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Human Cloning Legislation in Congress: Misconceptions and Realities

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For further information, contact the Federal Legislation Department at the National Right to Life Committee (NRLC) at Legfederal@aol.com or 202-626-8820, and visit the Human Embryo page on the NRLC website at www.nrlc.org/killing embryos/index.html

Introduction

Multiple bills dealing with *human cloning* are currently before the Congress. The public deserves to know what the fundamental policy argument is really about – but the biotechnology industry lobby and its allies are working overtime to generate smokescreens of evasions and euphemisms. Regrettably, some journalists – whether out of sympathy for one side of the debate, ignorance of the mechanics of human cloning, gullibility, or some combination of these factors – have disseminated reports that badly misrepresent the differences between the competing human cloning bills in Congress. In some cases, these reports go beyond murkiness and distortion into the realm of the absurd – for example, stories that use terms such as "egg" or "cells" to refer to a member of the species *Homo sapiens* (46 chromosomes) who has developed for five days, or even for two weeks.

The purpose of this paper is to clarify what the argument is really about. In reality, *neither side* 's cloning bill would restrict research on human ova ("eggs"), and both sides' bills would allow the use of cloning methods to produce human DNA, cells, or tissues. Moreover, neither side's cloning bill restricts research using stem cells taken from human embryos created through in vitro fertilization – whether it involves embryonic stem cell lines that were established before August 9, 2001 (which may be eligible for federal funding), or from embryos newly obtained from IVF clinics. The fundamental difference is this: The Brownback-Landrieu bill (S. 658) and the Weldon-Stupak bill (H.R. 1357) would ban the creation of human embryos by cloning (somatic cell nuclear transfer, SCNT), while the competing bills proposed by Senators Hatch (S. 876) and Feinstein (S. 1520) and by Congresswoman Bono (H.R. 1822) would allow human embryos to be

created by cloning and then killed for biomedical research (including *but not limited to* "stem cell research.")

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Past Developments in Congress

On February 27, 2003, the House of Representatives passed, 241-155, the Human Cloning Prohibition Act (H.R. 534), sponsored by Congressmen Dave Weldon (R-Fl.) and Bart Stupak (D-Mi.). (The House had earlier passed this legislation in 2001.) This bill, backed by President Bush, would ban the creation of human embryos by cloning. The House decisively rejected (231-174) a competing proposal ("substitute amendment") proposed by Congressmen Jim Greenwood (R-Pa.) that would have allowed and encouraged the creation of human embryos by cloning, while attempting to ban the use of any such cloned embryo to "initiate a pregnancy." (Greenwood has since left Congress and is now president of the Biotechnology Industry Organization.) NRLC strongly

opposed the Greenwood-Deutsch Substitute, for reasons explained in a February 21, 2003, letter to House members, posted here: www.nrlc.org/killing_embryos/lettertocongressgreenwood022103.html

The Senate never acted on the Weldon-Stupak bill or its Senate companion bill, which was sponsored by Senators Sam Brownback (R-Ks.) and Mary Landrieu (D-La.).

In the new 109th Congress, the policy supported by President Bush is again embodied in the Brownback-Landrieu bill (S. 658), which currently has 33 sponsors and cosponsors, and the Weldon-Stupak bill (H.R. 1357), which currently has 122 sponsors and cosponsors. The language of the Brownback-Landrieu bill is nearly the same as the Weldon-Stupak bill, in that both ban the creation of and trafficking in cloned human embryos. But the House bill also bans importation of "any product derived from" cloned human embryos, while the Senate bill does not. Both the House and Senate bills provide for up to 10 years in prison or fines of up to \$1 million for violations.

Competing legislation to allow and encourage the cloning of human embryos for research has been introduced by Senator Orrin Hatch (R-Utah), Dianne Feinstein (D-Ca.), and others as S. 876, and by Congresswoman Mary Bono (R-Ca.) as H.R. 1822. The thrust of the Hatch-Feinstein-Bono legislation is the same as that of the Greenwood-Deutsch Substitute that the House rejected in 2001 and 2003, although there are some fine points of distinction, some of which are discussed below.

In addition, on July 27, 2005, Senator Dianne Feinstein (D-Ca.) introduced S. 1520, which is a shorter version of the original Hatch-Feinstein bill (S. 876). The most important difference between the two versions is that S. 1520 does *not* contain S. 1520's prohibition against allowing human clones to develop past the 14-day point. S. 1520 allows the use of cloning to create human embryos in any numbers, and prohibits only the implantation of

¹ Some polemicists, such as syndicated columnist Ellen Goodman ("Outlawing Science," *Washington Post*, March 8, 2003), have asserted that under the House-passed bill's prohibition against importing "any product derived from" cloned human embryos, a person who went to another country and received a transplant of cells taken from a cloned human embryo could be arrested on return to the United States. This is a particularly silly argument. Such a person would not be "importing" products of cloned human embryos, any more than a person who returns to the U.S. after eating a hamburger in London would be "importing" British beef possibly tainted by "mad cow" virus, or a person who returns after eating a tuna sandwich in China would be "importing" tunas caught in non-dolphin-safe nets. The other provisions of the Weldon-Stupak bill clearly do not apply to activities conducted outside the sovereign jurisdiction of the United States.

such a human clone in a uterus "or the functional equivalent of a uterus" – language that seems designed to leave the door open to future "fetus farming" practices, as discussed below.

When S. 876 was introduced, on April 21, 2005, Sen. Feinstein issued a press release (http://feinstein.senate.gov/05releases/r-stemcell.htm), emphasizing a list of so-called "ethical standards" contained in the bill. Critics argued that these "ethical standards" were gravely flawed (see

http://commerce.senate.gov/hearings/testimony.cfm?id=685&wit_id=1821). When Feinstein introduced the revised bill, S. 1520, on July 27, 2005, all of these "ethical standards" had been removed. The dropped requirements related to informed consent, financial incentives, and a physical separation between cloning labs and in vitro fertilization labs.

