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La Costa Richard
Operator's Signature

10/16/03
Date

2003 HOUSE EDUCATION

HB 1424

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Salvatore Riccardi
Operator's Signature

10/6/03
Date

2003 HOUSE STANDING COMMITTEE MINUTES
BILL/RESOLUTION NO. HB 1424

House Education Committee

☐ Conference Committee

Hearing Date February 10, 2003

Tape Number	Side A	Side B	Meter #
1	x		00-3929
Committee Clerk Signature <i>Linda Fuchtnauer</i>			

Minutes: **Chairman Kelsch** opened HB 1424

(195) Rep. Koppelman, District 13, West Fargo, See Attached Testimony and three articles.

Chairman Kelsch I have received a few emails from ranchers and farmers who are concerned about the bill, in dealing with the plants and in some cases the animals that this bill does not prohibit anything, on page 2, sub. 2 'prohibit animal and ag research'?

Koppelman We were very careful in drafting this piece of legislation not to prohibit anything relating to the animals or animal research or GMO, the ag research kinds of things, plus the invitro fertilization and so on. I did speak with the medical community on that, they looked at the bill and they are comfortable with it.

Rep Hawken: Don't you think this will probably be a federal law, is it necessary for us to do it when Congress will take care of it?

Koppelman I hope it will be federal law, we have been saying that for three years, and it hasn't occurred yet. I think it is incumbent upon us as policy makers who are elected by the people of ND to make policy decisions for our state and to go on record on this issue.

Page 2

House Education Committee

Bill/Resolution Number HB1424

Hearing Date February 10, 2003

Sen. Randy Christmann, District 33, Hazen

The primary reason why I am here is because I was anticipating the question that you asked and that is rural prospective in livestock and grains. I feel comfortable with this legislation, and I also encourage you to pass this just in case it isn't passed at the Federal level.

Sen. Ralph Kilzer, District 47, NW Bismarck

Cloning is one of the newest scientific developments and if used properly can benefit mankind. All of us know from our Biology, even 50 years ago, we had a special interest in courses for genetics, embryology, comparative anatomy, and such things. I have always had an interest in how the species maintains itself. All species, plants and animals. Historically, we know that you can take a small shoot from a tree or plant in house and put it in water for 10 days it will grow roots and become new plant material. They used to chop up starfish, not knowing that they allowing them to reproduce even more. We know of Dolly the sheep and the problems with arthritic and early aging in that species. In humans it comes down to the question of when life begins. I think that is an area where needs to be addresses. We know that life begins in a very short period after fertilization of the ovum and the sperm. The best example of that is our twinning. The two different types, identical and fraternal. One from the same egg the other from two eggs. And these can be easily told at the time of birth because of the placenta, one for identical and two separate for fraternal twins. Favorable consideration of HB 1424.

(945-1830) Christopher Dodson, Executive Director for the North Dakota Catholic

Conference, See Attached Testimony

Rep. Hawken: On line 11, the language on that line, predominately human

Page 3
House Education Committee
Bill/Resolution Number HB1424
Hearing Date February 10, 2003

Dodson: The language comes from another state on model legislation, there is some discussion on what is a human embryo. Some are saying that if it is cloned it is not human, by its nature. Or if for example it is mutated slightly. The make up is genetically human and that is the reason behind the language. **Rep. Sitte** Could you define 'oocyte'?

Dodson: It is the egg before maturation and fertilization. Many of these are interchangeable.

Rep. Meier This bill doesn't prohibit stem cell research at all? **Dodson:** No it does not.

Christina Kindel, North Dakota Family Alliance. See Attached Testimony

Stacey Pfliger, Executive Director, ND Right to Life Association, See Attached Testimony

Rep. Jon Nelson Is there any attempt to do human cloning in ND or are we even capable in ND?

Pfliger: NO, we are not aware of any research being done in the state. There is an old listing of someone being a member of the Biotech Industry, and that was 5 years old.

Rep. Jon Nelson What is your opinion on Biotech research, is it a good thing in your opinion?

Pfliger: As far as human cloning would be, I believed it is not a good thing. This is not banning any of the agricultural situations that Sen. Christmann talked about earlier.

Chairman Kelsch (Q for Koppelman) Is this model legislation?

Koppelman: I asked the researchers at Legislative Council to take a look at models around the country. I have been told that two states, Michigan and Iowa, and those are the two that they looked at. This is not identical to theirs but patterned after the state of Iowa.

Chairman Kelsch The definition under Michigan's seems to be a much cleaner statement, so I might share that with you.

Page 4
House Education Committee
Bill/Resolution Number HB1424
Hearing Date February 10, 2003

Koppelman: May I respond to Rep. Jon Nelson question earlier. I think that the logical question here is there some lab in someone's basement where they are cloning people in ND, of course not. I think the question is should we be proactive or reactive as policy makers. I think there are some things we need to say that we don't allow, before someone is doing it.

Rep. Hunsakor A lot of big words used so far that I don't know the meaning of. Could you say in very simple terms for 'cloning'?

Koppelman: Simply stated this bill would ban the manufacture of human beings as commodities. It wouldn't effect stem cell research, ag research, GMO, animal research, it would only effect the reproduction of human beings as clones.

Rep. Hunsakor You used the word cloning to define cloning., What is cloning.

Koppelman: 1 cell taken from another human being, genetically identical to the donor is created.

Rep. Herbel Philosophically, religious aspects, When does life begin in human cloning?

Koppelman: That is a good question, when does life begin was addressed by Kilzer. Everyone agrees on is that a human clone would have human genetic material and therefore, clinically they would be human, weather that is spiritually is far deeper then what I am capable of addressing.

Rep. Mueller You must have come across some arguments for this whole concept, What are we voting against?

Koppelman: There are two options for human clones if they should ever be created. Used for science research and then destroyed. As replacement for lost loved ones, and for spare parts.

Rep. Mueller What is the potential for the research?

Page 5
House Education Committee
Bill/Resolution Number HB1424
Hearing Date February 10, 2003

Koppelman: Stem cell research offers embryonic research is great promise. However, other researchers argue that adult stem cells often offers greater promise. Adult stem cells can be harvested from you or I with no pain.

OPPOSITION none

closed hearing.

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Richard Costa
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10/16/03
Date

2003 HOUSE STANDING COMMITTEE MINUTES
BILL/RESOLUTION NO. HB 1424
House Education Committee

☐ Conference Committee

Hearing Date February 11, 2003

Tape Number	Side A	Side B	Meter #
1	x		3460-5000
Committee Clerk Signature <i>Linda Guechtner</i>			

Minutes: **Chairman Kelsch** opened HB 1424

Chairman Kelsch reviewed amendment 30441.201.

Rep. Haas moved to accept the amendment, Rep. Herbel second the amendment

Rep. Sitte We asked Rep. Kilzer for the definition of these words, so that we know before vote.

Rep. Hawken: It really doesn't matter, they can't do it in ND.

Voice vote passed

Rep. Solberg DO PASS as amended, **Rep. Sitte** second the motion.

Discussion:

Rep. Mueller Are we looking for a solution for a problem, do we even need to do this.

Rep. Solberg Making a statement, Even the Legislation making the statement.

Rep. Meler As what was brought out by Koppelman, we would rather be proactive then reactive.

Rep. Hunsakor It may not be necessary now, but in a year or two, then this is in place.

Rep. Haas Talked to a medical doctor and I wanted to know how they felt about, The Doctor in his opinion, not in favor of any human cloning. You have to realize that it will be done, because

Page 2
House Education Committee
Bill/Resolution Number HB1424
Hearing Date February 11, 2003

it is possible. I don't think that this bill interferes at all with the kind of research we want to see advance with regards to disease control and medicine. But at the same time, my personal feeling is that it in an area that is very dangerous and I am in favor of dealing with it early.

Roll called passed 13-0-1 Rep. Herbel will carry to the floor.

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10/16/03
Date

30441.0201
Title.0300

Prepared by the Legislative Council staff for
Representative Koppelman
January 24, 2003

VK
2/11/03

HOUSE AMENDMENTS TO HOUSE BILL NO. 1424 HDEU 2-14-03

- Page 1, line 9, after "oocyte" insert a comma
- Page 1, line 11, after the first "human" insert "or"
- Page 1, line 16, replace "state" with "stage"
- Page 1, line 17, replace "ovum" with "female germ cell, also known as an egg"
- Page 1, line 22, replace "a cloned" with "the product of a" and replace "embryo" with "cloning"
- Page 1, line 23, replace "human ovum" with "oocyte"
- Renumber accordingly

Page No. 1

30441.0201

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Richard Costa
Operator's Signature

10/16/03
Date

Date: 2/11/03
Roll Call Vote #: 1

2003 HOUSE STANDING COMMITTEE ROLL CALL VOTES
BILL/RESOLUTION NO. 1424

House HOUSE EDUCATION

Committee

☐ Check here for Conference Committee

*Cleanup
amendments.*

Legislative Council Amendment Number

LC 30441.0201

Action Taken

Motion Made By

Haas

Seconded By

Herbel

Representatives	Yes	No	Representatives	Yes	No
Chairman Kelsch					
Rep. Johnson					
Rep. Nelson					
Rep. Haas					
Rep. Hawken					
Rep. Herbel					
Rep. Meier					
Rep. Norland					
Rep. Sitte					
Rep. Hanson					
Rep. Hunsakor					
Rep. Mueller					
Rep. Solberg					
Rep. Williams					

Total (Yes) _____ No _____

Absent _____

Floor Assignment _____

If the vote is on an amendment, briefly indicate intent:

Salvatore Riccardi
Operator's Signature

10/16/03
Date

Date: 2/11/03
Roll Call Vote #: 2

2003 HOUSE STANDING COMMITTEE ROLL CALL VOTES
BILL/RESOLUTION NO. 1424

House HOUSE EDUCATION

Committee

☐ Check here for Conference Committee

Legislative Council Amendment Number LC 30441.0201

Action Taken Do Pass as Amended

Motion Made By Solberg Seconded By Sitte

Representatives	Yes	No	Representatives	Yes	No
Chairman Kelsch	✓				
Rep. Johnson	AB				
Rep. Nelson	✓				
Rep. Haas	✓				
Rep. Hawken	✓				
Rep. Herbel	✓				
Rep. Meier	✓				
Rep. Norland	✓				
Rep. Sitte	✓				
Rep. Hanson	✓				
Rep. Hunsakor	✓				
Rep. Mueller	✓				
Rep. Solberg	✓				
Rep. Williams	✓				

Total (Yes) 13 No 0

Absent 1

Floor Assignment Herbel

If the vote is on an amendment, briefly indicate intent:

REPORT OF STANDING COMMITTEE (410)
February 12, 2003 8:16 a.m.

