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1999

William D. Cohen

Bill Cohen was born in New Jersey in 1938. By his description, he "survived" his upbringing in his rough hometown of Jersey City. His mother was a social worker for the State Board of Child Welfare in New Jersey, and traveled the state handling family problems of every imaginable sort. His father was a pharmacist who worked in several different pharmacies during his career.

Cohen got interested in living organisms at a very young age during family vacations, frogging at Schroon Lake in the Adirondacks and prowling the jetties of Long Beach, Long Island. "The ultimate reason that I got hooked on biology very early, though, was that it answered questions that I wasn't getting good answers to from anywhere else. These were very basic questions such as: why are there men and women? – or – where did we come from?" Cohen found evolution to provide immensely satisfying answers to such questions, and feels fortunate that he was "brought up with the freedom to have an open mind."

Young Bill became particularly intrigued by cell division, and remembers getting a book on colchicine while still in grammar school. Since the drug was used to treat gout, he was able to get some from his father and used it on seeds, which "grew up in all kinds of strange ways." Cohen's older brother, Joel, also interested in science, became an engineer, specializing in radar systems.

Bill Cohen won a scholarship to attend Princeton, and as a member of the Class of 1960 he enjoyed "fabulous teaching". The social life of the all-male campus left something to be desired, however. Cohen majored in biology, having been treated as a freshman to the lectures of biology luminary Colin Pittendrigh who, much to Cohen's delight, stressed evolution as a unifying theme. Following college, Cohen went to Columbia for graduate studies in biology after marrying Marion Last, a Rutgers graduate who ultimately obtained her Ph.D. in biology at Columbia as well. Cohen's doctoral advisor was Teru Hayashi, who spent summers at the Marine Biological Laboratory in Woods Hole, and Cohen did a summer of graduate research there. Although he didn't fully appreciate it at the time, this experience would have a profound effect on him later in life.

In 1966, the year both Cohen's doctoral dissertation was completed and his son David was born, the Cohens moved back to Princeton for his postdoc with Lenny Rebhun. Two years later their daughter Sarah followed, and, as a husband and young father doing work that he loved, Cohen enjoyed Princeton much more the second time around.

In 1969, Cohen was offered a position at Hunter College and the Graduate School of the City University of New York, in Manhattan, where he remains today. He describes Hunter as having a relatively small but highly research-oriented Biology Department with very good research facilities, a wonderfully diverse student body, and a highly active Graduate Program.

The Cohens settled in Englewood, New Jersey, not far from the George Washington Bridge. For many years, Cohen commuted by bus and subway to work and, not wanting to waste the three hours of commuting each day, he spent the time taking notes about things that happened along the way. "I met the frustration of commuting by writing a lot of it down. I have about seventy true stories or vignettes, some funny, some frightening, and some even involving scientific analysis of the commute." Writing has long been a hobby, and some day he hopes to publish this and other material currently occupying file drawers at home. Eventually Cohen started driving in from New Jersey, and graduated to the status of New York Street Parker (recently glamorized in the New Yorker). While waiting in his car until the time that his space becomes legal, he gets a lot of work done. In good weather he usually parks on the West Side, and walks across Central Park to Hunter's East Side location. "It is one of the world's great parks, with daily treats of human interest and of surprising fauna and flora", Cohen observes appreciatively.

In 1978, Cohen started routinely working at the MBL in the summers. "A great deal of enjoyment in my career has come from this association with the MBL," he says. Cohen brings as many graduate and undergraduate students to Woods Hole as he can manage, where they "get a lot of research work done, while having a good time". Since Hunter is primarily a commuting college, these students have an opportunity to get a taste of campus life away from home, and to meet other students and researchers at all levels from around the world. Though he has sponsored many Ph.D.'s, in recent years Cohen has devoted more time to undergraduates. Part of his efforts have gone into establishing a no-credit, peer-supervised "Techniques Facility" that prepares inexperienced undergraduates for entry into faculty research labs.