President Bush's Position and Statements

President Bush has repeatedly called on Congress to ban all human cloning (i.e., to ban the cloning of human embryos). In remarks on January 22, 2003, the President said, "I also urge the Congress to ban all human cloning. We must not create life to destroy life. Human beings are not research material to be used in a cruel and reckless experiment." In his January 28, 2003, State of the Union speech, the President said, "Because no human life should be started or ended as the object of an experiment, I ask you to set a high standard for humanity, and pass a law against all human cloning."

The President reiterated his position in his State of the Union address on February 2, 2005: "I will work with Congress to ensure that human embryos are not created for experimentation or grown for body parts, and that human life is never bought or sold as a commodity. America will continue to lead the world in medical research that is ambitious, aggressive, and always ethical."

In a speech on human cloning on April 10, 2002, President Bush warned that unless such legislation is enacted, human "embryo farms" will be established in the United States. (See www.whitehouse.gov/news/releases/2002/04/print/20020410-4.html)

On February 26, 2003, the White House issued an official "Statement of Administration Policy, which reads in part, "The Administration unequivocally is opposed to the cloning of human beings either for reproduction or for research... The Administration is strongly opposed to any legislation that would prohibit human cloning for reproductive purposes but permit the creation of cloned embryos or

development of human embryo farms for research, which would require the destruction of nascent human life."

(www.nrlc.org/killing_embryos/HR534HumanCloningProhibitionActSAP.pdf)

In 2003, following the House's rejection of the Greenwood Substitute and its approval of the Weldon-Stupak bill, the President said in a written statement, "Like most Americans, I believe human cloning is deeply troubling, and I strongly support efforts by Congress to ban all human cloning. We must advance the promise and cause of medical science, including through ethical stem cell research, yet we must do so in ways that respect human dignity and help build a culture of life. I urge the Senate to act quickly on legislation banning all human cloning."

(http://www.whitehouse.gov/news/releases/2003/02/20030227-20.html)

On May 20, 2005, in response to a report that South Korean researchers had created clones of 11 sick persons, killed the cloned embryos, and started stem cell lines, President Bush said, "I am very concerned about cloning. I worry about a world in which cloning becomes acceptable."

The Situation in the U.S. Senate

The Brownback-Landrieu bill (S. 658) has been referred to the Senate Committee on Health, Education, Labor, and Pensions (HELP), which is chaired by Senator Mike Enzi (R-Wy.), who is a cosponsor of that bill. The Hatch bill (S. 876) has been referred to the Senate Judiciary Committee, which is chaired by Senator Arlen Specter (R-Pa.), who is a cosponsor of that bill. However, the Senate could consider either bill, or both, without any action by either committee.

The key differences between the various bills are discussed below. In many recent news media reports on human cloning issues, the differences have been mischaracterized, and the specific activities that each bill would allow and prohibit have been widely misunderstood.

Misconceptions and Realities Regarding Human Cloning Legislation in Congress

<u>MISCONCEPTION:</u> Enacting a ban on all human cloning will "make criminals out of scientists."

REALITY: Bans on all forms of human cloning do not "make criminals out of" responsible scientists, because when democratically elected legislative bodies define human cloning as an unacceptable form of human experimentation, responsible scientists obey the law.

Issues regarding the creation and exploitation of members of the species *Homo sapiens* are too important to be left *only* to scientists. We all have a stake in these issues. Scientists certainly have an important voice in policy debates on these matters, but history demonstrates the dangers of allowing those who wish to pursue research in a certain area to dictate the standards for acceptable human experimentation.

Laws banning all forms of human cloning are already in effect in over 30 nations, including Germany, France, Norway, Canada, Australia, and Switzerland.

In March 2005, the General Assembly of the United Nations overwhelmingly urged member states to adopt such bans on all forms of human cloning. By a vote of 84-34, the General Assembly called on member states to adopt laws to "prohibit all forms of human cloning inasmuch as they are incompatible with human dignity and the protection of human life." (See: http://www.un.org/law/cloning/#2004)

It should also be noted that the Hatch bill (S. 876) and the Feinstein bill (S. 1520) contain the same level of criminal penalties as the Brownback-Landrieu bill – the difference is in which activities by scientists are covered by those penalties.

<u>MISCONCEPTION:</u> The Brownback-Landrieu/Weldon-Stupak legislation prohibits cloning of human "cells."

REALITY: Pro-life opponents of human cloning do not object to research on human "cells," despite many press reports that grossly distort the debate by framing it that way.

To cite just one example among many, a news report in *The Chronicle of Higher Education* ("House Votes to Ban Cloning Research – Again," by Jeffrey Brainard, February 28, 2003) began, "After a heated debate over ethics and science, the U.S. House of Representatives voted yet again on Thursday to criminalize any effort to create cloned cells, even for medical research." The story went on to explain that the Weldon-Stupak bill provides "a prison term of up to 10 years for anyone attempting to clone a human cell." The terminology "cloning human cells" has also been adopted by the *Boston Globe*, among others.

In truth, however, as a single reading of the bill would reveal, the Brownback-Landrieu bill (S. 658) and the Weldon-Stupak bill (H.R. 1357) *explicitly allow* "the use of nuclear transfer or other cloning techniques to produce molecules, DNA, cells other than human embryos, tissues, organs, plants, or animals other than humans." [See Sec. 2 of the bill, at (d) in H.R. 1357 and at (e) in S. 658].

Thus, any current or future methods used to "clone" new skin, for example, or to "clone" DNA, would be perfectly legal under the Brownback-Landrieu bill. Moreover, *any* cloning method (explicitly including "nuclear transfer") to produce *stem cells* without first producing and killing a human embryo -- as some researchers now say that they expect to learn how to do -- is *explicitly permitted* by this language.

