CLASHING CULTURES

Bringing Science Back to the Neighborhood

by Dr. Kenneth Olden

Many minority communities consider research irrelevant, so kids do too.

In 1960, I told my family and friends in my hometown in rural Tennessee that I intended to go to graduate school to study cell biology. Everyone, except my mother, expressed disappointment, because they had expected me to become a physician. In fact, the decision probably altered my relationship with my father until this day. He and many of my family and friends have never shown any interest in my work. I am, in most cases, the only scientist they have ever known.

However, in 1991, *Jet* magazine reported in six lines that I was appointed director of the National Institute of Environmental Health Sciences (NIEHS). I suddenly became a hero in the black community in which I grew up. I was immediately honored by the Baptist church I had attended as a child, given the key to the city of Newport, Tennessee, and this summer was selected for the college hall of fame by Knoxville College, the historically black college where I earned my undergraduate degree.

Community leader. Olden at the agency.

I have received other awards which carry far more prestige in the scientific world. Yet I would still be without honor in my own community—and those honors have meant a great deal to me—if not for that brief mention in a black publication. In fact, I am still not being recognized for my scientific accomplishments, but for being mentioned in *Jet* magazine.

I tell this story because it speaks to a neglected aspect of our efforts to increase the numbers of blacks, Hispanics, and American Indians in science and engineering: The image of science in minority families and communities. Programs aimed at opening up science to minorities must reach beyond the graduate schools, beyond high schools, even beyond elementary schools, and into our communities and families. Not only do we need to give students a strong educational foundation, we also must counteract cultural and psychosocial factors that turn minority students away from science. And individuals, as well as institutions, can make a difference.

For students from poor communities, choosing science represents a complete cultural shift, because it requires them to adopt a lifestyle that their parents, teachers and peers know little about and do not necessarily respect. Minority communities often do not understand what scientists do, or appreciate the impact that research can have on their health and wellbeing.

For example, I recently visited Lions, a small town in Loiusiana's chemical corridor, where the mostly black residents spoke of debilitating asthma among children and old people. They believed their respiratory problems were due to corrosive dust from nearby industries, but they could not prove it. Indeed they had no notion of what constitutes scientific proof, or how they could discover the cause of their illness. What they needed was science. Yet I was the first scientist with whom they had ever spoken.

It's a big stretch for children of such families to enter the research world, even though research could eventually offer concrete benefits to their communities. Even middle class students from first-rate high schools are still turning away from science because of family, peer, and community pressure. Compared to fields such as law and medicine, science is seen as remote and unrelated to daily life. Even students who do well in science generally expect to use their good grades to go to medical school. For example, the National Institutes of Health (NIH) has two longstanding programs aimed at steering minority undergraduates into Ph.D. research careers. Yet more than two-thirds of the students in these programs enroll in medical school and go on to become practicing physicians, according to a recent NIH review.

And then there is the matter of money. Among many minorities, science is not perceived as a lucrative line of work. And students from low-income families are naturally influenced by economics when choosing a career. Education is seen as a way out of poverty, so financial rewards and job security can exert a stronger pull than love of knowledge.

To create an environment where family, community and peers are more supportive, regional partnerships between public schools, other community institutions, and major research organizations must be established to minimize the cultural gap between the world of research and that of the minority community.

One example is a Minority Women In Science (MWIS) program, in which local chapters began by involving parents in an annual "Science Discovery Day" and then expanded to involve Baptist and Catholic churches, which host science programs and help identify potential children and their families to participate. Churches may not seem an obvious choice for a science education program, but they are of great importance in many minority communitites, notably those of blacks and Hispanics. If the neighborhood church sanctions and supports science, then many minority families will too.

From the research end, at the NIEHS we are creating Environmental Equity Research Centers in minority communities. For example, the center at Tulane University and Xavier University is working with the residents of Lions to monitor the air quality. Such efforts help to close the gap between minority communities and science.

More outreach efforts like these are needed. With them, we can show members of minority communities that science is relevant to their daily lives, and that it is an exciting and rewarding career for minority students. Then, perhaps, families and friends of minority students will encourage, not discourage them from choosing science.

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