

Diversity in the Science and Engineering Community:  
Life after the Michigan Cases

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## Introduction

Two weeks ago the University of Michigan's Department of Physics hosted a special symposium to celebrate the achievements of two remarkable graduates of the University's Physics program: Dr. Elmer S. Imes, the first African American to earn a Ph.D. in physics to enter a research career, and Dr. Willie Hobbs Moore, the first African-American woman to receive a Ph.D. in physics. In attendance at this event was the President's Science Advisor, Dr. John Marburger, who gave the keynote address to stress the importance of enhancing the participation of underrepresented groups in science, mathematics, engineering, and technology is to the future of our nation.

Dr. Marburger's talk echoed the conclusions of last year's National Science Board report concerning the science and engineering workforce, which I quote:

"The future strength of the US S&E workforce is imperiled by two long-term trends:

1. Global competition for S&E talent is intensifying, such that the U.S. may not be able to rely on the international S&E labor market for till unmet skill needs.
2. The number of native-born S&E graduates entering the workforce is likely to decline unless the nation intervenes to improve success in educating S&E students from all demographic groups, especially those that have been underrepresented in S&E careers."

There is a certain irony here. Increasing diversity of the American population with respect to race, ethnicity, gender and nationality is both one of our greatest strengths. A diverse population gives us great vitality. However today it is also one of our most serious challenges as a nation since the challenge of increasing diversity is complicated by social and economic factors. Far from evolving

toward one America, our society continues to be hindered by the segregation and non-assimilation of minority cultures.

For over 30 years, America's colleges and universities have taken special steps to provide the opportunities for higher education to those elements of our society hindered by discrimination or economic means. Such broad-based participation is even more critical today, as we become ever more dependent upon educated people and their ideas, skills, and talents at the dawn of an age of knowledge.

Yet today many in our society are challenging in both the courts and through referendum long-accepted programs as affirmative action and equal opportunity aimed at expanding access to higher education to underrepresented communities and diversifying our campuses.

As some of you know, I was a named defendant in two landmark cases that ended up before the United States Supreme Court last year—actually I was the “et. al.” in *Gratz vs. Bollinger, et. al.*, and so on. (I might note that this was an interesting ploy by the plaintiff lawyers, who attempted to intimidate university leaders by naming them personally as defendants rather than simply suing their institution. Since this was a class action suit, and during my presidency probably 200,000 applicants had been denied admission, I had a particular interest in the outcomes of these cases. But I also have many scars from waging battles on behalf of equity and social justice, so this was really nothing new!)

But I had another interest in these cases beyond being a defendant. During my presidency I had led an effort during the 1980s and 1990s on our campuses called the Michigan Mandate that had proven remarkably successful in not only doubling the number of underrepresented minorities among our students and faculty, but had achieved some of the highest rates of minority graduation rates and success in faculty promotion and tenure decisions in the nation. In fact, I suspect it was the success of this effort that made Michigan become a high profile target for those conservative groups who were attempting to challenge the methods higher education has used for the past several decades to achieve

diverse campus and provide educational opportunities for underserved populations.

This evening I would like to do a bit of Monday morning quarterbacking, assessing both the implications of the Supreme Court decisions on the Michigan cases that have firmly established that “diversity in higher education is an interest of the state” and that to achieve it, some consideration can be given to race, and then to address the question of “where to next”.

But first, it seems useful to explain just why outstanding students like Imes and Moore should chose the University of Michigan for their graduate studies, and why the University ended up carrying the water for higher education on this important issue.

#### A Bit of History

In a sense this goes back to the earliest days of our university, when one of our first presidents, James Angell, suggested that Michigan’s mission was to provide “an uncommon education for the common man”. Here, Angell was referring to the working class, since the colonial colleges of the East were primarily concerned with educating the elite. But this definition of “common man” rapidly broadened to include African Americans and women in the 1860s. At a time when our state was hostile to immigrants, the university took great pride in the international nature of its student body. In fact, Michigan awarded a Ph.D. to the first Japanese citizen, who returned to play a key role in the founding of Tokyo University. During the 20<sup>th</sup> Century, when Jewish students faced quota barriers in Eastern universities, they came west to places like Ann Arbor and Madison, where they were welcomed without restrictions.

