

Dave Hogg told you about Barry's professional accomplishments as one of the pioneers of astrochemistry who charted the microwave spectrum and the Milky Way together - and occasionally in fierce competition with each other - discovering first that interstellar chemistry existed, then unveiling its richness and complexity in our galaxy and in others. Barry was a leader among these pioneers, both because he developed a deep understanding of the processes that can go on in interstellar gas and dust, and because of his competitive spirit.

Barry wanted to be the best at what he did, and he wanted every new thing that he did to be his personal best. Whether it was his science, his music, or running, Barry always pushed himself to exceed his previous best and strove to master every detail that was relevant to his goal. .

Barry's work hours were legendary - all his colleagues at the NRAO know it was rare to be at the observatory when Barry was not, unless he was off at a conference, or at a telescope gathering new data - which he did at every conceivable opportunity, even taking some opportunities that were barely conceivable - more of that later.

Barry didn't like repeating tasks - he turned down a Ph.D. studentship in astronomy at the University of Toronto, one of Canada's best Universities, because they expected him to repeat courses he'd already taken while getting his Physics degree at the University of British Columbia. Instead, Barry went to Berkeley, just as it became a hot-bed of new radio discoveries about the interstellar medium. So instead of jumping through bureaucratic hoops, Barry went to the perfect place to start him thinking about astrochemistry!

Other tasks Barry didn't like repeating included buying cars, and learning how to use new computers for the complex calculations that he needed for his work.

Barry's theory about cars was that if you just treat them right they should last forever. He had fewer cars for longer, per car, than anyone I know. The essence of his theory was that it's acceleration and slowing down that does cars in, so you should do both as gradually as possible - that is, reach full speed slowly and then be reluctant to stop. Some may think this approach a tad unworldly in a universe that contains stop lights, roads that bend, and traffic cops. Barry's notion that near-constant velocity is the key to long auto life led him into encounters with lights, bends, and cops that would have discouraged most people. But Barry held firm to his theory - no traffic ticket would shake him from it. He was also so

determined to prove his point that he kept all his cars much longer than anyone else would have tried to, as if his sheer willpower could stave off the inevitable.

He was just the same with computers. There was no such thing as a computer "upgrade" to Barry! A new computer system was only more dumb stuff that someone else wanted him to do just so he could stay exactly where he was, just like they had wanted him to do in Toronto! He was the last person to give up using any really capable computer system we had at the NRAO. He wanted any computer that he used for his research to last for ever, like his cars.

Barry would never discard anything that had ever been useful to him in his work. Ken Kellermann and I both study phenomena produced by black holes, and for several decades our offices were opposite Barry's, where he was accumulating a truly prodigious amount of mass. I sometimes suspected that Barry was trying to scoop another field of astronomy by assembling an actual black hole in his office in the wee hours of the night, complete with a dusty accretion disk made up of computer printouts, library books, unreadable magnetic tapes and decks of punch cards (long after we'd thrown out the last punch card reader in one of those computer upgrades)

As fellow Canadians living far from our families, my wife Mary and I got to know Barry and Margaret best when we got together for Thanksgiving and Christmas. Barry was great fun to have at the dinner table, as he loved good wine, good food, and a good laugh. One Christmas Day at our house, Barry met one of our neighbors, who had retired from a career in cinematography, and who knows a lot about the industrial chemistry of the movie business. Once those two discovered their common interest in chemistry, they swapped stories for hours. Later, my neighbor took me aside at another gathering and said - "That Barry Turner, he's one of the most remarkable people I ever met. He can explain what you guys do so clearly, and he is so involved with it. He must be a great teacher."

Barry didn't have students in the usual sense of the word, as NRAO isn't part of a university, but he always enjoyed interacting with young astronomers, and every astronomer who came close to Barry must have learned a great deal from him. He was rigorous and very clear thinking about his own work and about the work of others, making him a tough referee but a good mentor. He set a high standard for dedication to science, and for careful analysis of data, and in many ways he was a teacher, among his peers.

Barry was also remarkably clear about his goals in life. As early as 13, as you will see in a moment, he was very clear that he wanted to become an astronomer, and he knew what he would need to do in order to reach that goal. He was also clear about his daily priorities, which did not include many of the "must-do" things that occupy the rest of us. You can only get through life like Barry did with a partner who takes good care of you and allows you to stay focused. Barry's exceptional scientific career was made possible by Margaret, who was in so many ways his interface to the "real world". The generations of astrochemists who will come after Barry, and a few of them are here today, should thank Margaret for all she did to make Barry's pioneering career possible.

All of us who knew Barry have lost a good friend and a truly outstanding scientist, whose career was ended too soon. We also know that Barry wished to be remembered as he was at the peak of his powers - as that young Turk so full of curiosity and fun. So the rest of my remembrance of Barry will be visual - I have gathered photos from his family, from friends in Canada, from colleagues and the NRAO archives, as well as a remembrance of Barry in the early 1960's by Tom Legg, an astronomer in Ottawa, Canada, and a clip from a movie made about the national observatories during which Barry talked about his work. The movie clip is very short, but I think it shows Barry Turner as he wished us to remember him, in the prime of his life at one of his favorite telescopes. So let's now look back at Barry's life through this DVD.