Module No: HR-27-2352
Carrier: Herbel
Insert LC: 30441.0201 Title: .0300

REPORT OF STANDING COMMITTEE

HB 1424: Education Committee (Rep. R. Kelsch, Chairman) recommends AMENDMENTS AS FOLLOWS and when so amended, recommends **DO PASS** (13 YEAS, 0 NAYS, 1 ABSENT AND NOT VOTING). HB 1424 was placed on the Sixth order on the calendar.

Page 1, line 9, after "oocyte" insert a comma

Page 1, line 11, after the first "human" insert "or"

Page 1, line 16, replace "state" with "stage"

Page 1, line 17, replace "ovum" with "female germ cell, also known as an egg"

Page 1, line 22, replace "a cloned" with "the product of a" and replace "embryo" with "cloning"

Page 1, line 23, replace "human ovum" with "oocyte"

Renumber accordingly

2003 SENATE JUDICIARY

HB 1424

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Salvatore Riccardi
Operator's Signature

10/16/03
Date

2003 SENATE STANDING COMMITTEE MINUTES

BILL/RESOLUTION NO. HB 1424

Senate Judiciary Committee

☐ Conference Committee

Hearing Date 03/24/03

Tape Number	Side A	Side B	Meter #
1	X		37 - End
1		X	0.0 - 22
Committee Clerk Signature <i>Maria L. Solberg</i>			

Minutes: **Senator John T. Traynor, Chairman**, called the meeting to order. Roll call was taken and all committee members present. Sen. Traynor requested meeting starts with committee work on the bill:

Rep Kim Koppelman, Dist #13 - Introduced Bill and Read Testimony - Attachment #1a, 1b, and 1c.

Sen. Nelson questioned where the language of the bill was modeled after? Iowa's legislative.

Sen Ralph Kilzer - District #47 (meter 40) Read Testimony - Attachment #2

Discussion of cloning from pigs.

Sen. Traynor asked for clarification of his phrase "human cloning destroys human life" **Sen**

Kilzer discussed the process tries to clone up to 8-10 cells. Each cell becomes a human by being fertilized, in my opinion. More then half of these die or are destroyed.

Sen. Dever questioned organ cloning as being a part of this. No cloning is a specific procedure, using the nucleus of the cell. This also does not include in-vetro fertilization. This bill is

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Calista Rickford
Operator's Signature

10/16/03
Date

Page 2
Senate Judiciary Committee
Bill/Resolution Number HB 1424
Hearing Date 03/24/03

specific to human cloning and does not include animal cloning. Discussion of animals and organ development. discussed tissue cultures vs. cloning (meter 50).

Christopher Dodson - Executive Director ND Catholic Conference (meter 53) Read Testimony -

Attachment #3.

Sen. Nelson asked about an article on the news that utilized fetal tissue to cure Alzheimer's?

They have found that fetal tissue had to many complications and in fact adult tissue worked better.

Christina Kindel - ND Family Alliance, (meter 6.5) Read Testimony - Attachment #4

Sen. Traynor discussed "Dolly" the sheep and all of its health problems

Sen. Nelson wanted to know what the presidents status was on cloning. President has only banded the funding. Legislation is still being considered in the Senate-House had banded it.

Stacy Pfiiger - ND Right to Life (meter 11) Read Testimony - Attachment #5.

Discussion of "when life exists". Sen. Nelson asked what section this law would appear.

Probably a new section Title 12 in the criminal code. Sen. Trenbeath stated that this definition only applies when used in this bill to this bill.

Senator John T. Traynor, Chairman closed the hearing

2003 SENATE STANDING COMMITTEE MINUTES

BILL/RESOLUTION NO. HB 1424

Senate Judiciary Committee

☐ Conference Committee

Hearing Date 03/25/03

Tape Number	Side A	Side B	Meter #
1		X	5.6 - 6.0
Committee Clerk Signature <i>Maria L. Salberg</i>			

Minutes: Senator John T. Traynor, Chairman, called the meeting to order. Roll call was taken and all committee members present. Sen. Traynor requested meeting starts with committee work
Senator Carolyn Nelson made a motion on the bill

Motion Made to DO PASS HB 1424 by Senator Carolyn Nelson and seconded by Senator Stanley W. Lyson, Vice Chairman

Roll Call Vote: 5 Yes. 0 No. 1 Absent

Motion Passed

Floor Assignment: Sen. Dever

Senator John T. Traynor, Chairman closed the hearing.

Sal Costa *Richard*
Operator's Signature

10/6/03
Date

Date: March 25, 2003
Roll Call Vote #: 1

2003 SENATE STANDING COMMITTEE ROLL CALL VOTES
BILL/RESOLUTION NO. HB 1424

Senate JUDICIARY Committee

☐ Check here for Conference Committee

Legislative Council Amendment Number _____

Action Taken DO PASS

Motion Made By Sen. Nelson Seconded By Sen. Lyson

Senators	Yes	No	Senators	Yes	No
Sen. John T. Traynor - Chairman	X		Sen. Dennis Bercier	A	A
Sen. Stanley Lyson - Vice Chair	X		Sen. Carolyn Nelson	X	
Sen. Dick Dever	X				
Sen. Thomas L. Trenbeath	X				

Total (Yes) FIVE (5) No ZERO (0)

Absent ONE (1)

Floor Assignment Sen. Dever

If the vote is on an amendment, briefly indicate intent:

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Salvatore Riccardi 10/16/03
Operator's Signature Date

REPORT OF STANDING COMMITTEE (410)
March 24, 2003 12:28 p.m.

Module No: SR-52-5530
Carrier: Dever
Insert LC: . Title: .

REPORT OF STANDING COMMITTEE
HB 1424, as engrossed: Judiciary Committee (Sen. Traynor, Chairman) recommends **DO PASS** (5 YEAS, 0 NAYS, 1 ABSENT AND NOT VOTING). Engrossed HB 1424 was placed on the Fourteenth order on the calendar.

2003 TESTIMONY

HB 1424

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Al Costa Richardson
Operator's Signature

10/16/03
Date



Representative Kim Koppelman
District 13
513 First Avenue NW
West Fargo, ND 58078-1101
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NORTH DAKOTA HOUSE

STATE CAPITOL
600 EAST BOULEVARD
BISMARCK, ND 58505-0360



COMMITTEES:
Appropriations

Testimony on House Bill 1424

Good Morning, Madam Chairman and Members of the House Education Committee. For your record, I am Representative Kim Koppelman and I represent District 13, which consists of most of the city of West Fargo and a small surrounding rural area.

House Bill 1424 is a very important piece of legislation which, I hope you'll all agree, is a necessary policy statement for the state of North Dakota. It would ban human cloning.

Modern technology and science have brought us into the 21st Century with a great deal of hope and promise. Many gadgets, conveniences and creature comforts offer a lifestyle of convenience and advancement never dreamed of even a few decades ago. Whether the promise is as grandiose as reaching the stars or curing disease or as simple and now-common as personal computing or cell phones, technology has clearly changed our lives.

Most of the advances of modern science can be embraced with enthusiasm and wonder. We must never fail, however, to evaluate the brave, new world we find ourselves in by the ethical standards which have defined our nation since its inception and much of the civilized world for much longer.

Many images are conjured up when we hear the term "human cloning", but perhaps the most riveting is the ghoulish concept of a Frankensteinian experiment treading where mankind should never go. Whether attempted by a mad scientist in a dungeon or by technicians in lab coats, this is simply a practice we should prohibit before it occurs. Human cloning is where we, as a society, as a state, and as a legislature, should draw the line and agree that there are some things we should simply not attempt, even if we think we're able.

To quote Nigel Cameron, Dean of The Wilberforce Forum and Director of the Council for Biotechnology Policy, "Biotechnology offers the world extraordinary opportunities for good and also for ill. As its treasure-house of opportunity is explored, we must fervently seek a responsible policy framework that will protect and enhance human dignity and not hazard it to the interests of venture capitalists and mad scientists." I've included some other material with my written testimony, for your review.

Human cloning has already been banned by several nations and several other states, including Michigan, Iowa, California, Louisiana and Rhode Island. Legislation is pending in several other states, including Indiana, Texas, and Wisconsin, to name a few.

Madam Chairman and members of the committee, I respectfully urge a "Do Pass" recommendation on House Bill 1424. Others can offer more expert testimony on this topic than I, but I'll certainly attempt to answer any questions you may have.

Salvatore Riccio
Operator's Signature

10/16/03
Date

Article

On The Cloning Of Human Beings

The Wilberforce Forum

By Nigel M. de S. Cameron

Some International Perspectives

In human cloning we confront the quintessential question of the new bioethics. The challenge it poses is emblematic of the new bioscience and its agenda, which offers both such promise for good, and such threat of harm, to the human community. The means of human procreation itself now suddenly lies in our own hands: nowhere is it clearer that we face a watershed for the human race.

The field of bioethics lies at the meeting-point of ethics with several disciplines, including science, technology, medicine, and policy. The challenge to policy is to maintain the priority of what is ethical, and therefore to assert the fundamental values of the human community as the context for these extraordinary new developments. It has been said that if it does not prove possible for us to do this in the case of human cloning, it is hard to have confidence in our capacity to address the thousand issues that are standing in line for attention, in the unfolding agenda of biotechnology. The distaste of the human community for cloning is almost universal. And the stakes could hardly be higher, since we are discussing experimentation on and the manufacture of human subjects.

I shall briefly outline some international policy approaches to human cloning, and then offer some observations.