In addition, the Brownback-Landrieu and Weldon-Stupak bills place no restrictions on research on human ova ("eggs"), properly so called. Moreover, the Weldon-Stupak and Brownback-Landrieu bills do not speak to the separate issue of the use of frozen human embryos, created through in vitro fertilization, for medical research on stem cells or for any other research purposes. The restrictions of the Weldon-Stupak bill apply *only* to: (1) the use of the somatic cell nuclear transfer (SCNT) cloning technique, to produce (2) a human embryo.

This point has been acknowledged even by a leading congressional supporter of cloning embryos for research, then-Congressman Jim Greenwood (R-Pa.), who said on the House floor, while speaking against the Weldon-Stupak bill, "The gentleman from Florida (Mr. Weldon) did not bring a bill to the floor to ban embryonic stem cell research." (July 31, 2001)

In short, the Brownback/Weldon legislation and the Hatch-Feinstein legislation are alike in that they would both permit cloning involving merely eggs, cells, or tissues, but they differ on one profound issue: The Hatch and Feinstein bills would allow the use of the somatic cell nuclear transfer (SCNT) process to create human embryos, and the Brownback/Weldon legislation would forbid the use of SCNT to create human embryos.

Verbiage by supporters of "research cloning" about "eggs" and "cells" is intended to conceal what the argument is really about: whether it should be permitted to create human embryos by cloning so they can be used in biomedical research that will kill them.

<u>MISCONCEPTION:</u> So-called "therapeutic cloning" does not involve creating human embryos.

REALITY: That SCNT using human genetic material will create a developing embryo of the species *Homo sapiens* is something that everyone on all sides agreed on until sometime in 2001, when *some* pro-cloning forces decided to try to obscure this fact for political purposes. Among those who clearly affirmed that SCNT will create human embryos were the bioethics panels of both Presidents Bill Clinton and George W. Bush, the human embryo research panel at NIH, and the chief cloning researchers at Advanced Cell Technology in Massachusetts. Some samples of such statements, which pre-date the current disinformation campaign, are posted here: www.nrlc.org/Killing Embryos/factsheetembryo.html.

For example: A group of scientists, ethicists, and biotechnology executives advocating so-called "therapeutic cloning" and use of human embryos for research – Arthur Caplan of the University of Pennsylvania, Lee Silver of Princeton University, Ronald Green of Dartmouth University, and Michael West, Robert Lanza, and Jose Cibelli of Advanced Cell Technology -- wrote in the December 27, 2000 issue of the *Journal of the American Medical Association*, "CRNT [cell replacement through nuclear transfer, another term for "therapeutic cloning"] requires the deliberate creation and disaggregation of a human embryo." They also wrote, "... because therapeutic cloning requires the creation and disaggregation *ex utero* of blastocyst stage embryos, this technique raises complex ethical questions."

In its 2002 report on human cloning, the President's Council on Bioethics, although divided on policy recommendations, provided without dissent some recommendations regarding the use of honest terminology in this crucial public policy debate, including acknowledging that successful SCNT will create human embryos. The Council said, "The product of 'SCNT' is not only an embryo; it is also a clone, genetically virtually identical to the individual that was the source of the transferred nucleus, hence an embryonic clone of the donor."

The Council recommended use of the terms "cloning for biomedical research" and "cloning to produce children" to distinguish between two of the purposes for which human embryos might be cloned. ("Cloning for research" and "cloning for birth" convey pretty much the same thing.) The Council's discussion on accurate and neutral terminology is here: http://www.bioethics.gov/reports/cloningreport/terminology.html

See also the declaration of cell biologist Dr. Stuart A. Newman, presented in the Superior Court of the State of California, here:

http://www.nrlc.org/killing_embryos/TerminologyNewmanDeclaration.pdf

MISCONCEPTION: The Hatch bill (S. 876) would allow research only on "unfertilized eggs up to 14 days." Example: A report in www.the-scientist.com [Feb. 7, 2003] on introduction of the Hatch bill said that the measure "prohibits any research on an egg cell after 14 days, when cell differentiation begins."

REALITY: As can be confirmed by reference to any biology text or even any decent dictionary, a human ovum or "egg" is, by definition, a *single cell*. Moreover, it is a very unusual cell – a gamete cell, which means it has only 23 active chromosomes. Sex has not yet been determined.

However, once an egg contains a complete nucleus from any species that is activated and developing – whether that has occurred by sexual fertilization or by asexual somatic cell nuclear transfer – then one has a developing *embryo* of that species (sheep, cow, *Homo sapiens*, etc.).

There is no such thing in biology or in any dictionary as a human "egg" or "egg cell" that has 46 chromosomes, has been determined to be either male or female, and is five days old (consisting of hundreds of cells) or 14 days old (consisting of thousands of cells). Those who, knowing better, refer to a five-day-old or a two-week-old human embryo (whether male or female) as an "egg" deceive the public regarding what the policy argument is really about, and we submit that responsible journalists should not be parties to that deception.

(The actual text of the Hatch-Feinstein legislation coins the term "unfertilized blastocyst." But "blastocyst" is simply a technical term for an *embryo* at an early stage of development.)

Some supporters of human cloning are more intellectually honest than others. At a press conference on Capitol Hill on February 26, 2003, pro-cloning Reps. Jim Greenwood (R-Pa.) and Peter Deutsch (D-Fl.) promoted their substitute amendment to allow and encourage cloning for biomedical research. Because the process of somatic cell nuclear transfer (SCNT) (cloning) does not involve "fertilization" by sperm, what it produces is "an egg, not an embryo," Congressman Deutsch emphatically told assembled reporters. But minutes later, at the same press conference, this claim was contradicted by a prominent researcher who had come to voice support for the Greenwood-Deutsch

legislation -- Dr. John Gearhart of Johns Hopkins University, one of the discoverers of human embryonic stem cells. In response to a direct question as to what the SCNT process creates, **Dr. Gearhart said, "I contend it is an embryo."** When the questioner pointed out that an "egg" is by definition a single cell with only 23 active chromosomes, Dr. Gearhart agreed, saying, "**I don't think anyone is saying that it is just an egg**." (Yet, that is precisely what Mr. Deutsch had told the reporters a few minutes earlier.)

