New York Times

June 12, 2003

Bush's Political Science

By STEPHEN S. HALL

What do weapons of mass destruction and stem cells have in common? The controversy over the Bush administration's representation of Saddam Hussein's arsenal seems like déjà vu to those of us who followed the president's first major policy decision two years ago: research on human embryonic stem cells, which may have the potential to treat many major diseases.

In August 2001, President Bush announced a "compromise" policy that limited federal support to research on already existing stem cell lines. (Each line is cultivated in a lab from tiny stem cells extracted from human embryos, usually the byproducts of in vitro fertilization.) The administration's position, intended to appease anti-abortion groups without alienating scientists and patients, was justified in part by claims that researchers already had dozens of such cell lines. However, after the announcement the truth slowly became clear: many of these lines never existed, and others were not freely available.

Two months earlier, in June 2001, scientists first learned that the administration was considering the new policy. It set off alarm bells, because researchers knew that only a half-dozen or so stem cell lines had been described in the scientific literature.

Several scientists were already suing the National Institutes of Health and the Department of Health and Human Services to force the government to support their research. In a June 15 letter to Tommy Thompson, the secretary of health and human services, their lawyer, Jeffrey Martin, outlined several critical shortcomings of the policy. It pointed out that half a dozen human embryonic cell lines would be inadequate for vigorous research and that their availability might be severely constrained by patents. Mr. Thompson later told me that he had received Mr. Martin's letter and added, "I take whatever he writes seriously." The rest of the administration, however, apparently did not.

On Aug. 2, a delegation from the National Institutes of Health informed the president and his advisers that approximately 60 human embryonic stem cell lines either existed or were in "development." That distinction is crucial, because something in development has not passed muster as a cell line; researchers do not know if it is capable of sustained growth in culture and can therefore be shared with other laboratories. But by the time the president met with the bioethicist LeRoy Walters of Georgetown University, later that day, the distinction had been lost. The White House group told him of the N.I.H. estimate and paid little heed to his skepticism that so many cell lines were available.

Despite such warnings, President Bush went on television on Aug. 9 to explain his policy, saying there were "more than 60" cell lines available for research. Some N.I.H. scientists were flabbergasted when the president uttered that number; many stem cell scientists immediately challenged it. Yet the administration held fast to its claim that dozens of fully realized cell lines were freely available to researchers. Secretary Thompson stated, "They're diverse, they're robust, they're viable for research."

But this was all a fiction, and it began to erode within weeks. On Sept. 5, under relentless Senate questioning, Mr. Thompson admitted that only two dozen cell lines were ready and available. It even looked as if the stem cell policy might unravel. Then came 9/11, and the issue dropped out of sight. Few noticed publication of the N.I.H.'s official stem cell registry in November, which listed 71 separate lines.

But scientists continued to have trouble getting the cells. At a small scientific meeting on stem cells in November 2002, I heard a senior N.I.H. official privately concede that the stem cell registry was "misleading." Later that month, with no public announcement, the institutes drastically amended the stem cell registry, cutting the list to just nine cell lines.

Why does the number of cell lines matter? After all, Secretary Thompson told Congress that the bulk of basic research on mouse embryonic stem cells was done with only about five cell lines. While this is technically true, it is very misleading. In order to identify those five optimal lines, scientists first had to create hundreds of mouse stem cell lines.

Human stem cells vary greatly in characteristics — they are almost as individual as personality — and some will ultimately prove to be better than others for research. Douglas Melton, a stem cell scientist at Harvard, says that researchers would need to cultivate perhaps 1,000 human stem cell lines to be sure they had the best options for research. When I vetted that estimate with Martin Evans, a biologist in Wales who is the elder statesman of mouse stem cell research, he agreed that it was in line with his work on mice.

The aim of stem cell research is to benefit the tens of millions who have illnesses like diabetes and Parkinson's disease. They deserve our best effort — not a restrictive and disingenuous policy sold to the public on the basis of exaggerated information.

Stephen S. Hall is author of the forthcoming ``Merchants of Immortality: Chasing the Dream of Human Life Extension.''