National jurisdictions

In the four years since it was announced that Dolly the sheep had been cloned, many nations have taken steps to prevent the application of the somatic cell nuclear transfer technique, and in some cases other cloning techniques, to human beings. But they were anticipated in that one nation to which we should be most attentive in this debate, since its experience in the twentieth century offers the world a laboratory for misdirected science. In 1990 Germany enacted a statutory ban on cloning, with a penalty of five years imprisonment. German prescience stands in marked contrast to the reactive approaches of other jurisdictions, in which at every point science and technology have outstripped the policy process, in a pattern we may expect to see indefinitely repeated.

Several major nations have now enacted statutory cloning bans, or such enactment is in process. One of the most recent is Japan, which takes effect in June of this year, and carries a 10-year sentence for infringement, though no penalty for Japanese who travel abroad for the process – since a Japanese couple is said to be among those on Zavos and Antinori's list of clients, the responsible Japanese government minister is reported to be seeking an amendment to cover extraterritorial cloning involving Japanese nationals. Other nations that have banned cloning

include Ireland, Israel, Italy, France, Argentina, Colombia, and Spain. Nations with current legislative process include Korea, Canada, New Zealand, and Russia.

The European Convention on Biomedicine and Human Rights

In 1997, appropriately the year of the Dolly announcement, the one international treaty on bioethics was opened to signature. The European Convention on Biomedicine and Human Rights seeks as its title suggests to set the questions being raised in biotechnology firmly in the context of the human rights tradition in European law, recognizing that the dignity of the individual is the prime question at issue. The Convention was the result of a lengthy consultative process – I myself attended one consultation in the late 1980s – and a product of the treaty process of the Council of Europe through the work of its bioethics advisory committee.

The Convention, while adopting the European principle of subsidiarity in recognizing diversity within its jurisdictions, adopts a series of key positions, including a ban on any profit from trade in body parts; a ban on germline gene therapy (therapy that affects subsequent generations); and a ban on the creation of human embryos for the purposes of research (while requiring protections for other, "spare," embryos that are used for research purposes; in fact, the advisory committee originally recommended to the Council of Ministers a ban on all deleterious embryo research).

The Convention provides for the addition of subsequent protocols on fresh questions, and the first such protocol to be drafted bans human cloning. That protocol went into effect on March 1, after ratification by the requisite five signatories. It reads, in pertinent part,

Considering that the cloning of human beings may become a technical possibility . . .

Considering . . . that the instrumentalisation of human beings through the deliberate creation of genetically identical human beings is contrary to human dignity and thus constitutes a misuse of biology and medicine . . . Considering also the serious difficulties of a medical, psychological and social nature that such a deliberate biomedical practice might imply for the individuals involved . . .

Article 1

Any intervention seeking to create a human being genetically identical to another human being, whether living or dead, is prohibited.

For the purpose of this article, the term human being "genetically identical" to another human being means a human being sharing with another the same nuclear gene set.

As of today, 29 European states have signed the protocol, and it came into force on March 1 after ratification by the first five signatories. The full text of the treaty and the protocol are included as an attachment to this testimony.

Observations

Let me add four brief observations to be considered as we move to develop policy:

The need for policy in bioethics and the biosciences

The need to build public confidence

The overriding significance of the dignity of the individual

The importance of international agreement

- **The need for policy in bioethics and the biosciences.** It is curious, and disturbing, that the development of policy – particularly here in the United States – has lagged far behind the development of technique and the growth of the commercial sector. In light of the detailed regulatory regimes – that have wide and bipartisan approval – operating through bodies such as the FDA, the USDA, and indeed the SEC, there is a powerful argument that the stakes here are the highest of all.
- **The need to build public confidence.** This offers a powerful support to the development of policy, and is illustrated by a recent statement quoted from Carl Feldbaum, president of the Biotechnology Industry Organization (BIO), to the effect that "from the industry's standpoint, attempting to clone humans is a lose-lose proposition," since whether it succeeds or fails "it is likely to result in a backlash against mainstream biomedical research." (The Record, Bergen Co., NJ, 2/18/01). This concern reflects the remarkable story of the popular European response to genetically modified (GM) foods, widely dubbed "Frankenfoods" in the European media, and largely rejected by European consumers. While the industry has not been in the forefront of demands for regulation, a strong argument can be made that its long-term interest vitally requires public confidence, and that such confidence needs expression and confirmation through the policy process. This offers a contrast to anti-science Luddism on the one hand, and unrestrained exploitation on the other, and suggests a sound regulatory context for the biotechnology industry.
- **The overriding significance of the dignity of the individual.** From one perspective this is such a statement of the obvious. Yet it actually states the central challenge confronting bioscience policy, since these unfolding developments will offer a stream of benefits to some individuals at potential cost to others. That is of course the central role for policy in a free society: to defend the individual against the encroachment of others, including the state itself. Questions such as access to genetic information (for insurance, employment, and other external purposes), germline gene therapy (in which we change the genetic inheritance of the next generation, a procedure summarily outlawed in the European Convention), and so-called "therapeutic" embryo experimentation (in which putative benefits to some are balanced against the destruction of individual embryos), offer samples of the decisions that await us.
- **The importance of international agreement.** Plainly, there is value in setting policy within individual jurisdictions, and those states such as California, Louisiana, Michigan, and Rhode Island that have banned human cloning are to be commended for their initiative in asserting the common values of their citizens. The same is true of nations.

But both human dignity, and the worlds of bioscience and the biotechnology industry, are indivisible, and there is urgency in the task of international agreement. This was well illustrated by the statement of Drs Zavos and Antinori that they intend to press ahead with the birth of a cloned human baby, and locate in an unnamed European country in which, one presumes, it is not illegal. The European Convention on Biomedicine and Human Rights offers a model; the present UNESCO process that has begun with a statement on the human genome offers a process.

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Operator's Signature

10/16/03
Date

Statement on Cloning and the ACT Announcement

By Nigel M. de S. Cameron

November 30, 2001

Human dignity must frame the development of biotech--not the other way around

**Human dignity must frame the development of biotech—not the other way around.
Cloning is the place to draw a line in the sand.**

Michael West of Advanced Cell Technologies has thrown down the gauntlet at the feet of civilization. Nearly five years after the cloning of Dolly the sheep was announced to the world and initiated a flurry of legislative activity, we still have no federal law to prevent the creation of human beings through this repellent copying technique. When with the President's support the House of Representatives voted 267-162 for the Weldon-Stupak bill (H.R. 2505), it seemed likely that 2001 would be the year in which we finally said No to human cloning. But September 11 supervened, and in the face of war debate on cloning along with other important matters was suspended.

But Advanced Cell Technology, along with the international consortium headed by Zavos and Antinori, and the Raelian initiative, have all been pressing ahead. And ACT has now taken gross advantage of this de facto moratorium in policy development to try to force a change in the status quo. No longer are we speaking of preventing the cloning of human beings. All of a sudden, humans have been cloned. ACT, under cover of its secret ethics committee, has forged ahead. While we have been focusing on the prosecution of war, they have sought to shift the conversation by a fait accompli. And while we were celebrating Thanksgiving with our families, through a slick PR maneuver they made their announcement to the world. They must be stopped.

The revulsion of the American people for human cloning is unambiguous, and pro-lifers and pro-choice advocates have come together in seeking a comprehensive ban on the replication of the human species by this bizarre industrial technique. The breadth of that revulsion needs to be stressed, since those who favor experimental cloning have sought to characterize this as a re-run of the argument over abortion. As leading pro-choicer and biotech legal expert Lori Andrews and I argued in a recent op-ed (*Chicago Tribune*, August 8, 2001), this is false. A wide coalition has come together that favors an outright ban on all cloning. It includes such famous pro-choicers as Judy Norsigian, longtime editor of *Our Bodies, Ourselves*; and vigorous supporters of embryo stem-cell experimentation, such as columnist Charles Krauthammer.

And why? If the human embryo is a human person, as many of us believe, then plainly experimental use of the embryo is always abuse and must be stopped. If we take an intermediate view, and say we do not know; or if we take the view that there is a high degree of genetically unique potential in the embryo that stops short of personhood—still we will not create embryos for experimentation and death. It is very striking that even some of those who favor that kind of use of so-called spare clinical embryos draw a deep line in the sand here. This mechanical production of members of our own species is inherently de-humanizing.

Salvatore Riccio
Operator's Signature

10/16/03
Date

And of course however much those who favor experimental cloning (which they dishonestly call "therapeutic") seek to distinguish it from live-birth cloning (which they call "reproductive"), they are the same thing. Every step in refining the human cloning technique brings nearer the birth of a cloned born baby.

But the basic issue is this: Biotechnology offers the world extraordinary opportunities for good and also for ill. As its treasure-house of opportunity is explored, we must fervently seek a responsible policy framework that will protect and enhance human dignity and not hazard it to the interests of venture capitalists and mad scientists. The tragedy—forcibly underlined in the way ACT have made their case—is that in the interests of human dignity human dignity will be destroyed.

The Wilberforce Forum's affiliated Council for Biotechnology Policy is joining with other groups and individuals in establishing ABC—Americans to Ban Cloning—to call on our legislators to heed the voice of conscience and the American people and end this practice before it goes any further.

After nearly five years of delay, we need Congress to draw a line in the ethical sand and begin to build a global coalition for human dignity. ACT has thrown down the gauntlet. We must pick it up and act with speed and resolve.

Nigel M. de S. Cameron
Dean, The Wilberforce Forum
Director, Council for Biotechnology Policy
Founding Editor, *Ethics & Medicine*

BreakPoint Cloning Fact Sheet

Why we should support a total ban on human cloning

What is human cloning?

Human cloning is reproduction without the joining of sperm and egg. Instead, in the laboratory, the nucleus of the egg is replaced with the nucleus of another cell to produce an embryo. The nucleus could come from the woman who donated the egg or any human – male or female. The result is an embryo that is genetically identical with the donor of the nucleus.

What's the difference between "reproductive" cloning and "therapeutic" cloning?