A letter in which Congressman Chris Smith (R-NJ) explores these and other statements by Dr. Gearhart in more detail is here: www.nrlc.org/killing embryos/Gearhartsaysitsnotanegg.pdf

<u>MISCONCEPTION:</u> The Hatch and Feinstein bills (S. 876, S. 1520) contain a "restriction" or "safeguard" that allows research only on "unfertilized" human eggs.

REALITY: This is just another word trick aimed at the gullible. *Of course* human embryos produced by cloning will be "unfertilized," because that is what cloning is: asexual reproduction – no sperm. Every cloned mammal in the world has been "unfertilized" from the one-celled embryo stage, and every one still will be "unfertilized" on the day he or she dies. If a human embryo created by cloning instead of fertilization is implanted in a womb, is born, and lives to be 50, she will still be "unfertilized."

<u>MISCONCEPTION:</u> The Hatch and Feinstein bills would "ban human cloning" or "ban the cloning of human beings."

REALITY: The Hatch and Feinstein bills do not ban human cloning. They ban transferring a cloned human embryo "into a uterus or the functional equivalent of a uterus" (the "functional equivalent" term is not defined), an act to which criminal penalties are attached. (The Hatch bill, S. 876, also attempts to impose a ban against allowing a cloned human embryo to develop past 14 days, but that provision is not found in the Feinstein bill, S. 1520.)

In other words, these bills ban not "human cloning," but the survival of human clones, which is a very different thing.

Any bill that permits cloning (somatic cell nuclear transfer) with human DNA does

not "ban human cloning," because such a bill allows the creation of embryos of the species *Homo sapiens* by cloning, and an embryo of the species *Homo sapiens* is human – just as the cloned embryo that was later born as Dolly the sheep, the first cloned mammal, was always a member of the species *Ovis aries*.

Thus, when a news outlet reports that the Hatch or Feinstein bill "bans human cloning" or "bans the cloning of human beings," that newspaper or broadcast news outlet is saying, in its own voice, that cloned embryos of the species *Homo sapiens* are not "human." We believe that this position is clearly erroneous biologically. Moreover, the adoption of such terminology is clearly inconsistent with journalistic objectivity or neutrality on the core issues being debated.

Certainly, some people do insist that these cloned embryos should not be treated as members of the human family – but that is the core of the policy argument, and one would hope that responsible journalists would avoid taking sides on the issue by declaring cloned human embryos to be something other than "human" or "human beings."

It appears that President Bush is among those who recognize cloned human embryos as human beings: In his January 22, 2003 statement, the President said, "I also urge the Congress to ban all human cloning. We must not create life to destroy life. *Human beings* are not research material to be used in a cruel and reckless experiment." [emphasis added]

Moreover, on February 26, 2003, the White House issued an official "Statement of Administration Policy," which said in part, "The Administration unequivocally is opposed to *the cloning of human beings* either for reproduction or for research." [italics added for emphasis] (www.nrlc.org/killing embryos/HR534HumanCloningProhibitionActSAP.pdf)

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<u>MISCONCEPTION:</u> Clones, <u>even if born</u>, would not really be "human beings."

REALITY: The National Right to Life Committee believes that if a cloned human being were born, she should have the same status as other born humans -- but Senator Hatch and some others may not agree. In a press release dated February 5, 2002, Senator Hatch said, "No doubt somewhere, some -- such as the Raelians -- are trying to make a name for themselves and are busy trying to apply the techniques that gave us Dolly the Sheep to

human beings. Frankly, I am not sure that human being would even be the correct term for such an individual heretofore unknown in nature."

Senator Hatch is not the only member of Congress who has suggested that even born clones might be regarded as something other than "human." During the February 27, 2003 House debate on the cloning issue, an opponent of the Weldon-Stupak bill, Congresswoman Anna Eshoo (D-Ca.), said, "Children are created by the fertilization of an egg cell, by sperm, not by chemical stimulation." Does this mean that if a cloned human embryo is brought to birth, Congresswoman Eshoo will consider that newborn to be something other than a "child"? Or was Congresswoman Eshoo only suggesting that production of a "child" by cloning is impossible – but on what basis would she think that, and why then would she cosponsor a bill (the Greenwood-Deutsch Substitute) to make it a crime to seek to "initiate a pregnancy" with a cloned human embryo?

As *Slate.com* columnist William Saletan has commented ("Killing Eve: How senators justify cloning – and infanticide," December 31, 2002, http://slate.msn.com/id/2076199/), "The first cloned baby – Eve or whoever comes after her – won't be fertilized. If fertilization is a prerequisite to humanity, as Hatch and Feinstein suggest, that baby will never be human. You can press the pillow over her face and walk away."

Here are additional discussions of the implications of the argument that human status depends on being the product of sexual fertilization: "Are Human Clones Really Human?," http://www.nrlc.org/killing_embryos/arecloneshuman.html, and, "The Amazing Vanishing Embryo Trick," by Douglas Johnson, http://www.nationalreview.com/comment/comment-johnson071701.shtml

<u>MISCONCEPTION:</u> The Hatch and Feinstein bills would enact a "compromise" that would accomplish what almost everyone agrees on – banning "reproductive cloning."

REALITY: The Hatch and Feinstein bills are not a partial solution or a middle ground. Rather, they are a step in the wrong direction. The Hatch and Feinstein legislation would give a green light to the establishment of human embryo farms. Far from representing "common ground," these bills would enact a policy disfavored by most Americans.

