

From: Tracy Hall Sent: Thu 4/8/2004 3:13 PM
To: David Hall
Cc: theresa@ucomm.utah.edu; kldevries@eng.utah.edu; eyring@chemistry.utah.edu
Subject: RE: University of Utah.. Theresa Desmond.. needs some help with presentation:

I interviewed my father this afternoon to obtain some of his remembrances from his days at the U. Here it is: I have not done any research to verify the "facts" -- just take them for what they're worth!

Tracy Hall Jr.

Tracy doesn't remember exactly why he decided to go into chemistry -- he just thought it might be something interesting to do. He was very interested in photography when he was a kid, and he had a job running the dark room for Checkett's Photo in Ogden -- perhaps dipping his hands in the aromatic trays of developer and fixer had some influence. Tracy completed a 2 yr degree at Weber College, in chemistry, in about 1940, and decided to pursue his studies in chemistry at the University of Utah because it was close enough to allow him to frequently hitchhike back to Ogden to see his sweetheart, Ida-Rose. After they were married (September 1941), they moved to Salt Lake City, to one of several tiny apartments in the home of Lucy Van Cott, former Dean of Women at the U. Lucy believed that fresh air was good for the health, and so their tiny room had screens instead of windows -- summer and winter. They used to heat a brick in the stove to take to bed with them. Tracy remembers two of his chemistry professors from that period, Baird and Bonner, whom he remembers as a "nice gentleman."

At the time it was the practice of the U to send its chemistry alums to Purdue for graduate studies. Tracy went there on a promise of nice married students' housing, which, he found out, was still just on the drawing boards. He was separated from Ida-Rose for that academic year, while he taught at Purdue, renting a bed in a boarding house. At the end of the year, the head of the chemistry department paid him \$100, told him that Henry Eyring had just left Princeton to go to the U., told him he'd been unable to find any housing, and suggested he go back to study under Eyring. So he did.

Tracy and Ida-Rose were privileged to live in University Village, and they have many fond memories of the years and friendships formed there. His brother Eugene lived there, with his wife Joyce, while he studied pharmacy. George Hill and Bruno Zwolokoski were also friends. Tracy would make some practical use of his chemical skills and make some cash, too, by collecting waste oil and fat around the village and making soap.

Tracy was Henry Eyring's first Ph.D student at the U. Eyring was a beloved mentor, and "quite a character." He would challenge his students to jump over a bar and race him in a foot race. Tracy could never beat him.

His graduate work was interrupted by the war, and Tracy was drafted into the Navy. He had some kind of problem passing one of the physical requirements, but the supervising officer looked at his papers, saw that he had a degree in chemistry, used some salty

language to describe how the Navy didn't know what to do with people, and made him an officer on the spot. He got sent to learn the new technology of Radar at Harvard and MIT.

The first two of Tracy & Ida-Rose's seven children, Sherlene and Tracy Jr., were born during the war years, 1943 and 1945, and the third, David, was born in 1947 just after Tracy received his Ph.D. His dissertation was on the solutions of chromic salts. After graduating Tracy sent numerous resumes in the form of post cards to all the major employers of chemists, and despite this "cheap skate" approach, he was invited to interview with many of them. General Electric was not especially interested in him -- they hired only from the Ivy League, but Tracy considered GE to be the heir of his boyhood hero, Thomas Edison, and so he talked them into giving him a try.

Tracy remembers that he was first introduced to the possibility of synthesizing diamond by a problem posed in a class by Eyring, to estimate the equilibrium pressure and temperature between diamond and graphite from the thermodynamic properties of the two substances. The problem intrigued him. Thus, when GE's "project super pressure" was begging for a chemist to join the group, Tracy was only too happy to leave his work in solvents for GE polymers to take a risk that no other chemist at the company was willing to take. The rest is history -- December 16, 2004 will mark the 50th anniversary of Tracy's first synthesis of diamond.

Tracy thought that after that event he would have all the opportunity and funding he wanted to pursue his research interests at GE, but that did not prove to be the case. When he complained to his boss, he was told "why don't you do something really significant." When Harvey Fletcher retired shortly thereafter as director of research at BYU, Ernie Wilkinson offered Tracy the job over the phone. He accepted on the spot.

Throughout his long career at BYU, Tracy has enjoyed a good relationship with friends and colleagues at the U. At one time, his old friend George Hill wanted Tracy to build a tetrahedral press for his coal studies at the U. and visited him in Provo to see a demonstration of the original, vintage tetrahedral press. The hydraulic ram bases were made on a low-budget, from iron cast by the Beckman foundry in Provo, and they had poor fatigue life. Tracy Jr., who was about 15 at the time, witnessed the demonstration and remembers it well. George was there with his oldest daughter, who was the same age as Tracy Jr. Tracy Sr, eager to impress, ran the air-operated Sprague pump a little above red-line. One of the cast iron bases finally failed. There was a huge, deafening blowout (a supersonic release of the gaskets holding in the high-pressure sample), the press jumped off its support, the oil line broke, and the oil reservoir emptied its contents on the ceiling above, showering them all with hydraulic oil. Duly impressed, George bought a press.

From: David Hall
Sent: Tue 4/6/2004 11:57 AM