Those who favor cloning have created these two categories based on the *intended use* of the clone. "Reproductive" cloning intends to create a cloned embryo and implant it into a woman's womb so that she can give birth to a child. "Therapeutic" cloning intends to create a cloned embryo for experimental research into possible cures using the embryos stem cells or for actual healing purposes.

In truth, all cloning is "reproductive" because all cloning intends to bring to life an embryonic human being. "Therapeutic" cloning creates the new human in order to "disaggregate" it into stem cells. That is, it creates a human in order to tear it apart, thus killing it.

Why do scientists want to clone humans?

Human cloning is a way of mining embryonic stem cells. All humans begin life as embryos, a cluster of stem cells. As the embryo grows, the stem cells, all identical in the beginning, differentiate into the cells that make up all the parts of the human body. Stem cells become heart, brain, liver, bone, and all the other tissues of the body. Because of this, stem cells hold wonderful promise for healing the body. Researchers believe that stem cells can be effective in treating Parkinson's, Alzheimer's, diabetes, spinal cord injuries, Multiple Sclerosis, and other debilitating diseases.

Is taking stem cells from embryonic humans the only way to get them?

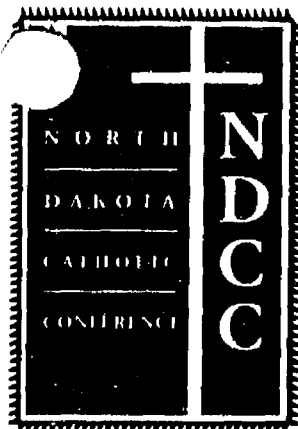
No. The adult human body contains stem cells too, stem cells that can be obtained without destroying a human life. And while embryonic stem cell therapies are only a dream, adult stem cells are already being used to treat diseases. Adult stem cells can do everything researchers claim for embryonic stem cells and have at least three advantages. First, adult stem cells do not have the risk of out of control growth. When injected into the body, embryonic stem cells sometimes grow into tumors; adult stem cells grow normally. Second, based on cloning experiments with animals, we know that cloned cells are not normal and the risk of mutation is high. Adult stem cells are healthy if taken from a genetically healthy adult. Third, there is no ethical question associated with the use of adult stem cells.

Why should we support a total ban on human cloning?

The most basic rule in all medical ethics is "Do no harm." Spelling this out the Nuremberg Code, written in response to lethal Nazi experimentation on human subjects, says, "No experiment should be conducted where there is a prior reason to believe that death or disabling injury will occur." Cloning humans in order to kill them for the stem cells violates this most basic rule and because of this alone human cloning is fundamentally immoral.

Cloning treats human beings as property. It manufactures a class of humans for experimentation and industrial use, and—if only "reproductive" cloning is banned—it makes it a crime not to kill the cloned human.

Thus, human cloning redefines what it means to be human. Humans are manufactured rather than begotten. The child becomes a commodity subject to quality control, property rights, manipulation, and exploitation. Humanness is no longer a fact of being alive, but is bestowed by other humans. Humanness may be withheld as in the case of embryos and may be withdrawn as in the case of the elderly or disabled.



Representing the Diocese of Fargo
and the Diocese of Bismarck

Christopher T. Dodson
Executive Director and
General Counsel

To: House Education Committee
From: Christopher Dodson, Executive Director
Subject: House Bill 1424 -- Ban on Human Cloning
Date: February 10, 2003

The North Dakota Catholic Conference supports House Bill 1424 to ban human cloning in North Dakota.

Advances in science and technology can provide great opportunities for improving life and society. Those same advances, however, can open a Pandora's Box of ethical and moral problems and unintended consequences. All application of science must, therefore, be rooted in an ethical framework and, when necessary, certain acts must be proscribed.

A little over a year ago, Advanced Cell Technologies announced that it had created a human embryo through cloning. A few months ago, another organization claimed that the first human baby produced by cloning had been born. Scientists have questioned the veracity of both claims. Nevertheless, there is general agreement that the technology to clone humans is available and, unless prohibited, human cloning will occur. House Bill 1424 addresses this problem by banning human cloning in North Dakota.

What is Human Cloning?

A basic review of the science of human cloning will help us understand the true scope and limits of House Bill 1424. Human cloning is the creation of a human being genetically identical to another human being already in existence, or who previously existed. This is not possible by nature. To be more specific, House Bill 1424, with the corrections, defines human cloning as "human asexual reproduction, accomplished by introducing the genetic material of a human somatic cell into a fertilized or unfertilized oocyte, the nucleus of which has been or will be removed or inactivated, to produce a living organism with a human predominantly human genetic constitution."

At this point, it may help to break the process of human cloning to its basic parts. The techniques employed in the process may differ, but the process itself is always similar, by definition of what is human cloning. In natural sexual reproduction,

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the new organism is created by the joining of two gamete cells, one male and one female. In humans, each gamete cell has 23 chromosomes. The genetic make-up of every human being is determined by the combination of the 23 chromosomes from the female and the 23 chromosomes from the male.

1210 A somatic cell is basically a non-gamete cell. Every somatic cell, such as a skin cell or blood cell, contains the set of 46 chromosomes that make up that person's unique genetic identity.

In cloning, the nucleus, including genetic material, of the egg (female germ or gamete cell) is removed or inactivated. The genetic material -- all 46 chromosomes -- of a somatic cell is removed and placed into the egg cell. The egg and its new genetic material is triggered to start the process of division to become an embryo. This process of somatic cell nuclear transfer is cloning.

At this point, the new individuated organism is not biologically different from an organism at the same stage created through natural reproduction. The high death and mutation rate of clones indicates that there exist some not yet determined differences, but as to *what* it is, there is no scientific or moral difference between a cloned embryo and an embryo created through sexual reproduction.

1215 This is an important fact to remember. Some persons wish to obfuscate the scientific facts and, therefore, the moral consequences, regarding human cloning by claiming, for example, that somatic cell nuclear transfer does not create an embryo or that cloning does not actually occur unless the new organism is implanted for reproductive purposes. These word games contradict the scientific community's acknowledgement that somatic cell nuclear transfer creates an *embryo* and that cloning is the creation of an organism -- in this case an embryo -- genetically identical to another.¹

Stem Cell Research

Discussions about human cloning are often complicated by confusion regarding stem cell research. Clarifying some of the facts about stem cell research will help with understanding the scope and limits of House Bill 1424.

¹ The National Academy of Sciences, the National Institutes of Health, and the National Bioethics Advisory Commission concur with this consensus among the scientific community.

135¹ Stem cells are pluripotent cells that have the potential to be "directed" to develop into specific types of cells. For that reason, they hold great promise for medical treatments. There exist two types of stem cells. Adult stem cells are those obtained from fully developed tissue, such as bone marrow, blood, or umbilical cords. Embryonic stem cells are obtained from human embryos at the blastocyst stage and require killing the embryo.² The relationship between stem cell research and human cloning comes from the desire of some researchers to create human embryos through cloning solely for the purpose of destroying them to obtain embryonic stem cells.

140⁰ Some proponents of cloning for embryonic stem cells have argued that the cloning process merely creates stem cells for research, not human embryos. This is not true. As noted above, the consensus in the scientific community is that cloning creates embryos. Moreover, embryonic stem cells can only be obtained from embryos.³

"Therapeutic" and "Reproductive" Cloning

The desire to create cloned embryos solely for the purpose of obtaining embryonic stem cells has given rise to the labels of "therapeutic" and "reproductive" cloning and an attempt to differentiate the ethical consequences of the two. These labels, however, are misleading. There is no difference between "therapeutic" cloning and "reproductive" cloning. The cloning process and the created embryo is the same for both uses. If one is wrong, the other is wrong. The intended use of the embryo does not change the biological or moral status of the embryo. To embrace this idea is to accept a dangerous concept of utilitarianism and the notion that the end justifies the means. Moreover, the term "therapeutic" is itself misleading since the cloning process and the later killing of the embryo for its stem cells is not a therapy at all. To describe it as such is another example of obfuscating the facts by appealing to the intended result.

Proponents of making the distinction argue that the law should ban only "reproductive" cloning and that "therapeutic" cloning should be permitted. In addition to the problems with this logic

² A common misconception is that adult stem cells must come from adult human beings. Adult stem cells can come from humans of any age, but do not require the destruction of human embryos.

³ The fallacy of the position is further demonstrated by the fact that the product of cloning, if implanted in a uterus, could continue growing into a fetus. A stem cell is not capable of this accomplishment.

House Education Committee
Page 4
February 10, 2003

mentioned above, such a ban would also result in a greater evil than no ban at all. A ban on only reproductive cloning is not a ban on cloning at all. It is only a ban on letting the human embryo live a full life. Cloning would be allowed and killing a cloned human would be mandated.

1560 The argument that banning "therapeutic" cloning would block stem cell research is also flawed. Nothing in HB 1424 would prevent either adult or embryonic stem cell research. It only would prevent the *creation* of cloned human embryos.

House Bill 1424

With these facts in mind, the language of House Bill 1424 becomes more understandable. The definitions are designed to reflect the facts regarding human cloning and to exclude non-human cloning, assisted reproductive techniques not involving human cloning, and other research and treatments.

1600 Section 2 prohibits performing or participating in human cloning and engaging in the trafficking of human clones or the materials necessary for human cloning. Subsection 2 of Section 2 is to reiterate that the bill bans only human cloning and not other techniques.

The Moral Imperative

1600 Human cloning raises a number of moral concerns that the state must address. The first set of concerns revolve around the creation process itself. The creation of human life through cloning is fundamentally wrong. It disrespects human dignity and the gift of creation by entirely supplanting the natural process with an artificial mechanism. It robs the created human being of the gift of unique identity and a biological mother and father. Finally, for whatever the purpose, human cloning exploits human beings for our own self-gratification, whether it be our desire for new medical treatments or our desire to have children on our own genetic terms.

The second set of moral problems revolves around the uses of human cloning. Even if disagreement exists as to whether a human embryo has the status of a "person," the fact that it is a human life cannot be reasonably refuted. Destruction of any human life for purposes of research is reprehensible. Cloning for purposes of reproduction also carries with it moral consequences.

1700 The failure rate in both deaths and mutations in cloning is high. Subjecting cloned human beings to that risk is impermissible.