The Polling Company nationwide poll of adults, April 21-24, 2005

(two alternative questions, each asked to separate 500-adult sample, margins of error $\pm 4.5\%$).

"Which of these statements comes closest to your view on human cloning?"

"All human cloning should be allowed."

8%

"Cloning that creates and then destroys human embryos for stem cell research should be allowed, but cloning human embryos which would result in the birth of children should be banned." 28%

"All human cloning should be banned." 55%.

"Cloning human embryos which would result in the birth of children should be allowed, but cloning to create human embryos for stem cell research which would destroy them should be banned."

4%

"Which of these statements comes closest to your view?" [options rotated.] [N=500, margin of error +/-4.5%]

"Person 1. Cloning to create human embryos for stem cell research which would destroy them should be allowed and only cloning for reproduction should be banned.

"Person 2: All human cloning should be banned.

"And would you say you strongly or somewhat support that statement?"

- 41% SUPPORT STATEMENT 1 (NET)
 - 16% STRONGLY SUPPORT STATEMENT 1
 - 25% SOMEWHAT SUPPORT STATEMENT 1
- 54% SUPPORT STATEMENT 2 (NET)
 - 8% SOMEWHAT SUPPORT STATEMENT 2
 - 46% STRONGLY SUPPORT STATEMENT 2

Wilson Research Strategies, Inc. 1,000 national adults, August 16-18, 2004, margin of error 3.1%:

[&]quot;Which of the following comes closest to your view?"

- 1. "Cloning to create human embryos for stem cell research which would kill them should be allowed and only cloning for reproduction should be banned": 24%
- 2. "All human cloning should be banned": 69%
- 3. Don't know / refused: 7%

International Communications Research 1,001 adults, August 13-17, 2004, margin of error 3%

"Should scientists be allowed to use human cloning to create a supply of human embryos to be destroyed in medical research?"

Yes: 13.3% No: 79.8%

Don't know: 6.1% Refused: 0.7%

Gallup Poll May, 2002

A Gallup poll in May 2002 found that 61% of the American people opposed "cloning of human embryos for use in medical research" (34% approved), which is precisely what the Hatch and Feinstein bills are crafted to allow and indeed encourage. In other polls, substantially higher numbers are opposed when it is explained that the human embryos will be destroyed in the research.

The "clone and kill" approach already has been decisively rejected by the House of Representatives (on July 31, 2001 and February 27, 2003), and is strongly opposed by the Bush Administration. The Secretary of Health and Human Services, Tommy Thompson, in 2002 sent a letter to Senator Brownback warning that such a bill would face a presidential veto. Thompson wrote, ". . . the President does not believe that 'reproductive' and 'research' cloning should be treated differently, given that they both require the creation, exploitation, and destruction of human embryos . . . the Administration could not support any measure that purported to ban 'reproductive' cloning while authorizing 'research' cloning, and I would recommend to the President that he veto such a bill." (www.nrlc.org/Killing_Embryos/ThompsontoBrownback.pdf)

Thus, the Hatch-Feinstein approach will not be enacted as federal law. But that does not bother many of its backers, such as the biotechnology industry lobby, because the primary purpose of the Hatch and Feinstein bills is to impede enactment of the real ban on human cloning by providing political cover for lawmakers who favor allowing the creation of human embryos for research.

Asked about NRLC's charge that the Hatch bill is intended merely as a "roadblock" to prevent enactment of a ban on human cloning, Michael Manganiello, president of the

Coalition for the Advancement of Medical Research, "acknowledged as much," according to the *Chicago Tribune* ("Advances make ban on human cloning a hot issue in Congress," February 14, 2003). "If it is a roadblock, so be it," Manganiello told the *Tribune*.

The Hatch-Feinstein bills would give federal law enforcement agencies responsibility for trying to enforce a ban on implanting a cloned embryo in a womb – an approach that the Justice Department in 2002 rejected as unworkable. The Department explained that once large numbers of cloned human embryos are created, there is no practical way to prevent some of them from being implanted in wombs, and once this occurs enforcement of the law would create "extremely serious legal, moral, and practical issues." The testimony is here: www.nrlc.org/killing_embryos/Justice_Dept_on_cloning.pdf.

<u>MISCONCEPTION:</u> Legislation to allow "therapeutic cloning" also contains a "14-day rule" that will ensure that no woman will become pregnant with a cloned human embryo.

REALITY: As explained above, the Department of Justice testified in 2002 that this approach is, as a practical matter, unenforceable, because it would impose on federal agencies the impossible task of monitoring countless cloned human embryos outwardly indistinguishable from human embryos created through in vitro fertilization. IVF-created embryos are transferred into women's bodies in large numbers through exactly the same procedures that would be used with cloned embryos. The testimony is here: http://www.nrlc.org/killing_embryos/Justice_Dept_on_cloning.pdf

It is noteworthy, however, that a woman who already carries an unborn cloned human *in utero* could herself be threatened with the penalty provided under the bill's 14-day rule, a \$250,000 fine, perhaps in an attempt to compel her to procure an abortion. Once the cloned human embryo has implanted in her womb (generally around the sixth day of development), she would have about one week to consider abortion or face the charge that she has "maintained" the embryo "after more than 14 days from its first cell division."

It should also be noted that the most recent iteration of the clone-and-kill approach, introduced by Senator Feinstein as S. 1520 on July 27, 2005 (with Sen. Hatch as a cosponsor), does not contain the 14-day "deadline," or any other deadline, as discussed further below.

<u>MISCONCEPTION:</u> Legislation that would allow "therapeutic cloning" would not permit the growing of human fetuses for the harvesting of tissues or organs ("fetus farming").

REALITY: The original Hatch bill (S. 876) purported to establish a two-week deadline – i.e., it would violate the law to allow a human clone to develop past the 14 day point (not counting time frozen). But that provision was dropped from the most recent version of the legislation (S. 1520), introduced by Senator Feinstein on July 27, 2005, with Sen. Hatch as a cosponsor. S. 1520 has most of the same cosponsors as S. 876, and it is supported by the the Coalition for the Advancement of Medical Research (CAMR), among others.

