THE HISTOCHEMICAL SOCIETY

9650 Rockville Pike Bethesda, MD 20814
Phone: (301) 634-7026
Fax: (301) 634-7099
Email: mail@histochemicalsociety.org
Web: www.histochemicalsociety.org

The Family That Couldn't Sleep. A medical mystery. DT Max. 2007. Random House, New York, NY. 299 pages. Reviewed by Dr. Daniel S. Friend

Prions are nearly indestructible, stable misfolded proteins that induce conformational changes of normal proteins of similar composition, resulting in fatal neurological diseases. DT Max masterfully unveils the history, the sequence of events and laboratory experiments revealing the pathogenesis of fatal familial insomnia, kuru, scrapie, Cruezfeldt-Jacob, mad cow and Alzheimer's among other prion diseases. He provides insight into the personal and sociologic impacts of the diseases on those inflicted and he analyzes the forces driving Nobel laureate investigators to continue their search to understand and potentially intervene in the progression of such fatal illnesses. The authenticity of the information that the author provides, the depth of his insight into the scientific method in pursuing knowledge, coupled with the emotional forces that drive the scientists involved and his tender respect for the affected individuals and families as well as for the investigators, make this a very special and enjoyable read.

Unbeknownst to me before I read the book, my own experiences with several of the notables in the story are fully in accord with the author's descriptions. I trembled in 1964 when Don Fawcett brought Sir McFarlane Burnett to my fellowship lab space in the Department of Anatomy at Harvard Medical School. I was ignorant of the work for which he was awarded a Nobel Prize in 1960 for his contributions to understanding acquired immunologic tolerance. How in the world could I address a conversation with this giant? Before I could start, he looked at the images of the Golgi apparatus that I just developed, told me that he knew nothing about that organelle and gently engaged me in conversation to learn what he could from me, a neophyte postdoctoral fellow. What an impact! Science was all about pursuing knowledge. There need not be any social hierarchy in its pursuit. At an international scientific meeting or two, I attended talks by Carleton Gajdusek who was awarded a Nobel Prize in 1977 for his work on the transmission of kuru by a "slow virus". Again, I was ignorant about his work and didn't fully grasp the content of his presentations, but I was swept away by the passion he showed for the subject, the clarity of the joy he displayed in gaining insight into the transmission of the disease and how he delighted in the pursuit of its solution, however arduous the task. Advancing knowledge was an exciting adventure. Come aboard! Incidental was the (hushed) fact that he was a convicted pedophile. There is no asterisk next to his Nobel Prize award. I had much more association with a third notable in the book, Stanley Pruisner who won a Nobel Prize in 1997 for establishing the prion as a disease-inducing protein without a nucleic acid component. I had conferred with his laboratory on immunoelectron microscopy which demonstrated colocalization of lysosomal acid phosphatase and prion proteins in secondary lysosomes. I again had contact with him involving a graduate student in the Department of Pathology at UCSF whose thesis included a disagreement on a portion of the sequence of the prion protein published by Prusiner. Stan wanted this guy's head, called for sanctions against the student by the academic community, wanted me to squelch his degree, and so on. My cooler head prevailed, Stan accepting that the scientific community would eventually sort out the discrepancy and that the best interpretation would prevail and that pursuing a vendetta at that time would distract him from his major quests. DT Max further addresses Prusiner's large ego and other less than desirable character traits, but he also recognizes, as I did, that Prusiner's quest fully embodies the tenets of scholarly investigation set forth by Sir Francis Bacon hundreds of years

ago. Prusiner vigorously pursued his theories in a climate that didn't accommodate the concept of an infectious protein. He gave material to Nobel Laureate J Michael Bishop to duplicate Prusiner's findings in Michael's own lab. Pruisiner's results were reproducible. A new paradigm was born. Science marched on. That's what it is really all about.

The Family That Couldn't Sleep makes for fascinating reading and DT Max's insights reveal much about the practice and practitioners of science and the imponderable suffering and dilemmas for those inflicted with prion diseases. I recommend the book to scientist and layman alike with a high degree of enthusiasm.

-- Dan Friend