

## CLASHING CULTURES

# Schools Stumble On an Afrocentric Science Essay

In the winter of 1991, Wayne State University anthropologist Bernard Ortiz de Montellano showed up early to a meeting of a Michigan education task force charged with creating multicultural curricula. Since he had free time, he picked up a copy of some material recently adopted by the city of Detroit public schools; officials were proposing that Michigan use the material state-wide, and had brought samples. "I scanned it and went absolutely ballistic," recalls Ortiz de Montellano, who is a strong proponent of multicultural education.

In one paper, he read about the "scientific discipline" of "psi":

*The ancient Egyptians were known the world over as masters of "magic" (psi): precognition, psychokinesis, remote viewing, and other undeveloped human capabilities....Pyschoenergetics (also known in the scientific community as parapsychology and pyschotronics) is the multidisciplinary study of the interface and interaction of the human consciousness with energy and matter....Psi, as a true scientific discipline, is being seriously investigated at prestigious universities all over the world...*

Ortiz de Montellano had stumbled onto a controversial academic essay, entitled "African and African-American contributions to science and technology," that is part of a project known as the Portland African-American Baseline essays. Introduced in 1987, the six essays are required reading for all Portland public school teachers from kindergarten through fifth grade. Called baseline essays because they provide a historical foundation for teachers, the documents explore science, the arts, music, math, social studies, and language arts from an African and African-American perspective.

The Portland effort was considered a milestone in the multicultural education effort, as it was the first concerted effort by a school system to address the contributions of a specific ethnic group. In urban centers like Detroit, Atlanta, and Milwaukee, for instance, educators now use the Portland essays to bolster their own fledgling experiments with "Afrocentric" education. The essays are seen as a starting point, the idea being that teachers might infuse some of the material into daily lessons as a supplement to the state-mandated curriculum. Such lessons are intended to show black children that their ancestors have a long, and often ignored, history of accomplishment in areas like science. That's crucial to spur minority interest in science, many educators now argue, and to show that research is a feasible career for blacks.

But while those goals are laudable, almost all the scientists and professional science educators who have read Portland's science essay say they have been shocked by its poor scholarship. In a scathing review, to be published this fall in the education journal *Phi Delta Kappan*, Northwestern University chemist Irving Klotz calls the document a "prescription for failure" in sci-

ence education, because it is riddled with inaccuracies and presents a false picture of the nature of science.

Yet supporters of the essays contend the effort has dramatically advanced the cause of multicultural education. Others argue that the whole controversy is overblown, suggesting that the essays have had a very limited impact. At the very least, however, the controversy has highlighted the urgent need for high-quality, culturally relevant curricula in science education—and the fact that more scientists need to get involved in developing such material. "As long as there's so little out there, people will keep looking at [the science essay]. It's the story of something that is not very good that went into a vacuum," says Shirley Malcolm, who heads the education and human resources program at the American Association for the Advancement of Science (AAAS).

The list of what's not very good about the science essay is a long one. Besides dressing up pseudoscience as the real thing, says Ortiz de Montellano—who has become the essay's most outspoken antagonist—the monograph eschews serious scientific scholarship and relies on conference lectures from Afrocentric meetings, vanity press books, and magazine and newspaper articles for information. For example, to support the assertion that Egyptians were masters of "psi", the essay footnotes a talk by its author, Hunter Adams III, a former hygiene technician at Argonne National Laboratory, on "Pyschoenergetic aspects of ancient Egyptian lifeways"; the essay also cites a book called *Egyptian Magic*.

The science essay's core thesis is that African people are the "wellspring of creativity and knowledge on which the foundation of all science, technology, and engineering rests." Dominated by a disputed version of Egyptian history, that thesis offers plenty for scientific critics to chew over. Klotz's review, for example, takes issue with the assertion that ancient Egyptians knew the "undulatory properties of light diffraction and interference, and the particle/wave nature of light," a claim based on unidentified "Egyptian drawings."

And he and others wince at the "very contemporary understanding of the heavens" ascribed to the Dogon people of Mali: Without telescopes, the Dogon "knew of the rings of Saturn, and the moons of Jupiter, the spiral structure of the Milky Way Galaxy," as well as the approximate mass and orbital period of the white dwarf companion star of Sirius.

The essay also contrasts modern and Egyptian approaches to studying the natural world, saying, "Many Western scientists conduct their process of science from a totally different ideological basis, one which has, as its 'main concern', nonethical consideration such as cost-effectiveness." To Ortiz de Montellano, such critiques of Western science, coupled with lists of supposed Egyptian achievements, promote the notion that ancient Egyptians made all their remarkable discoveries because of a philosophical concept called "Ma'at"



**Afrocentric efforts.** Milwaukee teachers use the Portland essay as a resource.



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**—anthropologist  
Bernard Ortiz de  
Montellano**

which mandates acknowledgement of a "supreme consciousness" and belief in "transmaterial" relationships that go beyond normal cause-and-effect. Such religious overtones also disturb Maria Lopez-Freeman, who heads the multiculturalism effort at the National Science Teachers Association (NSTA). The Portland science essay "is creationist in philosophy and that's not acceptable in a science classroom," she says.