Moreover, there are substantial reasons to doubt that the biotechnology industry would support an effective 14-day deadline in any federal bill that it thought might become law. The biotech industry has lobbied in state legislatures – successfully, in some cases – for bills that would allow human clones to be developed to any point up to birth. At the same time, biotech researchers are allowing animal clones to develop far beyond the embryo stage before harvesting their parts, and developing "artificial womb" technologies will foster such practices, as discussed in the next section.

For several years, the Biotechnology Industry Organization (BIO) has been actively pushing state legislation which permits cloned humans to be grown through any stage of fetal development, even to birth, to obtain tissues for transplantation, as long as they are not kept alive past the "newborn" stage.

http://www.usccb.org/prolife/issues/bioethic/cloning/farmfact31805.htm

To cite just one example, BIO lobbied for enactment of the New Jersey law that bans "cloning of a human being," defined as "the replication of a human individual by cultivating a cell with genetic material through the egg, embryo, fetal and newborn stages into a new human individual." Developing the cloned embryo to any point short of this to harvest cells and tissues is allowed. Four members of the President's Council on Bioethics wrote to New Jersey Gov. James McGreevey to warn about the radical implications of the legislation, but BIO prevailed, and the sweeping language became state law. (See www.nationalreview.com/document/document020303c.asp).
Another critique of the New Jersey bill, by Prof. Gerard V. Bradley of the Notre Dame

University School of Law, appears here:

 $http://www.nrlc.org/killing_embryos/NJ fetus farming bill an ayls is.pdf\).$

Both S. 876 and S. 1520 would prohibit the implantation of such a human clone in a uterus "or the functional equivalent of a uterus." However, neither bill defines "functional equivalent of a uterus." Concerns about the vagueness of "functional equivalent of a uterus" were raised in congressional testimony even prior to the dropping of the "14-day rule." In March 2003, Richard Doerflinger, Deputy Director of the Secretariat for Pro-

Life Activities, U.S. Conference of Catholic Bishops, testified:

If, on the other hand, the phrase "functional equivalent" is to have any application, one can only guess how effective an artificial environment must be to qualify as a "functional equivalent" of a uterus. Certainly a Petri dish itself does not qualify, for then even cloning for research (which requires developing the cloned embryo to the blastocyst stage in that dish) would be banned. Perhaps a "functional equivalent" is an environment that could sustain the cloned embryo to live birth, In that case, one may transfer the embryo to any artificial environment that would fall short of this function to any extent – in other words, at present one may transfer the embryo to any and all artificial environments. This will be important in the likely event . . . that the bill's "14-day rule" for maintaining a cloned embryo is later changed.

(http://commerce.senate.gov/hearings/testimony.cfm?id=685&wit_id=1821)

Thus, if a researcher has access to an artificial environment (such as a "biodegradable scaffold," a "three-dimensional environment," or a "whole-embryo culture") which he believes falls short of full "functional equivalence" with a uterus, then he can develop those cloned humans for as long as he sees fit without violating the terms of S. 1520.

The 14-day line was entirely arbitrary to begin with – contrived for political purposes. In a discussion of the origins of the 14-day line ("The Organ Factory," *Slate*, 7/29/05), Will Saletan wrote that "[t]he British report, from which others copied the rule, concedes that 'biologically there is no one single identifiable stage in the development of the embryo beyond which the in vitro embryo should not be kept alive." A 1994 American Fertility Society report "endorses a 14-day limit only because 'it seems prudent at this time." Various panels continue to argue for extending the line to various, later points in fetal development – for example, until "the neural tube begins to close," until certain points in the development of the brain, etc.

<u>MISCONCEPTION:</u> Even when the law allows it, those who favor cloning for research would never want to allow human clones to develop past the two-week stage.

REALITY: There is growing evidence that the biotech industry is laying the groundwork for growing cloned human embryos into much later stages of development, in order to harvest their parts. Indeed, researchers have already grown cow clones to four months, and cloned mice to the newborn stage, before harvesting

desired tissues – and proclaimed these studies as breakthroughs for "therapeutic cloning." In should be obvious that biotech firms are not spending money on such research in order to develop transplant therapies for the benefit of cows or mice.

Researchers have already developed artificial, womb-like environments to grow animal embryos into fetuses in a laboratory. Dr. Hung-Ching Liu of Cornell University has grown mouse embryos nearly to term in artificial wombs. ("From foetus to full term – without a mother's touch, *Times*, August 30, 2005, http://www.timesonline.co.uk/printFriendly/0,,1-2-1755908-2,00.html).

In addition, Dr. Liu and her team have been successfully implanting living **human** embryos "left over" from in vitro fertility (IVF) treatments onto an artificial womb wall. "The embryo grows very happily and very healthy," Dr. Liu explains. Although she ended the experiment after six days, she has plans to grow future implanted embryos longer. "Liu told reporters that, in future experiments, she has every intention of allowing embryos to develop further and longer." ("Why Not Artificial Wombs?" by Christine Rosen, *The New Atlantis*, Fall 2003, http://www.thenewatlantis.com/archive/3/rosen.htm.)

Some scientists believe it is only a matter of time before they have the capability to grow a human being to full term in an artificial environment. ("From foetus to full term – without a mother's touch, *The Times of London*, 8/30/05, http://www.timesonline.co.uk/printFriendly/0,,1-2-1755908-2,00.html).

While Dr. Liu insists she is simply trying to help women have babies in the future, "it is also feared that scientists involved in cloning could continue their experiments without the need for surrogate mothers." ("From foetus to full term – without a mother's touch," The Times of London, 8/30/05)

As *Slate*'s William Saletan wrote in "The Organ Factory," "Artificial wombs erase the line between in vitro embryos and implanted embryos. Whole-embryo organ culture erases the line between therapeutic and reproductive cloning."

