of the hen–egg–white lysozyme. This observation prompted a long series of studies, as a result of which we realized that secretin, a 27-residue peptide, is a partially helical, folded molecule. The stimulus from Walter's work and thinking, for instance, the role of hydrophobic interaction in the determination of molecular geometry, were instrumental in our interpretation of the spectra. In 1969, with Agnes as first author, we reported the secondary-tertiary structure of secretin, and we called the molecule a 'miniature protein'. Our investigations on the architecture of secretin took several years, and their results were published in a series of papers.

Thus, the time Agnes had spent in Walter's laboratory turned out to be indeed fruitful in our work. My own attempts to solve the puzzling conformation of a smaller molecule, a reactive ester of a protected amino acid, were greatly helped by a clue

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0301-4622/03/$ - see front matter 
doi:10.1016/S0301-4622(03)00082-6

from Kauzmann's early studies on optical rotation, particularly by his finding that chiral centers that are members of a ring have larger contributions to rotatory power than centers that are present in an open chain.

It is clear that not only Agnes but also I learned a great deal from Walter Kauzmann. And we both enjoyed the friendship of an exceptional scientist who is an exceptional human being as well. When we moved into our new house in Princeton, he promptly arrived with his children to bring us flowers, and this was continued with many expressions of his friendship. He and Mrs. Kauzmann always made us feel welcome in Princeton. That time is among the best periods of our lives.

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