Critics haven't confined their objections to the essay. The author, Adams, has come under fire himself. According to the baseline essays, each of the six authors is "an internationally or nationally known scholar," and Adams is a "research scientist at Argonne National Laboratory." Yet according to Argonne, Adams was a technician who conducted no research and had only a high school degree. Adams has lectured on the unusual properties of melanin, a dark skin pigment that a small group of controversial black scholars argue makes blacks a superior race. And although melanin is never mentioned in the essay, Ortiz de Montellano charges that those beliefs are clearly the theoretical framework behind some of the exaggerated accomplishments attributed to Africans.

When contacted by *Science*, Adams declined to be interviewed, saying that he believed his comments would be distorted. "I get tired of seeing myself misrepresented in the media. I'm not going to respond to anything unless I do it myself in print," he said. Adams did write a statement that was distributed at a multicultural education symposium at the 1992 AAAS meeting. The statement defended the essay and charged that critics were quoting the essay out of context. It concluded: "What is called for is more intellectual humility and less knee-jerk reactions to information that is not congruent with one's learned social history and education."

Despite the hailstorm of criticism, supporters of the Portland essays have held firm. Though acknowledging Adams has no formal training as a science historian, Asa Hiliard of Georgia State University, the consultant who suggested developing the essays and chose the authors, still believes Adams was more than qualified to write the essay. "I will stack Hunter Adams up against anyone with a doctorate on the history of African science," he says. Moreover, Hiliard, an educational psychologist and champion of Afrocentric education, believes the essays have been successful in what he says was their limited mission. "The idea was to try to get a more total picture of African people. It was meant as a resource [for teachers]," he says.

Back in Portland, educators continue to defend the essays and suggest that the project, even if flawed, has served as a role model for schools around the nation. "The essays have played a role in framing a new and improved debate," says Carolyn Leonard, coordinator for Portland's multicultural education effort. "I don't think if [Portland] had written the perfect document, it would have been free from criticism."

Leonard also argues that the critics don't give teachers enough credit for their ability to separate fact from speculation, and seem to think teachers would do no more than read the essay aloud in class. For example, she says, Ortiz de Montellano ridicules a passage that uses a bird-like figurine as evidence that ancient Egyptians built and flew gliders; the passage goes on to quote a British businessman, who suggests the Egyptians "used

their early planes for travel, expeditions, and recreations!" Leonard, a former classroom teacher, says that while she might use such speculation to spark a discussion of flight, "I as a classroom teacher would not teach that as fact.... No science teacher was told they had to teach [the science essay] as absolute truth.... We have not said to people, you must read it, believe it, and teach it." All the same, she says, Adams is revising the essays and deleting many of the contested passages.

Such assurances do little to assuage Ortiz de Montellano, who worries that the Portland essays are appearing in more and more school systems. He blocked the essays in Michigan, and a few other critics have fought them elsewhere. For example, in 1990, Egyptologist Frank Yurco, a consultant at Chicago's Field Museum of Natural History, fought their introduction to the Chicago public schools, writing a sharp critique at the personal request of a school board member. In Washington, D.C., high school history teacher Erich Martel has gathered many of the critiques into a packet that he distributes for a nominal fee to anyone who asks.

Yet these informal efforts don't satisfy Ortiz de Montellano, who wants a more official rebuke from the education community and charges that science educators are "ducking their responsibilities," by ignoring the essays. One reason for the silence may be that educational groups feel it's tough to criticize Afrocentric material without being called racist. "Everyone's so damn cautious about stepping on non-white toes" says Eugenie Scott, executive director of the National Center for Science Education. To some extent, William Aldridge, executive director of NSTA, agrees: "Any criticism at all is going to be criticized as racist. It's a no-win situation." But he says the real reason for NSTA's non-interventionist stance is that there's no sign the essay is a pressing problem. "We've never had anyone raise the issue with us. I don't think it's having a serious impact," he says.

Other science educators echo that sentiment—adding that the scientists who get so passionate about the essay's faults are perhaps exaggerating the document's influence. In any case, they suggest that Portland's effort will soon become obsolete. Textbook publishers are now producing multicultural supplements and school districts like Chicago are developing excellent resources on their own, says AAAS's Malcom. The Portland essays are "starting to disappear as an issue. Let the grass choke out the weeds," she urges.

That's not happening fast enough for an impatient Ortiz de Montellano, who points out that although there is material focused on Hispanics, the National Science Foundation, NSTA, and AAAS—including its highly touted science education effort Project 2061—have yet to provide any lesson plans that target black children. "Who's doing scientifically valid African-American multicultural curriculum?" he asks. And as long as the Portland science essay continues to be read, he believes it will undermine all multicultural education, including his own efforts in Hispanic science education, by lending credence to those who oppose all such efforts as anti-intellectual and unnecessary. Says Ortiz de Montellano: "If [the Portland science essay] is being peddled to just two African-American kids, that's two too many."

**—John Travis**