In 2002, researchers reported harvesting tissue from cloned cows at six and eight weeks of fetal development, and from cloned mice at the newborn stage. In 2004, researchers reported on harvesting heart tissue from late-fetal-stage mice (aborted at about the human equivalent of the fifth or sixth months of pregnancy.) These studies were widely reported by the news media as breakthroughs for so-called "therapeutic cloning."

In June, 2005, Dr. Robert Lanza and other researchers at Advanced Cell Technology (Worcester, MA) published a paper reporting that they created cloned cow fetuses, grew them in utero to four months (which is equivalent to four months in a human pregnancy), killed the fetal cows, obtained the liver tissue cells that they desired, and transplanted them into adult cows. The authors reported all of this as an advance in "therapeutic cloning" (which were the first two words in their summary). Although the authors claimed a degree of success, they observed, "Improvement in engraftment may be anticipated if the number of stem cells transplanted were to be increased, either by utilizing older fetuses . . ." (See "Long-Term Bovine Hematopoietic Engraftment with Clone-Derived Stem Cells," *Cloning and Stem Cells*, June, 2005.)

Additional information on other aspects of the "fetus farming" issue appears here: here: http://www.usccb.org/prolife/issues/bioethic/cloning/farmfact31805.htm. Also, please see the NRLC factsheet "Artificial Wombs: From Embryo Farms to Fetus Farms," here: http://www.nrlc.org/Killing_Embryos/ArtificialWombs.html

<u>MISCONCEPTION:</u> Opposition to the cloning of human embryos is limited to anti-abortion lawmakers, and even some of them support "therapeutic cloning," such as Senator Orrin Hatch (R-Utah).

REALITY: It is true most members of Congress who oppose abortion also oppose cloning human embryos in order to kill them in biomedical research. However, opposition to the cloning of human embryos extends well beyond the ranks of those who oppose abortion. The first cosponsor of the Senate bill to ban all human cloning is Senator Mary Landrieu (D-La.), a pro-abortion senator. During the February 27, 2003 debate in the House of Representatives, pro-life lawmakers who supported the Weldon-Stupak bill were joined by a substantial group of lawmakers who oppose restrictions on abortion, but who see human cloning as a distinct issue.

Among them was Rep. Bernard Sanders, a self-described socialist who represents Vermont. Sanders gave a speech in favor of the ban, saying,

"While I support stem cell research, the cloning of a human being for any purpose raises the deepest and most profound ethical and moral questions: questions about the sanctity or the uniqueness of each human person; questions about the evil of eugenics and genetic engineering in humans; and, equally important, questions about the ownership and use of cloned humans by an unregulated corporate

biotechnology industry motivated almost exclusively by their quest for venture capital, short-term profits, and higher stock prices." (Congressional Record, February 27, 2003, p. 1414)

Rep. David Wu (D-Or.), who described himself as "strongly pro-choice," spoke for the ban, saying it was necessary "that we take some time to let our ethics catch up with our technology. Our technology has gotten to the point where we are talking about genetic mixes, mixing of human and animal cells and other procedures which I think the public has a reasonable, profound discomfort with." (*Congressional Record*, February 27, 2003, p. 1427)

A ban on all forms of human cloning is also supported by many organizations and individuals who do not share the "pro-life" perspective regarding human embryos. For examples, see "Crossing Lines: A Secular Argument Against Research Cloning," by Charles Krauthammer

(http://www.tnr.com/doc.mhtml?i=20020429&s=krauthammer042902),

"Diverse Array of People Support Total Ban on Human Cloning"

(http://www.cloninginformation.org/info/diversequotes-01-11-30.htm), and "Six Reasons Why Progressives Should Not Support . . . Human Cloning"

(http://www.cloninginformation.org/info/icta-why_oppose_harkin-spector.htm).

<u>MISCONCEPTION:</u> Those who oppose the creation of human embryos by cloning are against any form of stem cell research.

REALITY: There is a great deal of ongoing stem cell research which is entirely laudable and is supported by virtually everyone. Research using stem cells taken from adult tissues, placenta, and umbilical cords are ethically non-controversial because they do not require the killing of human embryos. These types of stem cells have already been used in human clinical studies for dozens of conditions, and many of these studies have yielded promising therapeutic results – far beyond anything yet demonstrated with embryonic stem cells. For more information on this subject: www.stemcellresearch.org.

Rather than focusing resources on such promising and non-controversial research, however, some groups and their allies in Congress insist that cloning is necessary to bring about regenerative therapies. Yet, some leading researchers have expressed considerable skepticism about the sweeping claims currently being made for the therapeutic potential of human cloning.

<u>MISCONCEPTION:</u> Those who oppose the creation of human embryos by cloning are anti-science, and they are callous ideologues who apparently care little about the suffering of those afflicted with serious diseases.

REALITY: Some leading supporters of cloning for research have relied heavily on harsh polemic against those who oppose a clone-and-kill policy. Congressman Jim Greenwood (R-Pa.) said during the House floor debate on the Weldon-Stupak bill: "We are either going to decide to go with the people who understand this stuff and the people who have compassion in their hearts for these people with these diseases, or we are going to fall prey to this Luddite anti-scientific and demagogical approach." (*Congressional Record*, February 27, 2003, page H-1429.)

During the same debate, Congressman Lloyd Doggett (D-Tx.) said, "At a time when we are alarmed daily by the possibility of biological attacks from afar, this bill represents a very real and present biological attack on the victims of these tragic diseases, diseases that strike Americans down in a nonpartisan manner." (H-1399)

Ad hominem attacks such as these are intended to deflect public attention from the ethical barrier that cloning for research would breach. Cloning for research would involve the deliberate creation of individual members of the species *Homo sapiens* with the intent of exploiting them for ends that will kill them. Since polls show that the great majority of Americans agree with President Bush that this is unethical² (see the material on public opinion polls above), some advocates for research cloning prefer to create a caricature of the organized anti-cloning forces to distract the public from what the argument is really about.