Of course, this long-standing commitment of the university both to diversity and educational opportunity was sometimes not well-received either by state or federal governments. But fortunately, the University’s unusual constitutional

autonomy and its rather weak reliance on state appropriations (today almost non-existent) gave it the control of its own destiny to achieve these goals.

Yet at Michigan we remain convinced that our university's capacity to serve our society, our nation, and the world successfully in the challenging times before us would depend in large part on our ability to achieve and sustain a campus community recognized for its racial, cultural, and ethnic diversity. Indeed, our diversity has been a cornerstone of our efforts to achieve excellence in teaching, research, and service.

### The Michigan Mandate

Although the University sustained its commitment to diversity throughout the 20<sup>th</sup> Century, its progress reflected many of the challenges facing our society during the years of discrimination based upon race, religion, and gender. The student disruptions of the 1960s and 1970s triggered new efforts by the University to reaffirm its commitments to affirmative action and equal opportunity, but again progress was limited and a new wave of concern and protests hit the campus during the mid-1980s, just prior to the appointment of our administration.

In assessing this situation, we concluded that although the university had approached the challenge of serving an increasingly diverse population with the best of intentions, it simply had not developed and executed a plan capable of achieving sustainable results. More significantly, we believed that achieving our goals for a diverse campus would require a very major change in the institution itself.

It was the long-term strategic focus of our planning that proved to be critical. The University would have to leave behind many reactive and uncoordinated efforts that had characterized its past and move toward a more strategic approach designed to achieve long-term systemic change. In particular, we foresaw the limitations of focusing only on affirmative action; that is, on access, retention,

and representation. We believed that without deeper, more fundamental institutional change these efforts by themselves would inevitably fail—as they had throughout the 1970s and 1980s.

The challenge was to persuade the university community that there was a real stake for everyone in seizing the moment to chart a more diverse future. More people needed to believe that the gains to be achieved through diversity would more than compensate for the necessary sacrifices. The first and most important step was to link diversity and excellence as the two most compelling goals before the institution, recognizing that these goals were not only complementary but would be tightly linked in the multicultural society characterizing our nation and the world in the future. As we moved ahead, we began to refer to the plan as *The Michigan Mandate: A Strategic Linking of Academic Excellence and Social Diversity*.

The mission and goals of the Michigan Mandate were stated quite simply:

1. To recognize that diversity and excellence are complementary and compelling goals for the University and to make a firm commitment to their achievement.
2. To commit to the recruitment, support, and success of members of historically underrepresented groups among our students, faculty, staff, and leadership.
3. To build on our campus an environment that sought, nourished, and sustained diversity and pluralism and that valued and respected the dignity and worth of every individual.

A series of carefully focused strategic actions was developed to move the University toward these objectives. These strategic actions were framed by the values and traditions of the University, an understanding of our unique culture characterized by a high degree of faculty and unit freedom and autonomy, and animated by a highly competitive and entrepreneurial spirit.

The strategy was both complex and all-pervasive, involving now only a considerable commitment of resources (e.g., fully-funding all financial aid for

minority graduate students) as well as some innovative programs such as our Target of Opportunity program for recruiting minority faculty. It also was one of those issues that we believed required leadership on the front lines by the president, since only by demonstrating commitment from the top could we demand and achieve comparable commitments throughout the institution.

By the mid 1990s Michigan could point to significant progress in achieving diversity. The representation of underrepresented minority students, faculty, and staff more than doubled over the decade of the effort. But, perhaps even more significantly, the success of underrepresented minorities at the University improved even more remarkably, with graduation rates rising to the highest among public universities, promotion and tenure success of minority faculty members becoming comparable to their majority colleagues, and a growing number of appointments of minorities to leadership positions in the University. The campus climate not only became more accepting and supportive of diversity, but students and faculty began to come to Michigan because of its growing reputation for a diverse campus.