House Education Committee
Page 5
February 10, 2003

Science has brought us to a crossroad. Society, however, is never at the mercy of science. The application of science is a human endeavor and, as such, how we react to this crossroad is our decision. When choosing how and where to go, we should be mindful of these words from Deuteronomy: "I have set before you life and death, blessings and curses. Choose life so that you and your descendants may live . . ." (Deuteronomy 30:19)

1760 We urge a Do Pass recommendation on HB 1424.

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10/6/03
Date

February 10, 2003
Testimony of Christina Kindel
For North Dakota Family Alliance
House Education Committee
H.B. 1424

Madam Chairman and Committee Members:

My name is Christina Kindel. I'm appearing today on behalf of the North Dakota Family Alliance. We support H.B. 1424.

North Dakota Family Alliance opposes all types of human cloning. We believe that the experimentation of human life is a significant threat not only to society, but to the basic unit of the family, as well. Whether for reproductive or therapeutic purposes, the science of human cloning sees human life as a commodity for experimentation, a product for manipulation, rather than respecting the sanctity and uniqueness of each human life. Therefore, we believe human cloning should be banned. Human clones are 100% human, just as the cloned sheep Dolly was 100% sheep. To use this type of experimentation on human life is, in the words of Ian Wilmut, the leader of the Scottish scientific team who cloned Dolly, "desperately sad."

Human cloning is a science that has many Americans concerned. A Time/CNN poll published in *Time* magazine in February of 2001 stated that "90 percent of those surveyed thought cloning human beings" was a bad idea. Although different polls vary somewhat in their reports, the message we are hearing is, I believe, clear; Americans are very concerned about science that involves the cloning of human life.

North Dakota Family Alliance respectfully urges the members of this committee to give H.B. 1424 a DO PASS recommendation.

Thank you for your time and attention.

La Costa Richard
Operator's Signature

10/16/03
Date



Testimony before the HOUSE EDUCATION COMMITTEE
Regarding HOUSE BILL 1424
February 10, 2003 8:30 a.m.

Chairman Kelsch, members of the committee, I am Stacey Pfliger, Executive Director of the North Dakota Right to Life Association. I am here today in support of HB 1424 to prohibit human cloning.

Proponents of human cloning hold out two hopes for its use: (1) creating live born children for infertile couples or those grieving over the loss of a loved one, so-called "reproductive cloning", and (2) promises of medical miracles to cure diseases by harvesting embryonic stem cells from cloned embryos created from patients, termed "therapeutic cloning".

2370 First, let's be clear on the terms. All human cloning is reproductive, in that it creates - reproduces - a new developing human intended to be virtually identical to the cloned subject. Both "reproductive" (or live birth) cloning and so-called "therapeutic" cloning (more properly termed experimental cloning) use exactly the same techniques to create the clone, and the cloned embryos are impossible to differentiate. The process, as well as the product, is identical. Only its destiny is different: either implantation in the hopes of a live birth or destruction in the hopes of a medical miracle.

A ban only on implantation of the embryos is unenforceable. As cloned embryos are produced they will become widely available, and inevitably some will be implanted. Will the law then mandate an abortion, the destruction of a born child, or incarceration of the mother and/or child?

2410 There are good reasons why live birth cloning should be banned. It has an enormous failure rate. Out of 277 cloned embryos, one Dolly the sheep was produced, and

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even this "successful" clone is plagued with abnormalities. In the summer of 2001, a group at the Whitehead Institute achieved 5 born mice from 613 cloned embryos, and all the born mice showed abnormalities. We can expect that of those few cloned humans who survive to live birth, most will die shortly thereafter and others will be overwhelmed by abnormalities due to the cloning process.

What about the surrogate mothers? Because of the clone's abnormalities, carrying a clonal pregnancy to term will pose unique threats to the surrogate mother. According to the National Academy of Sciences, because many eggs are needed for human reproductive cloning attempts, human experimentation could subject more women to adverse health effects - either from high levels of hormones used to stimulate egg production or because more women overall would be sought to donate eggs, which involves surgery with its own inherent risks.

2516 Creating new human life solely to destroy it for the potential benefit of others is unethical. On April 10, 2002, President George W. Bush addressed an audience comprised of lawmakers, pro-life activists, researchers and people with disabilities. I am honored to say I was one of those in attendance as President Bush called on the United States Senate to ban all human cloning (see attached). As you know, federally a human cloning ban has not yet been achieved. We are hopeful that a total ban will happen with the new Congress, but we cannot wait any longer to protect the boundaries of our state. We need to act now.

2600 What about public opinion? In June 2001, an International Communications Research Poll asked: "Should scientists be allowed to use human cloning to create a supply of human embryos to be destroyed in medical research?" 86% responded NO. In April 2001, a Time/CNN Poll asked: "Do you think scientists should be allowed to clone human beings or don't you think so?" 88% responded NO.

2675 There is a consensus across varying groups to ban all human cloning. President Clinton's National Bioethics Advisory Commission, in its 1997 report *Cloning Human Beings*, explicitly stated: "The Commission began its discussions fully recognizing that any effort in humans to transfer a somatic cell nucleus into an enucleated egg involves the creation of an embryo, with the apparent potential to be implanted in utero and developed to term."

2700 The Boston Women's Health Book Collective testified on June 20, 2001: "Those who encourage human cloning appear oblivious to the enormous risks to women and children's health that human cloning would pose. There is no way that human cloning could be developed without, in effect, mass experimentation on human beings -women and children- of a sort that has been outlawed since the formulation of the Nuremberg Principles following World War II."

2750 The Editorial, "Embryo Research is Inhuman," [Chicago Sun-Times, October 10, 1994, 25] stated: "We can debate all day whether an embryo is or isn't a person. But it is unquestionably human life, complete with its own unique set of human genes that inform and drive its own development. The idea of the manufacture of such a magnificent thing as a human life purely for the purpose of conducting research is grotesque, at best...."

I believe that President Bush best summed up this debate on April 10, 2002:

"Life is a creation, not a commodity. Our children are gifts to be loved and protected, not products to be designed and manufactured. Allowing cloning would be taking a significant step toward a society in which human beings are grown for spare body parts, and children are engineered to custom specifications; and that's not acceptable."

I urge this committee to give HB 1424 a do pass recommendation.

At this time I would be available for any questions you may have.



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For Immediate Release
Office of the Press Secretary
April 10, 2002

President Bush Calls on Senate to Back Human Cloning Ban

Remarks by the President on Human Cloning Legislation
The East Room

1:18 P.M. EDT

THE PRESIDENT: Well, thank you all so very much for coming to the White House. It's my honor to welcome you to the people's house.

President's Remarks
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I particularly want to honor three folks who I had the honor of meeting earlier: Joni Tada, Jim Kelly and Steve McDonald. I want to thank you for your courage, I want to thank you for your wisdom, I want to thank you for your extraordinary perseverance and faith. They have triumphed in the face of physical disability and share a deep commitment to medicine that is practiced ethically and humanely.

All of us here today believe in the promise of modern medicine. We're hopeful about where science may take us. And we're also here because we believe in the principles of ethical medicine.

As we seek to improve human life, we must always preserve human dignity. (Applause.) And therefore, we must prevent human cloning by stopping it before it starts. (Applause.)

I want to welcome Tommy Thompson, who is the Secretary of Health and Human Services, a man who is doing a fine job for America. (Applause.) I want to thank members from the United States Congress, members from both political parties who are here. I particularly want to thank Senator Brownback and Senator Landrieu for sponsoring a bill about which I'm going to speak. (Applause.)

As well, we've got Senator Frist and Senator Bond and Senator Hutchinson and Senator Santorum and Congressman Weldon, Stupak, and eventually Smith and Kerns. They just don't realize -- (applause) -- thank you all for coming -- they seem to have forgotten we start things on time here in the White House. (Laughter.)

We live in a time of tremendous medical progress. A little more than a year ago, scientists first cracked the human genetic code -- one of the most important advances in scientific history. Already, scientists are developing new diagnostic tools so that each of us can know our risk of disease and act to prevent them.

One day soon, precise therapies will be custom made for our own genetic makeup. We're on the threshold of historic breakthroughs against AIDS and Alzheimer's Disease and cancer and diabetes and heart disease and Parkinson's Disease. And that's incredibly positive.

Our age may be known to history as the age of genetic medicine, a time when many of the most feared illnesses were overcome.

Our age must also be defined by the care and restraint and responsibility with which we take up these new scientific powers.

Advances in biomedical technology must never come at the expense of human conscience. (Applause.) As we seek what is possible, we must always ask what is right, and we must not forget that even the most noble ends do not justify any means. (Applause.)

La Costa Rickford
Operator's Signature

10/16/03
Date

Science has set before us decisions of immense consequence. We can pursue medical research with a clear sense of moral purpose or we can travel without an ethical compass into a world we could live to regret. Science now presses forward the issue of human cloning. How we answer the question of human cloning will place us on one path or the other.

Human cloning is the laboratory production of individuals who are genetically identical to another human being. Cloning is achieved by putting the genetic material from a donor into a woman's egg, which has had its nucleus removed. As a result, the new or cloned embryo is an identical copy of only the donor. Human cloning has moved from science fiction into science.

One biotech company has already begun producing embryonic human clones for research purposes. Chinese scientists have derived stem cells from cloned embryos created by combining human DNA and rabbit eggs. Others have announced plans to produce cloned children, despite the fact that laboratory cloning of animals has led to spontaneous abortions and terrible, terrible abnormalities.

Human cloning is deeply troubling to me, and to most Americans. Life is a creation, not a commodity. (Applause.) Our children are gifts to be loved and protected, not products to be designed and manufactured. Allowing cloning would be taking a significant step toward a society in which human beings are grown for spare body parts, and children are engineered to custom specifications; and that's not acceptable.

In the current debate over human cloning, two terms are being used: reproductive cloning and research cloning. Reproductive cloning involves creating a cloned embryo and implanting it into a woman with the goal of creating a child. Fortunately, nearly every American agrees that this practice should be banned. Research cloning, on the other hand, involves the creation of cloned human embryos which are then destroyed to derive stem cells.

