

on accountability and transparency, as well as responding to concerns involving international competitiveness and economic development. These discussions often revolve around the role of government.

LIKELY CHANGES IN THE ROLE OF GOVERNMENT

The commission report has been used as a platform for the Department of Education to strengthen the government's role in judging quality and directing how private accreditation bodies function. Thus while the federal government once deferred academic quality to the judgment of educational professionals, the current policies have instead significantly expanded government regulation. Government will decide whether the quality judgments of accrediting organizations are appropriate.

For example, the commission's deliberations put on the table the concept of a national accreditation foundation—equivalent to a federal “Ministry of Quality.” The Department of Education has ratcheted up current demands on accreditors for accountability, intensifying the department's application of current law and regulation. This has increased pressure on accreditors and institutions with regard to outcomes and transparency. Congress is likely poised to raise demands for accountability in accreditation in the current reauthorization of the Higher Education Act. Members and staff are closely watching commission-related activities.

DANGEROUS DIRECTIONS OF ACCREDITATION

First, although this will not happen overnight, accreditation will likely involve more accountability and become more transparent. The process will reveal outcomes and performance and even some movement toward national standards—perhaps in the context of institutional mission and possibly leading to national testing and mandatory comparability in higher educa-

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tion. While effectively standardizing higher education quality, these actions would neglect a key successful element of the US higher education enterprise: its decentralized structure and consequent diversity.

Second, the federal government will play an unprecedented bigger role in defining and judging academic quality. While this role for government may not be unusual in other countries, for the United States it represents a dramatic shift signaling the diminution and perhaps the end of the nongovernmental self-regulatory system that has been in place for more than 100 years. Having to work with accreditors to set their own academic direction and define success will reduce the authority

and responsibility of institutions.

These changes will work against three key features of US higher education that, buttressed by its system of accreditation, have produced an enviable system of higher education: a commitment to institutional purpose or mission as driving academic quality, the importance of responsible institutional autonomy in providing quality higher education, and the vital role of academic freedom in the higher education enterprise. A greatly enlarged federal role will likely diminish the diversity of higher education, weaken its innovative capacity, and compromise its intellectual strength. ■

Stem Cells, Science Policy, and Religion in the United States

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Controversies over stem cell research provide a window into the politics of science policymaking in the United States. The country may boast having some of the best research universities in the world, and a mighty academic R&D engine, but significant strains exist in the funding of science—influenced in part by the nation's peculiar religiosity. The result is that many states, most notably California, are becoming increasingly entrepreneurial in their drive to promote science and innovation, activity that the federal government will not fund—at least as long as neoconservatives control the White House.

A FEDERAL BAN

In part to placate the religious fundamentalist wing of the Republican Party, in August 2001 President George W. Bush set limits on federal funding for stem cell research. In a presidential directive to all federal funding agencies, with implications largely for the National Institutes of Health and the research activity of America's research universities, Bush set strict limits on the lines of human embryonic stem cells that could be studied using federal research grants. He also capped federal funding for such research at \$25 million per year.

By limiting federal funding of stem cell research, the Bush administration created a “wedge” issue useful for solidifying the president's political base—a political strategy that would help reelect him as president in November 2004. It also created a great symbol of America's waning science and technology

superiority.

No previous presidential administration set such specific restrictions on scientific research. The president sanctioned the use of some 60 genetically diverse stem cell lines already existing, created from “embryos that have already been destroyed . . . [with] the ability to regenerate themselves indefinitely, creating ongoing opportunities for research.”

While the president's edict did not halt most private-sector research, it promised a significant impact on university research and important nonprofit research centers. Thus far, the federal government in Washington funds the vast majority of basic research at American research universities.

CALIFORNIA'S NEW STEM CELL FUND

One unforeseen consequence of President Bush's edict is the subsequent effort of more liberal (blue) states, which also tend to have the greater concentration of high-technology businesses and high-quality research universities, to fund stem cell research. In effect, for the first time a number of states have created agencies that mimic the role of the National Science Foundation—allocating research funds for basic research usually through competitive and peer-reviewed grants, historically

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a role of the federal government.

In this movement among states, California quickly became an influential leader. With the largest concentration of biotech research and businesses in the United States, a coalition of the state's corporate high-tech sector sought a high-profile route to assure California's place in the vanguard of the biotech movement. In early 2004 this group promoted the “California Stem Cell Research and Cures Initiative”—a proposition giving California voters a chance to vote on a statewide initiative, bypassing the normal process of legislation. Proposition 71 was placed on a ballot and proposed a \$3 billion bond, which in turn would generate \$350 million a year over a decade for stem cell research in California. California voters approved the proposition, generating national press coverage.

Almost immediately after the passage, a series of controversies erupted. As an indication of America's litigious society, not until May 2007 were all the legal issues and the policies on intellectual property fully resolved. The courts threw out the legal roadblocks, handing conservatives a big loss. A consensus was also reached that institutions and researchers should retain patent and licensing control of their inventions—essentially mimicking federal policy established in 1981 under the Bayh Dole Act.

California was the first state to attempt essentially an end run around the federal government's odd restrictions on stem cell research; but the full \$3 billion is just now available for dispersal to researchers

A NATIONAL MOVEMENT

California's big bang approach to promoting stem cell research started a wave of similar legislation. Many state governments have fully embraced the rhetoric and reality of “new growth” theory including as an ancillary the concept that a robust high-tech sector lifts all economic boats. In New Jersey, a \$270 million proposal for funding stem cell researchers has been floated; in New York, the new governor, Eliot Spitzer, has proposed a much bigger \$1 billion fund.

More recently, the state of Massachusetts, home of a large contingent of biotech companies supported by a cadre of elite universities, unveiled a \$1.25 billion proposal that reflects California's initiative. These funds will provide grants allocated competitively to scientists at universities and hospitals, possibly to jump-start new research centers and to train biotech workers.

With the declining political strength of a Bush White House mired in military conflicts in the Middle East and the defeat of its major policy initiatives in areas such as social security, some relaxation of the federal ban on stem cell research funding seems inevitable. It may in fact be completely reversed by the next presidential administration.

State initiatives in this area will likely remain, and the benefits of state investments may prove beneficial in unexpected ways. States are increasingly becoming entrepreneurial and proactive in their promotion of basic research universities—more than simply providing general support for universities. One reason for this legacy is the general lack of enlightened leadership in Washington; another is a broad public sense that stem cell research will generate important health benefits.

But the emergence of the “entrepreneurial state” is even more widely driven by the sense of science and technology as the key to current and future economic competitiveness. In the United States, and globally, science policy is becoming a key component of economic policy. In California and most other states, the locus of science policy and, specifically, the funding of academic research is no longer dependent on money and initiatives in Washington but on politics and policy with a state. This trend will likely mean that more progressive states often already with strong research universities will gain a further edge in their pursuit of science and innovation. ■

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