



National Review Online, November 20, 2007

Bush Bears Fruit: New discoveries pave the way for ethical stem-cell research, thanks to the president's policies.

By Wesley J. Smith

Throughout his presidency, the Science Intelligentsia has castigated President Bush for placing limits on the federal funding of embryonic-stem-cell research (ESCR). Acting as if he had a banned ESCR, which of course he hadn't, "the scientists" and their camp followers in the media and on Capital Hill accused the president of withholding cures from the ill in order to impose his religious beliefs on a reluctant public.

Little noted in all of the caterwauling, was that ESCR and human-cloning research (SCNT) have been funded bounteously — to the tune of nearly \$2 billion. **Not only has the National Institutes of Health put more than \$150 million in recent years into human ESCR (about \$40 annually), but according to a recent report put out by the Rockefeller Institute, to date about \$1.7 billion has poured into ESCR and SCNT from philanthropic sources — and this doesn't include the hundreds of millions granted annually by the states for cloning and ESCR experiments.**

So what's really going on here? Yes, the president's policies have forced some research centers to set up separate labs for research on Bush-approved and non-approved, stem-cell-research lines. But what really got under "the scientists" skin was the clarion moral message sent by the president: It is wrong to treat nascent human life as a mere natural resource to be sown, reaped, and consumed.

Big Biotech responded to the Bush policy by mounting a powerful public advocacy campaign aimed at both opening the federal spigots, and break-

ing the back of the moral opposition to ESCR and human cloning research. Railing against the president and supporters of his policy as "anti-science," ESCR/SCNT advocates accused Bush of denying sick people needed medical breakthroughs. Human cloning via SCNT was redefined from "therapeutic cloning" in the advocates' lexicon to merely "stem-cell research." The change of term constituted a clever ruse that bundled and confused in people's minds, the morally acceptable advances being made in adult stem-cell research, the morally dubious human cloning project, and the use of "spare" embryos for research that were "going to be discarded anyway."

For awhile, the political tide ran powerfully in the cloners' direction. In November 2004, California voters passed Proposition 71, agreeing to borrow \$3 billion over ten years to pay private companies, and their business partners in major university research centers, to conduct human cloning research and ESCR. This was followed with bipartisan votes in Congress passing legislation to overturn Bush's policy. To this, the president responded with his only veto of the first term. This year, with the Democrats in control of both houses of Congress, that bit of Kabuki Theater was repeated — but the President's policy held.

Then, almost without being perceived, the tide began to turn. Amendment 2 in Missouri — which established a constitutional right in Missouri to conduct human cloning research — was expected to cruise to an easy victory, proving that even in the Bible Belt, people wanted scientists to pursue ESCR/SCNT. But in the last two weeks of the campaign, public support for the measure plummeted in the face of the sheer power of Rush Limbaugh's broadcasting voice in the imbroglio over actor Michael J. Fox's pro ESCR/cloning political ads, and

an effective last minute advertising campaign featuring St. Louis Cardinal baseball stars and popular actors which warned voters “don’t be bought, don’t be fooled.” The measure limped home with a bare majority, winning the day politically, but denying its sponsors of the big moral boost they expected to receive from its passage.

Meanwhile, little reported by the mainstream media, adult stem-cell/umbilical-cord blood stem-cell research advanced at an exhilarating pace. Early human trials showed that adult stem cells from olfactory tissues restored feeling to patients paralyzed with spinal-cord injury. Bone-marrow stem cells appeared to prevent the worsening of progressive MS. People with Type-1 diabetes were cured with their own adult stem cells. Increasingly, Big Biotech’s circus barker-call of CURES! CURES! CURES! seemed to be wearing thin. Then, just a few weeks ago, New Jersey voters shocked the science and political worlds by rejecting a \$450 million bond measure that, like California’s Proposition 71, would have funded human cloning and embryonic-stem-cell research.

Returning to President Bush’s stem-cell funding policy; even though it was politically unpopular, the President believed wholeheartedly that the raw talent, intelligence, and creativity of the science sector would find a way to obtain pluripotent stem cells (the ability to become any cell type) through ethical means. In speeches and news conference answers about the stem-cell issue, Bush repeatedly supported existing ethical areas of research, and called upon researchers to find “alternative” methods of developing stem-cell medicine without treating nascent human life “as an experiment.” Toward this end, earlier this year Bush signed an executive order requiring the NIH to identify all sources of human pluripotent stem cells, and invited “scientists to work with the NIH, so we can add new ethically derived stem-cell lines to the list of those eligible for federal funding.”

The Science Establishment pouted and the *New York Times* castigated the president’s call. But other scientists had already taken up the president’s challenge, and their work was paying off. Experiments in mice by Rudolf Jaenisch at Harvard demonstrated proof of principle for “altered nuclear transfer” (ANT), a theoretical method of deriving pluripotent stem cells without creating and destroying embryos.

Don Landry, Professor at Columbia University Department of Medicine, developed a way to identify dead embryos for potential use in stem-cell research — which would be no more unethical than researching on cadavers. Perhaps most excitingly, Kyoto University’s Shinya Yamanaka reprogrammed skin cells from the tails of mice, and reverted them back to an embryonic-like stem-cell state — offering tremendous hope that every therapeutic benefit scientists believed could be derived from therapeutic cloning, could instead be achieved by regressing a patient’s own tissues.

Then, last week very big news: Ian Wilmut — who opened the Pandora’s Box of human cloning with the creation of Dolly the sheep, and who two years ago obtained a license from the United Kingdom’s Human Fertilization and Embryology Authority to create cloned human embryos from the cells of Lou Gehrig’s disease patients — stunned the scientific world with the sudden and unexpected announcement that he had rejected human cloning research, in favor of pursuing cell reprogramming as an ethical and uncontroversial means of obtaining pluripotent cells. Wilmut told the *Telegraph*:

The odds are that by the time we make nuclear transfer work in humans, direct reprogramming will work too.

I am anticipating that before too long we will be able to use the Yamanaka approach to achieve the same, without making human embryos. I have no doubt that in the long term, direct reprogramming will be more productive, though we can’t be sure exactly when, next year or five years into the future.

Finally, today came the Krakatau of stem-cell announcements: *Reprogramming has been achieved using human cells*. As reported by the journal *Science*, researchers reverted human connective tissue cells back to an embryonic-stem-cell-like state — and then differentiated them into all three of the body’s major tissue types. If this work pans out, there will be no need to create human cloned embryos for use in embryonic-stem-cell therapies.

I believe that many of these exciting “alternative” methods would not have been achieved but for President Bush’s stalwart stand promoting ethical stem-cell research. Indeed, had the president followed the crowd instead of leading it, most research

efforts would have been devoted to trying to perfect ESCR and human-cloning research — which, despite copious funding, have not worked out yet as scientists originally hoped.

So thank you for your courageous leadership, Mr. President. Because of your willingness to absorb the brickbats of the Science Establishment, the Media Elite, and weak-kneed Republican and Democratic politicians alike — we now have the very real

potential of developing thriving and robust stem-cell medicine and scientific research sectors that will bridge, rather than exacerbate, our moral differences over the importance and meaning of human life.

Wesley J. Smith is a senior fellow at the Discovery Institute, an attorney for the International Task Force on Euthanasia and Assisted Suicide, and a special consultant to the Center for Bioethics and Culture.