I believe all human cloning is wrong, and both forms of cloning ought to be banned, for the following reasons. First, anything other than a total ban on human cloning would be unethical. 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. (Applause.)

Yet a law permitting research cloning, while forbidding the birth of a cloned child, would require the destruction of nascent human life. Secondly, anything other than a total ban on human cloning would be virtually impossible to enforce. Cloned human embryos created for research would be widely available in laboratories and embryo farms. Once cloned embryos were available, implantation would take place. Even the tightest regulations and strict policing would not prevent or detect the birth of cloned babies.

Third, the benefits of research cloning are highly speculative. Advocates of research cloning argue that stem cells obtained from cloned embryos would be injected into a genetically identical individual without risk of tissue rejection. But there is evidence, based on animal studies, that cells derived from cloned embryos may indeed be rejected.

Yet even if research cloning were medically effective, every person who wanted to benefit would need an embryonic clone of his or her own, to provide the designer tissues. This would create a massive national market for eggs and egg donors, and exploitation of women's bodies that we cannot and must not allow. (Applause.)

I stand firm in my opposition to human cloning. And at the same time, we will pursue other promising and ethical ways to relieve suffering through biotechnology. This year for the first time, federal dollars will go towards supporting human embryonic stem cell research consistent with the ethical guidelines I announced last August.

The National Institutes of Health is also funding a broad range of animal and human adult stem cell research. Adult stem cells which do not require the destruction of human embryos and which yield tissues which can be transplanted without rejection are more versatile than originally thought.

We're making progress. We're learning more about them. And therapies developed from adult stem

cells are already helping suffering people.

I support increasing the research budget of the NIH, and I ask Congress to join me in that support. And at the same time, I strongly support a comprehensive law against all human cloning. And I endorse the bill -- wholeheartedly endorse the bill -- sponsored by Senator Brownback and Senator Mary Landrieu. (Applause.)

This carefully drafted bill would ban all human cloning in the United States, including the cloning of embryos for research. It is nearly identical to the bipartisan legislation that last year passed the House of Representatives by more than a 100-vote margin. It has wide support across the political spectrum, liberals and conservatives support it, religious people and nonreligious people support it. Those who are pro-choice and those who are pro-life support the bill.

This is a diverse coalition, united by a commitment to prevent the cloning and exploitation of human beings. (Applause.) It would be a mistake for the United States Senate to allow any kind of human cloning to come out of that chamber. (Applause.)

I'm an incurable optimist about the future of our country. I know we can achieve great things. We can make the world more peaceful, we can become a more compassionate nation. We can push the limits of medical science. I truly believe that we're going to bring hope and healing to countless lives across the country. And as we do, I will insist that we always maintain the highest of ethical standards.

Thank you all for coming. (Applause.) God bless.

END 1:33 P.M. EDT

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THE SECRETARY OF HEALTH AND HUMAN SERVICES
WASHINGTON, D.C. 20201

May 15, 2002

The Honorable Sam Brownback
United States Senate
303 Senate Hart Office Building
Washington, DC 20513

Dear Senator Brownback:

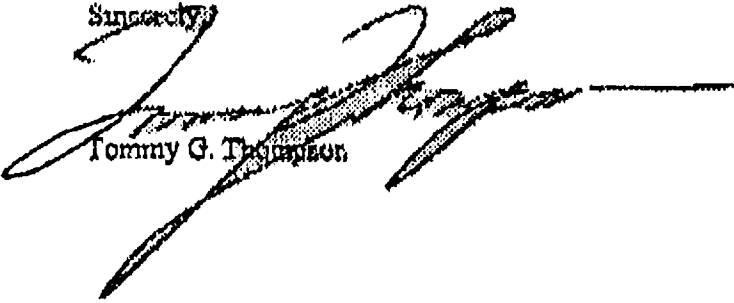
Thank you for your letter regarding human cloning. As you know, the Administration strongly supports a complete ban on all human cloning. Such a measure (introduced by Representatives Weldon and Stupak) was passed by the House of Representatives last year by a strong bipartisan majority (a margin of more than a hundred votes), and the President has made clear that he supports passage in the Senate of the Brownback-Landrieu Human Cloning Prohibition Act of 2001, which also bans all human cloning.

As the President has stated, anything other than a total ban on human cloning would be both unethical and ineffective, a ban on the implantation of cloned embryos being virtually impossible to enforce. Moreover, a law that authorized research cloning would likely result not only in the creation of embryo farms but also in international trafficking in human eggs. In short, 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.

I am aware that Senator Specter, joined by Senators Feinstein, Hatch, Kennedy, Harkin, Boxer, Durbin, Miller, Corzine, Mikulski, Clinton and Thurmond, has recently introduced a bill that would allow for the creation of cloned human embryos for research purposes (S. 2439). The Administration opposes this bill, which would create a new class of human embryos whose development past the early embryonic stage would be illegal. Such a bill would put the federal government in the position of permitting the creation of human embryos for research purposes and then mandating their destruction. Moreover, this bill would not even effectively ban the cloning of a child, because it naively suggests that a line at implantation could be enforced, yet provides absolutely no measure to monitor what is done with cloned embryos or to prevent implantation.

I know that the President would very much like to sign a comprehensive bill that unequivocally bans all human cloning. I am equally certain, however, that 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.

Sincerely,


Tommy G. Thompson



Representative Kim Koppelman
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NORTH DAKOTA HOUSE

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600 EAST BOULEVARD
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COMMITTEES:
Appropriations

Testimony on House Bill 1424

Good Morning, Mr. Chairman and Members of the Senate Judiciary Committee. For your record, I am Representative Kim Koppelman and I represent District 13, which consists of most of the city of West Fargo.

House Bill 1424 is a very important piece of legislation which, I hope you'll all agree, is a necessary policy statement for the state of North Dakota. It would ban human cloning.

Modern technology and science have brought us into the 21st Century with a great deal of hope and promise. Many gadgets, conveniences and creature comforts offer a lifestyle of convenience and advancement never dreamed of even a few decades ago. Whether the promise is as grandiose as reaching the stars or curing disease or as simple and now-common as personal computing or cell phones, technology has clearly changed our lives.

Most of the advances of modern science can be embraced with enthusiasm and wonder. We must never fail, however, to evaluate the brave, new world we find ourselves in by the ethical standards which have defined our nation since its inception and much of the civilized world for much longer.

Many images are conjured up when we hear the term "human cloning", but perhaps the most riveting is the goulsh concept of a Frankensteinian experiment treading where mankind should never go. Whether attempted by a mad scientist in a dungeon or by technicians in lab coats, this is simply a practice we should prohibit before it occurs. Human cloning is where we, as a society, as a state, and as a legislature, should draw the line and agree that there are some things we should simply not attempt, even if we think we're able.

To quote Nigel Cameron, Dean of The Wilberforce Forum and Director of the Council for Biotechnology Policy, "Biotechnology offers the world extraordinary opportunities for good and also for ill. As its treasure-house of opportunity is explored, we must fervently seek a responsible policy framework that will protect and enhance human dignity and not hazard it to the interests of venture capitalists and mad scientists." I've included some other material with my written testimony, for your review.

Human cloning has already been banned by several nations and several other states, including Michigan, Iowa, California, Louisiana and Rhode Island. Legislation is pending in several other states, including Indiana, Texas, and Wisconsin, to name a few.

Mr. Chairman and members of the committee, I respectfully urge a "Do Pass" recommendation on House Bill 1424. Others can offer more expert testimony on this topic than I, but I'll certainly attempt to answer any questions you may have.

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Richard
Operator's Signature

10/16/03
Date

A SECULAR ARGUMENT AGAINST RESEARCH CLONING.

Crossing Lines

by Charles Krauthammer

Post date: 04.22.02

Issue date: 04.29.02

The Problem

You were once a single cell. Every one of the 100 trillion cells in your body today is a direct descendent of that zygote, the primordial cell formed by the union of mother's egg and father's sperm. Each one is genetically identical (allowing for copying errors and environmental damage along the way) to that cell. Therefore, if we scraped a cell from, say, the inner lining of your cheek, its DNA would be the same DNA that, years ago in the original zygote, contained the entire plan for creating you and every part of you.

Here is the mystery: Why can the zygote, as it multiplies, produce every different kind of cell in the body--kidney, liver, brain, skin--while the skin cell is destined, however many times it multiplies, to remain skin forever? As the embryo matures, cells become specialized and lose their flexibility and plasticity. Once an adult cell has specialized--differentiated, in scientific lingo--it is stuck forever in that specialty. Skin is skin; kidney is kidney.

Understanding that mystery holds the keys to the kingdom. The Holy Grail of modern biology is regenerative medicine. If we can figure out how to make a specialized adult cell dedifferentiate--unspecialize, i.e., revert way back to the embryonic stage, perhaps even to the original zygotic stage--and then grow it like an embryo under controlled circumstances, we could reproduce for you every kind of tissue or organ you might need. We could create a storehouse of repair parts for your body. And, if we let that dedifferentiated cell develop completely in a woman's uterus, we will have created a copy of you, your clone.

That is the promise and the menace of cloning. It has already been done in sheep, mice, goats, pigs, cows, and now cats and rabbits (though cloning rabbits seems an exercise in biological redundancy). There is no reason in principle why it cannot be done in humans. The question is: Should it be done?

Notice that the cloning question is really two questions: (1) May we grow that dedifferentiated cell all the way into a cloned baby, a copy of you? That is called reproductive cloning. And (2) may we grow that dedifferentiated cell just into the embryonic stage and then mine it for parts, such as stem cells? That is called research cloning.

Reproductive cloning is universally abhorred. In July 2001 the House of Representatives, a fairly good representative of the American people, took up the issue and not a single member defended reproductive cloning. Research cloning, however, is the hard one. Some members were prepared to permit the cloning of the human embryo in order to study and use its component parts, with the proviso that the embryo be destroyed before it grows into a fetus or child. They were a minority, however. Their amendment banning baby-making but permitting research cloning was defeated by 76 votes. On July 31, 2001, a bill outlawing all cloning passed the House decisively.