Opposition to the cloning of human embryos is diverse. It includes groups and members of Congress who are strongly committed on both sides of the abortion issue. Many of these groups and lawmakers have strong records in support of ethical biomedical research.

² In a speech on human cloning on April 10, 2002, President Bush said, "Research cloning would contradict the most fundamental principle of medical ethics, that no human life should be exploited or extinguished for the benefit of another." (www.whitehouse.gov/news/releases/2002/04/print/20020410-4.html)

Moreover, many of those who are speaking out against human cloning – including members of Congress – are afflicted with degenerative diseases, or have family members so afflicted, apparently to no lesser extent than supporters of cloning for research. Those who oppose human cloning hope for cures no less than those who support cloning for research. Even as a crude rhetorical tactic, it is false and offensive to suggest otherwise.

<u>MISCONCEPTION:</u> The biotechnology industry wants to create human embryos by cloning only to study their stem cells.

REALITY: Some biotechnology firms want to patent cloned human embryos and sell them at great profit for use as "medical models." Congressman Dave Weldon (R-Fl.), the prime sponsor of the Weldon-Stupak bill, said on the House floor on February 27, 2003, "They want to create human models of disease. Research scientists today in America, if they want to do research on Parkinson's, Alzheimer's, diabetes, they buy mice and they buy rats that have been engineered to manifest that disease. [Now] they want to create human beings that are engineered to manifest these diseases. Now, can we imagine that? They want to have shelves . . . filled with human embryos, and sell them for a profit to research labs." (*Congressional Record*, February 27, 2003, p. 1413)

For further discussion of the patenting and "medical models" agenda, see "The New Patent Puzzle," by Neil Munro, *National Journal*, March 2, 2002, and "Stem Cells Touted for Drug Research," by Neil Munro, National Journal, April 2, 2005. http://www.nrlc.org/killing_embryos/patentpuzzle030202.html http://www.nrlc.org/killing_embryos/EmbryosDrugResearchNJ.pdf

<u>MISCONCEPTION:</u> The Hatch-Feinstein-Bono legislation would authorize only research on "surplus" human embryos who would otherwise be discarded.

REALITY: In 2001, President Bush announced that he would not permit federal funding of stem cell research that required killing human embryos. Many supporters of such funding among members of Congress, editorial writers, and elsewhere, insisted that such research was justifiable because it would use only embryos created by in vitro fertilization who were "going to be discarded anyway." Many of these advocates went to great lengths to insist that they would never propose or support creating human embryos for the purpose of using them in biomedical research. Some (i.e., Congressman Dick

Gephardt³ and Senator Tom Daschle⁴) insisted that the question of cloning must be kept *entirely separate from* the issue of embryonic stem cell research.

In most cases, those assurances were written on water. Within mere months, in some cases, the same lawmakers and editorial writers were opposing bills to ban the cloning of human embryos, arguing that "therapeutic cloning" – that is, the creation of human embryos for the purpose of using them in biomedical research – was necessary to advance "stem cell research." For examples of some such rapid flip-flops, see "Cloning debate is not another monkey trial," by Charles Krauthammer, M.D. (http://www.nrlc.org/killing_embryos/Krauthammer051002.html).

However, some vocal advocates of "therapeutic cloning" sometimes forget which argument they are supposed to make on a given day, and they slip back into the old party line at the oddest moments. For example, at a February 5, 2003 press conference to announce introduction of the Hatch bill, Senator Arlen Specter (R-Pa.), one of the Senate's most vigorous supporters of cloning for research, told reporters that the bill would allow research only on surplus embryos that had been created for another purpose and were going to be discarded anyway.

Likewise, Congresswoman Diana DeGette (D-Co.), speaking on the House floor in favor

³ Although then-Congressman Dick Gephardt (D-Mo.) voted against the Weldon-Stupak bill during its initial consideration on July 31, 2001, he appeared to endorse it less than three weeks later in an appearance on NBC's *Meet the Press*. Gephardt said, "Obviously, we don't want cloning. Nobody is for cloning." A minute later, Gephardt said, "We passed a law saying no cloning and I think that's the law that we ought to follow." There was no bill passed restricting cloning except the Weldon-Stupak bill. (Gephardt was absent when the House again considered the bill on February 27, 2003.)

⁴ On July 31, 2001, the day after the House initially passed the Weldon-Stupak ban, Senator Tom Daschle (D-SD) told reporters, "I am opposed to the effort to clone under virtually any circumstances that I can think of. I think human cloning is totally different and should be separated from the issue of aggressive embryonic stem cell research. I do think that there are limits to what we can do morally with embryonic stem cell research, and this is a good illustration." On August 1, 2001, a reporter asked him to clarify whether he meant to include all human cloning. Daschle replied, "I'm very uncomfortable with even cloning for research." He added, "I don't care whether you're a proponent or an opponent, I think you need to draw a pretty sharp line here between cloning and embryonic stem cell research."

of the Greenwood-Deutsch Substitute (of which she was an original cosponsor) on February 27, 2003, said in reference to the Substitute: "We are not, and we do not, support creating embryos for the purpose of this research. Instead what happens is researchers use existing embryos from reproductive clinics, which are going to be disposed of anyway. And there is no way this research will be used to clone a human being, period." [Congressional Record, February 27, 2003, page H-1426)

Conclusion

The public deserves an honest debate on whether to allow human embryos to be manufactured by cloning and used as a commodity. The public also deserves an honest debate on the implications for future generations of allowing individual members of the species *Homo sapiens* to be created and used as an end. In sum, the public deserves better than the polemic and doubletalk they have been getting from many advocates of human cloning.