

California dreaming

Voters in California will decide next month on an initiative that would assign \$3 billion to research on human embryonic stem cells. But the proposal is less of an unalloyed blessing than it seems.

Research on human embryonic stem cells has become a bone of fierce political contention in the United States. President George Bush's decision to allow federal funding only for research on stem-cell lines derived before 9 August 2001 has been attacked by his rival, Senator John Kerry, most recently during last week's second presidential debate.

In California, the policy has drawn an even more direct response from the biotechnology industry and parts of the research community. 'Proposition 71', on which California's citizens will vote on 2 November, would enable a bond issue that pumps \$300 million a year for ten years into research on human embryonic stem cells. The proposition would establish an institute to review grant applications and distribute the funds, and would insulate it from the state legislature, so the money could not be redirected by political whim. The initiative would even amend the state constitution to guarantee the right to do embryo research.

Many researchers in California see this as a chance to flex some political muscle. At first glance, the proposition would close an unfortunate gap in federal research funding and instantly transform the state into a hub of activity in a promising field. But aspects of the proposal should give voters pause before they lend it their support.

First, it isn't clear that this particular field of study can make the best use of the substantial amount of money that the proposition plans to throw at it. In a manner pioneered by campaigners for public funding for sports stadia, the proposition's advocates have delivered a series of "economic analyses" arguing that the bond issue will pay for itself in the long run, by nurturing economic growth through the development of the local biotechnology industry. But it is not clear that these analyses hold water. And the vote is taking place after

a series of other ballot-driven commitments to low taxes and high spending, which have driven California to near-insolvency.

The exclusion of the state legislature from responsibility for overseeing the programme is a further cause for concern. Whatever one thinks of individual politicians, democratic supervision places important constraints on the use of public money. The federal agencies that fund most academic research in the United States — the National Institutes of Health (NIH) and the National Science Foundation — operate under the scrutiny of Congress. At these agencies, scientific merit is judged almost entirely by the community itself, but Congress ultimately ensures that the public good is paramount.

Proposition 71, in contrast, would introduce a new model for the support of scientific research at the state level that would rely on mere transparency as a guarantee against abuse. Although public meetings are promised, the oversight committee would consist mainly of people with close ties to the universities, institutes and companies that stand to benefit from the money spent. Most of the rest are representatives of disease groups. The committee makes the ultimate funding decisions and will be allowed to modify NIH rules of informed consent and human-subject protection as it sees fit.

The advocacy of such people as the actor Christopher Reeve — whose untimely death this week deprives biomedical research of one of its most forceful and effective lobbyists — has helped to elevate the promise of embryonic-stem-cell research, sometimes to unrealistic levels. It is up to the people of California whether they want to approve Proposition 71. But if they do, researchers must strive to ensure that no funds will be abused, and they must give full consideration to a wide array of ethical concerns. Anything less risks damaging public trust in science. ■

Against grade inflation

How to counter declining rigour in US university courses.

Call it Moore's law of US higher education: the quantity and quality of work that undergraduates must do to get top grades halves every decade. This is an exaggeration, of course, but many readers will recognize the sentiment. Is it just the jaded perception of cynical academics? On the contrary: the evidence suggests that there is a real problem of grade inflation in degree courses, especially at private universities. And the assessment of teachers by students, as well as parents' demands that they get what they think they've paid for, are making the problem worse.

Course evaluations were intended to give the instructor feedback about how well he or she was doing. But they rapidly became a favoured tool of deans, tenure and promotion committees because they were quantifiable. Now there is an implicit understanding that if instructors give good grades, they will not be judged too severely by students. New faculty often grade more harshly than other members of the department, only to be 'punished' by students. Deans who believe that this doesn't happen are deluding themselves.

Also worrying is the idea — particularly evident at costly private

universities — that students and their parents believe they are paying for a degree that will lead to a good job, rather than for a good education that will help them to think independently. The pressure on teachers to appease demanding students and parents by awarding high grades is obvious.

The consequences are all too clear. Anecdotal evidence suggests that there is a general unwarranted upward creep in grades (<http://ctl.stanford.edu/Tomprof/index.shtml>). More objectively, the fact that graduate schools rely for admission criteria almost exclusively on the results of standardized tests, rather than on universities' individual grading, points to a systematic failure to ensure that grading standards are being maintained.

What to do? More universities should focus seriously on improving the instructional abilities of their faculty in programmes — mandatory for new instructors — to videotape classes and analyse them with the faculty member to highlight strengths and weaknesses. And evaluations should take note of thoughtful individual comments by students, rather than relying on scores, or be abandoned. ■