Within weeks, perhaps days, the Senate will vote on essentially the same alternatives. On this vote will hinge the course of the genetic revolution at whose threshold we now stand.

The Promise

This is how research cloning works. You take a donor egg from a woman, remove its nucleus, and inject the nucleus of, say, a skin cell from another person. It has been shown in animals that by the right manipulation you can trick the

egg and the injected nucleus into dedifferentiating--that means giving up all the specialization of the skin cell and returning to its original state as a primordial cell that could become anything in the body.

In other words, this cell becomes totipotent. It becomes the equivalent of the fertilized egg in normal procreation, except that instead of having chromosomes from two people, it has chromosomes from one. This cell then behaves precisely like an embryo. It divides. It develops. At four to seven days, it forms a "blastocyst" consisting of about 100 to 200 cells.

The main objective of cloning researchers would be to disassemble this blastocyst: pull the stem cells out, grow them in the laboratory, and then try to tease them into becoming specific kinds of cells, say, kidney or heart or brain and so on.

There would be two purposes for doing this: study or cure. You could take a cell from a person with a baffling disease, like Lou Gehrig's, clone it into a blastocyst, pull the stem cells out, and then study them in order to try to understand the biology of the illness. Or you could begin with a cell from a person with Parkinson's or a spinal cord injury, clone it, and tease out the stem cells to develop tissue that you would reinject into the original donor to, in theory, cure the Parkinson's or spinal cord injury. The advantage of using a cloned cell rather than an ordinary stem cell is that, presumably, there would be no tissue rejection. It's your own DNA. The body would recognize it. You'd have a perfect match.

(Research cloning is sometimes called therapeutic cloning, but that is a misleading term. First, because therapy by reinsertion is only one of the many uses to which this cloning can be put. Moreover, it is not therapeutic for the clone--indeed, the clone is invariably destroyed in the process--though it may be therapeutic for others. If you donate a kidney to your brother, it would be odd to call *your* operation a therapeutic nephrectomy. It is not. It's a sacrificial nephrectomy.)

The conquest of rejection is one of the principal rationales for research cloning. But there is reason to doubt this claim on scientific grounds. There is some empirical evidence in mice that cloned tissue may be rejected anyway (possibly because a clone contains a small amount of foreign-mitochondrial-DNA derived from the egg into which it was originally injected). Moreover, enormous advances are being made elsewhere in combating tissue rejection. The science of immune rejection is much more mature than the science of cloning. By the time we figure out how to do safe and reliable research cloning, the rejection problem may well be solved. And finally, there are less problematic alternatives--such as adult stem cells--that offer a promising alternative to cloning because they present no problem of tissue rejection and raise none of cloning's moral conundrums.

These scientific considerations raise serious questions about the efficacy of, and thus the need for, research cloning. But there is a stronger case to be made. Even if the scientific objections are swept aside, even if research cloning is as doable and promising as its advocates contend, there are other reasons to pause.

The most obvious is this: Research cloning is an open door to reproductive cloning. Banning the production of cloned babies while permitting the production of cloned embryos makes no sense. If you have factories all around the country producing embryos for research and commerce, it is inevitable that someone will implant one in a woman (or perhaps in some artificial medium in the farther future) and produce a human clone. What then? A law banning reproductive cloning but permitting research cloning would then make it a crime *not* to destroy that fetus--an obvious moral absurdity.

This is an irrefutable point and the reason that many in Congress will vote for the total ban on cloning. Philosophically, however, it is a showstopper. It lets us off too early and too easy. It keeps us from facing the deeper question: Is there anything about research cloning that *in and of itself* makes it morally problematic?

Objection I: Intrinsic Worth

For some people, life begins at conception. And not just life--if life is understood to mean a biologically functioning organism, even a single cell is obviously alive--but personhood. If the first zygotic cell is owed all the legal and

moral respect due a person, then there is nothing to talk about. Ensoulment starts with Day One and Cell One, and the idea of taking that cell or its successor cells apart to serve someone else's needs is abhorrent.

This is an argument of great moral force but little intellectual interest. Not because it may not be right. But because it is unprovable. It rests on metaphysics. Either you believe it or you don't. The discussion ends there.

I happen not to share this view. I do not believe personhood begins at conception. I do not believe a single cell has the moral or legal standing of a child. This is not to say that I do not stand in awe of the developing embryo, a creation of majestic beauty and mystery. But I stand in equal awe of the Grand Canyon, the spider's web, and quantum mechanics. Awe commands wonder, humility, appreciation. It does not command inviolability. I am quite prepared to shatter an atom, take down a spider's web, or dam a canyon for electricity. (Though we'd have to be very short on electricity before I'd dam the Grand.)

I do not believe the embryo is entitled to inviolability. But is it entitled to nothing? There is a great distance between inviolability, on the one hand, and mere "thingness," on the other. Many advocates of research cloning see nothing but thingness. That view justifies the most ruthless exploitation of the embryo. That view is dangerous.

Why? Three possible reasons. First, the Brave New World Factor: Research cloning gives man too much power for evil. Second, the Slippery Slope: The habit of embryonic violation is in and of itself dangerous. Violate the blastocyst today and every day, and the practice will inure you to violating the fetus or even the infant tomorrow. Third, Manufacture: The very act of creating embryos for the sole purpose of exploiting and then destroying them will ultimately predispose us to a ruthless utilitarianism about human life itself.

Objection II: The Brave New World Factor

The physicists at Los Alamos did not hesitate to penetrate, manipulate, and split uranium atoms on the grounds that uranium atoms possess intrinsic worth that entitled them to inviolability. Yet after the war, many fought to curtail atomic power. They feared the consequences of delivering such unfathomable power--and potential evil--into the hands of fallible human beings. Analogously, one could believe that the cloned blastocyst has little more intrinsic worth than the uranium atom and still be deeply troubled by the manipulation of the blastocyst because of the fearsome power it confers upon humankind.

The issue is leverage. Our knowledge of how to manipulate human genetics (or atomic nuclei) is still primitive. We could never construct ex nihilo a human embryo. It is an unfolding organism of unimaginable complexity that took nature three billion years to produce. It might take us less time to build it from scratch, but not much less. By that time, we as a species might have acquired enough wisdom to use it wisely. Instead, the human race in its infancy has stumbled upon a genie infinitely too complicated to create or even fully understand, but understandable enough to command and perhaps even control. And given our demonstrated unwisdom with our other great discovery--atomic power: As we speak, the very worst of humanity is on the threshold of acquiring the most powerful weapons in history--this is a fear and a consideration to be taken very seriously.

For example. Female human eggs seriously limit the mass production of cloned embryos. Extracting eggs from women is difficult, expensive, and potentially dangerous. The search is on, therefore, for a good alternative. Scientists have begun injecting human nuclei into the egg cells of animals. In 1996 Massachusetts scientists injected a human nucleus with a cow egg. Chinese scientists have fused a human fibroblast with a rabbit egg and have grown the resulting embryo to the blastocyst stage. We have no idea what grotesque results might come from such interspecies clonal experiments.

In October 2000 the first primate containing genes from another species was born (a monkey with a jellyfish gene). In 1995 researchers in Texas produced headless mice. In 1997 researchers in Britain produced headless tadpoles. In theory, headlessness might be useful for organ transplantation. One can envision, in a world in which embryos are routinely manufactured, the production of headless clones--subhuman creatures with usable human organs but no head, no brain, no consciousness to identify them with the human family.

The heart of the problem is this: Nature, through endless evolution, has produced cells with totipotent power. We are about to harness that power for crude human purposes. That should give us pause. Just around the corner lies the

logical by-product of such power: human-animal hybrids, partly developed human bodies for use as parts, and other horrors imagined--Huxley's Deltas and Epsilons--and as yet unimagined. This is the Brave New World Factor. Its grounds for objecting to this research are not about the beginnings of life, but about the ends; not the origin of these cells, but their destiny; not where we took these magnificent cells from, but where they are taking us.

Objection III: The Slippery Slope

The other prudential argument is that once you start tearing apart blastocysts, you get used to tearing apart blastocysts. And whereas now you'd only be doing that at the seven-day stage, when most people would look at this tiny clump of cells on the head of a pin and say it is not inviolable, it is inevitable that some scientist will soon say: Give me just a few more weeks to work with it and I could do wonders.

That will require quite a technological leap because the blastocyst will not develop as a human organism unless implanted in the uterus. That means that to go beyond that seven-day stage you'd have to implant this human embryo either in an animal uterus or in some fully artificial womb.

Both possibilities may be remote, but they are real. And then we'll have a scientist saying: Give me just a few more months with this embryo, and I'll have actual kidney cells, brain cells, pancreatic cells that I can transplant back into the donor of the clone and cure him. Scientists at Advanced Cell Technology in Massachusetts have already gone past that stage in animals. They have taken cloned cow embryos past the blastocyst stage, taken tissue from the more developed cow fetus, and reimplanted it back into the donor animal.

The scientists' plea to do the same in humans will be hard to ignore. Why grow the clone just to the blastocyst stage, destroy it, pull out the inner cell mass, grow stem cells out of that, propagate them in the laboratory, and then try chemically or otherwise to tweak them into becoming kidney cells or brain cells or islet cells? This is Rube Goldberg. Why not just allow that beautiful embryonic machine, created by nature and far more sophisticated than our crude techniques, to develop unmolested? Why not let the blastocyst grow into a fetus that possesses the kinds of differentiated tissue that we could then use for curing the donor?

Scientifically, this would make sense. Morally, we will have crossed the line between tearing apart a mere clump of cells and tearing apart a recognizable human fetus. And at that point, it would be an even smaller step to begin carving up seven- and eight-month-old fetuses with more perfectly formed organs to alleviate even more pain and suffering among the living. We will, slowly and by increments, have gone from stem cells to embryo farms to factories with fetuses in various stages of development and humanness, hanging (metaphorically) on meat hooks waiting to be cut open to be used by the already born.

