

Jeff Wadsworth: From metallurgist to manager

(As published in *The Oak Ridger's Historically Speaking* column on May 5, 2014)

Carolyn continues her series of insights into previous Oak Ridge National Laboratory Directors. In this installment she gives an overview of Jeff Wadsworth.

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Jeff Wadsworth struggled as a young student, but his experiences as a youth helped shape his worldview. The son of British parents, he was born in Germany and, because of his father's military career, moved from one country to another – Holland, England, India, Singapore, England, Bahrain, Yemen, Germany.

"In 1966, my father died and I went back to England at age 16," he told Steve Stow in June 2007 during an oral history interview for Oak Ridge National Laboratory. "So, it was very disruptive from a schooling viewpoint."

But as a professional adult, he is very comfortable as a traveler. "I think living in India and the Middle East had a huge effect on me in terms of becoming familiar with and appreciative of different cultures and seeing things from a different perspective," he noted. "I've also traveled quite extensively in my professional career to Russia, China and South Korea."

Wadsworth was director of ORNL from 2003 through June 2007 when he left for a position with Battelle Memorial Institute, Inc., in Columbus, Oh. In December 2008 he was named chief executive officer and president of Battelle.

His professional success as a metallurgist (with 275 open-literature publications) and manager of large scientific institutions is quite amazing, considering the difficulties he encountered during his years as a teenager, moving from school to school every two years.

"Nobody in my family stayed at school beyond age 16, so there was no expectation for me to go to university," Wadsworth said. "But, my high school chemistry teacher in York, England, was quite insistent that I apply to a college. He actually told me I wasn't doing well enough to study physics or chemistry or math, but I could do either pharmacology or metallurgy."

The teacher later asked him if he applied to a college. No. He gave Wadsworth a book on metals, but he didn't read it. But because he had the book, he decided to apply to Sheffield University, which is strong in metallurgy. He was accepted.

"For the first two years, I struggled there," he said. "I managed to get by and pass exams, but I wasn't doing very well. A professor named Gordon Richardson spent a lot of time explaining to me a mathematical proof in metallurgy. At some point, light bulbs went on in my head.

"From then on, I was very, very interested in the subject and felt I could cope with it. I went from strength to strength, got a good degree in metallurgy and completed a Ph.D. in that field at Sheffield. Science was fun. I won prizes.

"Up to about age 20, I was not very good. So nowadays, when I look at our educational issues and the science and technology needs of this country, I worry about how many kids we lose because they did not have that kind of mentorship or somebody to help them along at a critical point."

Before coming to ORNL, Wadsworth served as director of Battelle's Homeland Security programs and member of the White House Transition Planning Office, which created the U.S. Department of Homeland Security in 2002. For the previous 10 years he worked for DOE's Lawrence Livermore National Laboratory in California, serving from 1995 to 2002 as deputy director of science and technology.

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Before that Wadsworth was employed by Lockheed Missiles and Space Company's research and development division in Palo Alto, Calif. He left England for the U.S. in 1976 (as part of the brain drain "because that was where the action was") when he obtained a one-year postdoctoral appointment at Stanford University. In 1984 he became a U.S. citizen, and in 2005, while at ORNL, he was elected to the National Academy of Engineering.

"I have been a firm believer that you work as hard as you can and you enjoy your work," he said. "I believe that when you wake up in the morning, you should want to go to work. And our generation has been given the gift of being able to change jobs, whereas my father's and my grandfathers' generations didn't have those opportunities."

How did Wadsworth transition from metallurgist to manager? It all started at Lockheed.

"As for many people, my first step into management, quite frankly, was more of a defensive move than it was an intrinsic desire to go into management," he said. He was asked to manage a group and told that, if he didn't say yes, he would be working for someone "nobody knows, or somebody we do know but don't want in the job." That caveat motivated him to agree to the request.

"Now, once you've managed 50 people, and have somebody above you who is managing 200 or 300, then you want that person's job," Wadsworth said. "You think you can make better decisions than anybody else who could come in, so you end up in this 'escalator' upper-management chain, if you're fortunate enough to be picked."

When he came to ORNL, he was impressed that members of the Leadership Team engaged in vigorous debate, but after the vote was taken, all members followed the selected direction. "That's the real trick to success," Wadsworth said. "At other labs where I've been, that was not always the case."

Wadsworth faced multiple challenges at ORNL: delivering the Spallation Neutron Source to meet cost, scope and schedule goals; competing for funding to win a world-leading supercomputer for research; building the state-funded Joint Institute for Biological Sciences (that later housed a cellulose-to-ethanol research program); completing a DOE nanoscience center and continuing modernization of the lab. Other challenges were developing a safety culture and successfully promoting the need for financial contributions to renovate Oak Ridge High School.

He and lab personnel met most challenges except one: cleaning up the central campus, which is sandwiched between modernized east and west campuses. He credits most of these successes to partnerships, political support, DOE's ambition to outdo foreign competitors in certain areas of science and his policy of hiring people smarter than himself and delegating the work to them.

"What we've done is take business risks," Wadsworth said of UT-Battelle, which manages ORNL for DOE. "We risked our reputation, money and resources, and now we must deliver."

The key to delivering results, he added, is to recruit the world's best and brightest scientists and engineers – not an easy task because fewer Americans are getting Ph.D. degrees in technical fields and fewer foreigners who come here for their higher education remain in the country.

But the good news is that success breeds success. "Consider the U.S. investment of \$1.12 billion in ITER, the international fusion energy experiment in France," Wadsworth said. "That \$1.12 billion was transferred to ORNL as a responsibility in 2006 because of our success on the Spallation Neutron Source.

"Entities want to bring their petaflop supercomputers here because of our success in building the supercomputer program and the infrastructure that goes with it. So, I think taking business risks

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and then making sure you deliver on what you promise will ensure that future programs will come to Oak Ridge.”

Thom Mason, who replaced Wadsworth as ORNL director in July 2007, shares this worldview. Mason is dedicated to maintaining the research productivity and financial health of the lab he inherited.

NEXT: Wadsworth, Damascus steel and ancient swords.

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Thanks Carolyn for another excellent insight into our recent history. I hope you agree that this series of articles Carolyn has produced has added to the general knowledge and appreciation for the talented leaders.

She will soon conclude this series by introducing us to Thom Mason. I am sure she will bring out his excellent leadership qualities as she has the others.

I am looking forward to seeing what she does with Jeff Wadsworth's interest in ancient Damascus steel swords. See the next *Historically Speaking* to learn about this most interesting aspect of an intriguing man, Jeff Wadsworth, someone Oak Ridge is proud to have gotten to know and appreciate. I dare say he continues to have fond memories and good ties to Oak Ridge.



Dr. Jeff Wadsworth welcomes Deputy Secretary of Energy Clay Sell. Gerald Boyd is on the right.

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Congresswoman Marsha Blackburn receives a tour of the computer room from Jeff Wadsworth and Thomas Zacharia.



Jeff Wadsworth with visitors during the Japan Atomic Energy Agency Visit