Cohen's major research interest is the cytoskeleton. Having started out on muscle motility and cell division, he sought a simpler system to study, settling on the red blood cells of non-mammalian vertebrates. All animals other than mammals have nucleated red cells with a hoop of microtubules – the

"marginal band" – as a frame. It was a trade-off though, because he thought he would be giving up some intriguing mitotic organelles, like centrioles. Curious about invertebrates, he and his students did a survey of cytoskeletal structure in blood cells of just about every marine invertebrate available at the MBL, and found a "veritable smorgasbord" of species with blood cells containing marginal bands. One of these was the local "blood clam" Anadara ovalis, in which Cohen spotted a pair of centrioles attached to the marginal band, later shown to be part of a functional centrosome by his grad students. He calls this cytoskeleton "the poor man's mitotic spindle", and recalls this discovery with great fondness. "It took me completely by surprise. I actually turned off the microscope, walked around the room in some disbelief, and went back to look at the slide again. It was one of those exhilarating moments that you cannot truly experience unless you are at the bench yourself." In other experiments using dogfish erythrocytes, he and his students were able to demonstrate the function of the band in maintaining mature cell shape, and Cohen came to appreciate the great value of marine model organisms. Such work at the bench with students is what he has enjoyed most in research, and he laments the fact that, as the years go by, ever more time must be spent by researchers on administrative and funding matters.

Cohen is an avid tennis player (though currently sidelined by a bit of Achilles tendonitis); he particularly likes doubles because of positional strategy and not having to run so much, claiming that he is "not bad for an old biologist." He has also attempted to float the contention that since the tennis racket frame bears striking structural and functional resemblance to marginal bands of microtubules, his tennis is actually research-related, but his colleagues and students don't seem to buy that.

As for his family, Cohen says that when his children were born he imagined they would be Ph.D.'s like their parents, but luckily he admonished that "the best job will be one that you really enjoy doing." They certainly took that advice. His son David went to Harvard, majored in physics, and was President of the Harvard Lampoon. David then earned a masters in Computer Science at Berkeley, but wanted to try his hand at professional comedy writing. He became a writer for the Simpsons, and during a five-year stint rose to the upper writer-producer ranks. The Cohen family even crept into the show occasionally: once, while watching a new episode, Cohen realized that Bart and Lisa were acting out a real incident between David and Sarah. Cohen explains, "though they rarely fought physically, Sarah had devised a strategy for the occasional skirmish. The scene featured Bart and Lisa either punching or kicking the air, advancing toward each other while announcing that if the other one got in the way that was their fault. In the next scene, Homer advances toward an off-limits pie with teeth chomping, telling the pie that if it gets eaten that will be its fault!" Cohen is quick to explain, however, that the pie part is completely fictitious... David left the Simpsons last year to develop "Futurama," an animated, Simpsonesque, sci-fi T.V. comedy which recently debuted. Sandra Masur of Mount Sinai School of Medicine, long time friend and colleague of the Cohens, says, "Bill is an excellent teacher and researcher. But I was most impressed by his achievements when I found out that his son was the head writer for The Simpsons.

Cohen's daughter Sarah was an English major at Yale, then went to Oxford on a fellowship for a year of Fine Arts at the Ruskin School. While still in high school, she illustrated a book chapter for her father. Sarah, like her brother, is also in television-related work, as Director of New Media for the Food T.V. Network, working at the interface between Web publication and television broadcasting. Sarah took the culinary cue from her mother. Although Marion Cohen has worked as a biologist, she is also a chef who had a catering business for many years. Marion is currently a real-estate broker, but sometimes Bill convinces her to work with him in the lab; they have published several papers together.

One of Cohen's contributions has been the development of peer-reviewed, prototype online research resources as Associate Editor for the MBL journal, the Biological Bulletin. He notes that "currently a few organisms are being intensively studied by very large numbers of workers, and we are beginning to forget many others that have been valuable in the past and might again become so in the future. In addition, because of print media space limitations, typical papers rarely include mundane details such as the proper way to handle an organism, yet this is very important information. Online publication has no such limitations."

Cohen acknowledges that "membership in the ASCB has been extremely important to me," particularly the Annual Meeting. It has enabled him to bring students to present work at a first-rate meeting, and to keep up with breaking science for both research and teaching purposes, as well as with old friends. Cohen declares, sentimentally but sincerely, "I really want to thank the Society, particularly all of the officers, committee chairs, and staff, who have done such wonderful work all these years."