A Renaissance Man: In Memoriam of Jon Widom (1955-2011)

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It was a complete shock to learn that Jon Widom had died of a massive heart attack on July 18, 2011 at the age of 55. I first met Jon back in 1990 when he was on the Faculty at the University of Illinois while I was looking for my first position in the States, and last saw him just a month before his death. Jon had not changed much during those twenty-plus years: he oozed wit, elegance and cool. As always, he looked like the picture of health.

Jon was born in 1955 in Ithaca, NY into a family of scientists. His father, Ben Widom is a Chemistry Professor at Cornell, whose interests range from physical chemistry to statistical mechanics. His mother, Joanne Widom, is also a chemistry researcher at Cornell. Thus, it would be fair to say that Jon got his first education in Chemistry at his mother’s knees. Not surprisingly, therefore, he chose Chemistry as his major at Cornell. What a great Chemist he became! I must say that every time I needed a consult in the area of physical chemistry, I would call on Jon to get the most comprehensive and yet impeccably worded answer in an instant!

For his postdoctoral studies he decided to cross the pond joining the laboratory of Aaron Klug at the MRC Laboratory of Molecular Biology in Cambridge. Aaron had just received his Nobel Prize in Chemistry in 1982 “for his development of crystallographic electron microscopy and his structural elucidation of biologically important nucleic acid-protein complexes”, and his lab was the top place to be for an aspiring biologist. Jon was charged with unraveling the structure of the mysterious 30nm chromatin filament. Once I asked Jon about his experiences in Aaron’s lab, and he said roughly the following: “Well, Aaron gives one a general direction and the next time he talks to you is when you bring him all the data. He got really excited when I showed him my diffraction data for the fiber, and I had excellent interactions with him while interpreting those data and writing the paper”. Jon’s seminal Cell paper on the structure of the 30nm fiber showed that it consists of nucleosomes packed side-to-side in the direction of the filament and radially around it, implying that the fiber is nothing more than a string of nucleosomes wrapped up into a solenoid coil. This paper made Jon an instant scientific celebrity, but he realized that this was just the beginning of a long journey. Here is what he modestly said last January in an interview with Pauline Davies taken during the Physical Science and Cancer Biology Workshop in Arizona: “…with regard to the most compact chromosome, yes you can see it but we really have no idea what its structure is, in part because we don’t know how you go from the chain of nucleosomes to the chromosome”.

Upon completing his postdoctoral training, Jon became an Assistant Professor of Physical Chemistry at the University of Illinois at Urbana-Champaign in 1985. In 1991, he moved to Northwestern University, where he rose through the ranks to the

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William Deering Professor in Biological Sciences at the Weinberg College of Arts and Sciences. There he greatly expanded his research on structure-function analysis of DNA and chromatin, and made several spectacular discoveries, which are covered in detail in the accompanying piece. Suffice it to say that Jon, encouraged by early studies of the chromatin code conducted in several labs, carried out a comprehensive, high throughput analysis of individual nucleosomes isolated from various cell types and organisms. This led him, in collaboration with Eran Segal from the Weizmann Institute, to a new algorithm defining no less than a genomic code for nucleosome positioning. Not only did these studies trigger the most vivid scientific discussions, their coverage in the New York Times and other media outlets created enormous public interest to the problem! By all means, this was the hallmark of Jon’s career, and it is hard to accept that he is gone right at his peak.

Jon was also a terrific teacher and mentor, who was highly regarded by undergraduate and graduate students, as well as postdoctoral fellows. His vision and passion for teaching led to a complete overhaul of the curriculum in biochemistry and biophysics at Northwestern. He also directed for a few years the NIH funded Training Program in Molecular Biophysics.

Besides science and teaching, Jon had a fervor for scientific administration. While at Northwestern, he was the first Director of the Center for Structural Biology, chaired the Department of Biochemistry, Molecular Biology, and Cell Biology for two terms, and most recently, started the NIH-funded Physical Sciences-Oncology Center, dedicated to coding, decoding, transfer, and translation of information in cancer.

Jon’s numerous awards and distinctions include a Membership of the High Table at King’s College in Cambridge, a Searle Scholarship, a Presidential Young Investigator Award, and the Martin E. and Gertrude G. Walder Award for Research Excellence. At various times, he was designated as a Visiting Professor at Rockefeller University and at the University of Rome “La Sapienza”.

It should also be stressed that Jon was an extremely cultured man, – I would say, a Renaissance man. He was a classical music aficionado, he passionately loved opera, which was very much part of his life for deeply personal reasons, relished poetry and knew more about gourmet food than most of us scientists combined. He enjoyed traveling and multicultural experiences all over the globe and was a true citizen of the world. Underneath this sophistication, however, was an extremely warm and cordial human being, who deeply cared about his friends and colleagues. I would like to illustrate this point with a personal story.

Once in the mid 90s, Ed Trifonov was visiting Chicago and stayed with us for few days. On one of the days, we invited Jon to our home for dinner. On this occasion, my late wife Lena decided to cook an authentic Georgian dinner. Georgian cuisine is the best, most exquisite secret treasure of the former Soviet Union. It requires, however, specific ingredients and spices plus endless care in the making. Thus, it took Lena several days of preparation to make it right. Jon had never visited Georgia and had no idea what to expect. The feast was additionally enlivened with Georgian wines and Russian vodka. Jon was visibly smitten! At the end of the night, he kissed Lena’s hand and said: “This was the best dinner in my life!” The next day, Lena was at work, when a courier delivered a package straight into her lab. In the package, was a black rose inside a beautiful glass vial, together with a thank you note from Jon. To fully appreciate Jon’s sophistication, one should know that a romantic poet of the 20th century most appreciated by Russian women was Alexander Blok. In his famous poems “In a restaurant”, he wrote\footnote{Translated by Tatiana Tulchinsky, Andrew Wachtel, and Gwenan Wilbur (http://web.mmlc.northwestern.edu/~mdenner/Demo/poetpage/blok.html)}:

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I’ll never forget (did it happen, or not,
That evening): the sunset’s fire
Consumed and split the pale sky,
And streetlamps flared against the yellow sunset.

I sat by the window in a crowded room.
Distant bows were singing of love.
I sent you a black rose in a goblet
Of champagne, golden as the sky.

Needless to say, this was the best thank you gift a Russian woman could imagine!

The last time I talked to Jon was at the Albany Conversations on June 16, 2011. One tradition of this meeting is the Russian Party, bravely arranged by Ed Trifonov and Maxim Frank-Kamenetskii, where everyone tastes vodka, sour pickles and red caviar. For health reasons, I was unable to compete on the vodka front, which came as a surprise for Jon. He already had a few shots: looked healthy, happy and completely relaxed. We chatted about my health situation, and Jon noticed matter-of-factly: “You know, I was never sick in my life…” Who could imagine that he would be gone in just a month?

May Jon’s soul rest in peace!