And, perhaps most significantly, as the campus became more racially and ethnically diverse, the quality of the students, faculty, and academic programs of the University increased to their highest level in history. This latter fact seemed to reinforce our contention that the aspirations of diversity and excellence were not only compatible but, in fact, highly correlated. By every measure, the Michigan Mandate was a remarkable success, moving the University beyond our original goals of a more diverse campus. This latter fact seemed to reinforce our contention that the aspirations of diversity and excellence were not only compatible but, in fact, highly correlated.

But, of course, this story does not end with the successful achievements of the Michigan Mandate in 1996 when I stepped down as president. Beginning first with litigation in Texas (the Hopwood decision) and then successful referendum efforts in California and Washington, conservative groups such as the Center for Individual Rights began to attack policies such as the use of race in college

admissions. Perhaps because of Michigan's success in the Michigan Mandate, the university soon became a target for those groups seeking to reverse affirmative action with two cases filed against the University in 1997, one challenging the admissions policies of undergraduates, and the second challenging those in our Law School. Although I had been succeeded by Lee Bollinger by that time, I was still named personally as a defendant in one of the cases (here I referred to myself as the "et. al" in the *Gratz vs. Bollinger, et. al.* case), although I had little influence on the strategies to defend both cases to the level of the Supreme Court.

Yet there is a certain irony here. Never in our design or execution of the Michigan Mandate did we ever consider admissions policies to be particularly relevant to the strategy. To be sure, we knew that those admissions policies contained affirmative action provisions that were consistent with those used elsewhere in universities with selective admissions, and we instructed our staff to make certain they were also consistent with the law and ongoing court rulings. But we simply didn't believe that tinkering with admissions policies was the key to achieving diversity. Hence it was ironic that these rather standard policies should be the target of those groups seeking to challenge our efforts.

Although the Supreme Court decisions were split, supporting the use of race in the admissions policies of our Law School and opposing the formula-based approach used for undergraduate admissions, the most important ruling in both cases was, in the words of the court:

- "Student body diversity is a compelling state interest that can justify the use of race in university admission"
- "When race-based action is necessary to further a compelling governmental interest, such action does not violate the constitutional guarantee of equal protection so long as the narrow-tailoring requirement is also satisfied."
- Accepted UM "critical mass" argument, e.g., having enough minorities in classrooms so that there were a variety of minority viewpoints.

Hence, the Supreme Court decisions on the Michigan cases reaffirmed those policies and practices long used by those selective colleges and universities



throughout the United State. But more significantly, it reaffirmed both the importance of diversity in higher education and established the principle that, appropriately designed, race could be used as a factor in programs aimed at achieving diverse campuses. Hence the battle was won, the principle was firmly established by the highest court of the land. We had won. Or so we thought...

At Michigan, we felt it was important that we “carry the water” for the rest of higher education to re-establish this important principle. Throughout our history, our university has been committed to extending more broadly educational opportunities to the working class, to women, to racial and ethnic minorities, and to students from every state and nation. It was natural for us to lead yet another battle for equity and social justice.

### The Battle Continues

Yet, while an important battle has been won, the war is far from over. As some of you may have seen in the lead article in this week’s Chronicle of Higher Education, university after university is now backing away from minority programs aimed at recruitment, financial aid, and academic enrichment. Schools such as Harvard, Yale, Princeton, and MIT are either eliminating entirely such programs or opening them up to non-minority students from low-income households or who demonstrate a commitment to promoting racial diversity (whatever that means).

Why? They have been scared by their lawyers who interpret the “narrowly-tailored use of race” language in the Michigan decisions as prohibiting any activities which are not race-blind. Some quotes illustrate:

- “Essentially every legal scholar or general counsel I have consulted now believes that race-exclusive programs are not likely to withstand a legal challenge.”
- “It appears that, under the Michigan cases, race exclusivity will not pass legal mustard.”

- “We now open our minority programs to nonminority students from low-income households or who demonstrate a commitment to promoting racial diversity.”

Apparently these institutions are unwilling to face up to the challenge in the way that Michigan did. They saw how much we had to spend and the long battle we had to fight to win our case.

Yet, I must say that after the years of effort in defending these cases, all the way to the Supreme Court, it would be tragic indeed if the decisions in the Michigan case cause more harm to the cause of diversity than advancing the cause of social justice, particularly if they empower the lawyers on our campuses to block our successful efforts to broaden educational opportunity.

Of course we also also face further struggles at Michigan. Even as I stand here this evening, there is a well-funded effort to obtain the 317,000 signatures necessary to put a referendum on the November ballot seeking a constitutional amendment that would outlaw the consideration of race in college admissions in Michigan, negating the Supreme Court decision of last summer. Although this effort is spearheaded by an auslander, Ward Connerly, of California fame, early polling suggests that over 70% of likely Michigan voters would support it. Hence we are not out of the woods yet...by a long shot!

(Although, fortunately last Thursday the courts ruled that the language of the petition was so deceptive that it should not have been certified by the State Board of Canvassers, so we are back in court once again!)

### Concluding Remarks

Back to the challenge at hand. As last year’s NSB Report stressed, our nation faces a growing challenge in creating the science and engineering workforce so necessary to achieving prosperity and security in an increasingly competitive, knowledge-driven, global economy:

- Flat or reduced student interest in critical areas such as physical sciences and engineering, as shown by decline in B.S. degrees.
- Large increases in retirements from S&E workforce projected over the next two decades.
- Projected rapid growth in S&E occupations over the next decade, at three times the rate of other occupations.
- Anticipated growth in need for American citizens with S&E skills related to national security follow 9-11.
- Severe pressure on state and local budgets for education for the future S&E workforce.

The current tendency to look abroad for talent, either through outsourcing high tech jobs or attracting foreign nationals into our workforce, continues to encounter short-term obstacles and is unlikely to provide any long-term solutions, given the difficulty of locating skilled workers in an increasingly competitive, global labor market.

Since an increasingly large share of the workforce will consist of women, underrepresented minorities, and persons with disabilities, groups persistently underrepresented in SET careers, this is where we must turn our attention.

Unless the SET labor market becomes more representative of the workforce as a whole, the nation may well face severe shortages in SET workers.

Drawing from my Michigan experience, let me suggest that our biggest challenge is not legal or political challenges from those who would return our colleges and universities to the monocultural campuses of the '60s and '70s. I think Michigan proved last summer that higher education can stand up to these challenges.

Rather the real challenge arises because as a nation, we lack the necessary long-term national goals and strategies to ensure the recruitment, education, and ongoing development of an adequately sized and appropriately qualified S&E

workforce. Of course this is not just a weakness of the current administration, since 10 years ago, when I was chair of the National Science Board, we conveyed the same message to the previous administration. With precisely the same result. Silence.

Furthermore the challenge arises because higher education, at least as far as individual institutions are concerned, apparently has lost the courage to continue the battle for diverse campus and, more significantly, social justice.

But let me also stress that at Michigan we remain absolutely convinced that there is a very strong linkage between academic excellence and campus diversity. We have both demonstrated and fought to sustain this linkage.

The same can be said for the dependence of our nation's prosperity and security upon social diversity and broad representation in all aspects of American life. Indeed, in an increasingly diverse world, it is hard to imagine how we can flourish as a nation without tapping the talent, the wisdom, the experience, and the cultures of all of our citizens. We are a great multicultural nation—and we must reflect that extraordinary diversity in every aspect of our national character, including most particularly, in science and engineering!