We would all be revolted if a living infant or developed fetus were carved up for parts. Should we build a fence around that possibility by prohibiting any research on even the very earliest embryonic clump of cells? Is the only way to avoid the slide never to mount the slippery slope at all? On this question, I am personally agnostic. If I were utterly convinced that we would never cross the seven-day line, then I would have no objection on these grounds to such research on the inner cell mass of a blastocyst. The question is: Can we be sure? This is not a question of principle; it is a question of prudence. It is almost a question of psychological probability. No one yet knows the answer.

Objection IV: Manufacture

Note that while, up to now, I have been considering arguments against research cloning, they are all equally applicable to embryonic research done on a normal--i.e., noncloned--embryo. If the question is tearing up the blastocyst, there is no intrinsic moral difference between a two-parented embryo derived from a sperm and an egg and a single-parented embryo derived from a cloned cell. Thus the various arguments against this research--the intrinsic worth of the embryo, the prudential consideration that we might create monsters, or the prudential consideration that we might *become* monsters in exploiting post-embryonic forms of human life (fetuses or even children)--are identical to the arguments for and against stem-cell research.

These arguments are serious--serious enough to banish the insouciance of the scientists who consider anyone questioning their work to be a Luddite--yet, in my view, insufficient to justify a legal ban on stem-cell research (as with stem cells from discarded embryos in fertility clinics). I happen not to believe that either personhood or ensoulment occurs at conception. I think we need to be apprehensive about what evil might arise from the power of stem-cell research, but that apprehension alone, while justifying vigilance and regulation, does not justify a ban on the practice. And I believe that given the good that might flow from stem-cell research, we should first test the power of law and custom to enforce the seven-day blastocyst line for embryonic exploitation before assuming that such a line could never hold.

This is why I support stem-cell research (using leftover embryos from fertility clinics) and might support research cloning were it not for one other aspect that is unique to it. In research cloning, the embryo is created with the explicit intention of its eventual destruction. That is a given because not to destroy the embryo would be to produce a cloned child. If you are not permitted to grow the embryo into a child, you are obliged at some point to destroy it.

Deliberately creating embryos for eventual and certain destruction means the launching of an entire industry of embryo manufacture. It means the routinization, the commercialization, the commodification of the human embryo. The bill that would legalize research cloning essentially sanctions, licenses, and protects the establishment of a most ghoulis enterprise: the creation of nascent human life for the sole purpose of its exploitation and destruction.

How is this morally different from simply using discarded embryos from in vitro fertilization (IVF) clinics? Some have suggested that it is not, that to oppose research cloning is to oppose IVF and any stem-cell research that comes out of IVF. The claim is made that because in IVF there is a high probability of destruction of the embryo, it is morally equivalent to research cloning. But this is plainly not so. In research cloning there is not a high probability of destruction; there is 100 percent probability. Because every cloned embryo must be destroyed, it is nothing more than a means to someone else's end.

In IVF, the probability of destruction may be high, but it need not necessarily be. You could have a clinic that produces only a small number of embryos, and we know of many cases of multiple births resulting from multiple embryo implantation. In principle, one could have IVF using only a single embryo and thus involving no deliberate embryo destruction at all. In principle, that is impossible in research cloning.

Furthermore, a cloned embryo is created to be destroyed and used by others. An IVF embryo is created to develop into a child. One cannot disregard intent in determining morality. Embryos are created in IVF to serve reproduction. Embryos are created in research cloning to serve, well, research. If certain IVF embryos were designated as "helper embryos" that would simply aid an anointed embryo in turning into a child, then we would have an analogy to cloning. But, in fact, we don't know which embryo is anointed in IVF. They are all created to have a chance of survival. And they are all equally considered an end.

Critics counter that this ends-and-means argument is really obfuscation, that both procedures make an instrument of the embryo. In cloning, the creation and destruction of the embryo is a means to understanding or curing disease. In IVF, the creation of the embryo is a means of satisfying a couple's need for a child. They are both just means to ends.

But it makes no sense to call an embryo a means to the creation of a child. The creation of a child is the *destiny* of an embryo. To speak of an embryo as a means to creating a child empties the word "means" of content. The embryo in IVF is a stage in the development of a child; it is no more a means than a teenager is a means to the adult he or she later becomes. In contrast, an embryo in research cloning is pure means. Laboratory pure.

And that is where we must draw the line. During the great debate on stem-cell research, a rather broad consensus was reached (among those not committed to "intrinsic worth" rendering all embryos inviolable) that stem-cell research could be morally justified because the embryos destroyed for their possibly curative stem cells were derived from fertility clinics and thus were going to be discarded anyway. It was understood that human embryos should not be created solely for the purpose of being dismembered and then destroyed for the benefit of others. Indeed, when Senator Bill Frist made his impassioned presentation on the floor of the Senate supporting stem-cell research, he included among his conditions a total ban on creating human embryos just to be stem-cell farms.

Where cloning for research takes us decisively beyond stem-cell research is in sanctioning the manufacture of the human embryo. You can try to regulate embryonic research to prohibit the creation of Brave New World monsters; you can build fences on the slippery slope, regulating how many days you may grow an embryo for research; but once you countenance the very creation of human embryos for no other purpose than for their parts, you have crossed a moral frontier.

Research cloning is the ultimate in conferring thingness up on the human embryo. It is the ultimate in desensitization. And as such, it threatens whatever other fences and safeguards we might erect around embryonic research. The problem, one could almost say, is not what cloning does to the embryo, but what it does to us. Except that, once cloning has changed us, it will inevitably enable further assaults on human dignity. Creating a human embryo just so it can be used and then destroyed undermines the very foundation of the moral prudence that informs the entire enterprise of genetic research: the idea that, while a human embryo may not be a person, it is not nothing. Because if it is nothing, then everything is permitted. And if everything is permitted, then there are no fences, no safeguards, no bottom.

Contributing Editor Charles Krauthammer, a syndicated columnist and a medical doctor, has been writing about medical ethics for over since 1979. Although he was a member of the President Clinton's Council on Bioethics, the views expressed here are his alone and may not represent the views of the Council.

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Salvatore Riccardi
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10/16/03
Date

by Senator Ralph Kilzer
HB 1424
Senate Judiciary Committee

AH #2

Good morning Chairman Traynor and members of the Senate Judiciary Committee. For the record, I am Ralph Kilzer, State Senator from District 47, northwest Bismarck. I am happy to be one of the co-sponsors of HB 1424 which would prohibit human cloning.

Study of the living world is fascinating and those of us in science, that have gone through the courses in embryology, genetics, and comparative anatomy are always amazed at new discoveries that are being made in these fields. I have always been amazed that you can cut off a branch of a tree or a small shoot from a house plant and after sticking it in water, it will develop roots and be a completely new plant. I have also been amazed by taking the worm and cutting it in half. The head half develops a tail half and the tail half will develop a new head. It use to be that the people in the fishing industry would cut up star fish to get rid of them, but in reality they were just helping to increase their numbers, because each fragment became a whole new starfish. Crawfish after losing an appendage in a fight with another crawfish, will simply grow a new one.

Vertebrates, which are the highest developmental stage of mammals, are not able to reproduce whole new beings as readily as the more primitive forms of life. We all did marvel at Dolly and we have also speculated on what great scientific discoveries lay ahead in the genetic fields. We have learned that the new being is not necessarily identical to the parent of the DNA. In the case of Dolly, premature aging and the skin pigmentation is actually not the same as the parent.

Human cloning should be prohibited. Not simply because the resulting individuals have medical problems with early aging and arthritis and probably some additional unknown factors. My main reason for objecting to human cloning is that it does involve human life. The question is often raised as to when does human life begin. Biological investigation and harvesting of eggs and other techniques, clearly show that fertilization and division of cells occurs in the fertilized egg within a couple of days after sexual intercourse. Implantation of the egg in the wall of the uterus occurs within the first week after fertilization. It is very interesting and informative to realize that identical twins come from the same fertilized egg, but you have two individuals who receive their nourishment from placenta implanted in the uterine wall. To me this is very convincing evidence that the beginning of human life in single births and in identical twins occurs within the first week after fertilization. If the egg is unfertilized it does not develop or divide into further cells and simply disintegrates.

After the new human being begins, the only additional requirements are nutrition and an adequate environment. There are no other items needed for a fertilized egg to be changed as it develops all the way to the adult stage.

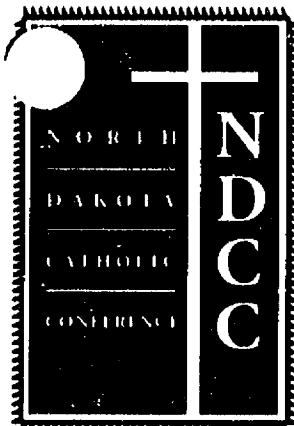
Certainly, cloning of animals and tissues, particularly with the future development of antigen free pig components, will aid medicine very much in the future. However, human cloning directly, of itself, should not be a part of this advancement of human science because it destroys human life.

If there are any questions, I would be glad to try to answer them for you.

Salvatore Riccardi
Operator's Signature

10/16/03
Date

Att #3



Representing the Diocese of Fargo
and the Diocese of Bismarck

Christopher T. Dodson
Executive Director and
General Counsel

To: Senate Judiciary Committee
From: Christopher Dodson, Executive Director
Subject: House Bill 1424 -- Ban on Human Cloning
Date: March 24, 2003

The North Dakota Catholic Conference supports House Bill 1424 to ban human cloning in North Dakota.

Advances in science and technology can provide great opportunities for improving life and society. Such advances can also open a Pandora's Box of unintended consequences, and ethical and moral problems. All application of science must, therefore, be rooted in an ethical framework and, when necessary, certain acts must be proscribed.

A little over a year ago, Advanced Cell Technologies announced that it had created a human embryo through cloning. A few months ago, another organization claimed the first birth of human produced by cloning. Scientists have questioned the veracity of both claims for different reasons. Nevertheless, there is general agreement that the technology to clone humans is available and, unless prohibited, human cloning will occur. House Bill 1424 addresses this problem by banning human cloning in North Dakota.

What is Human Cloning?

A basic review of the science of human cloning will help us understand the scope and limits of House Bill 1424. Human cloning is the creation of a human being genetically identical to another human being already in existence, or who previously existed. This is not possible by nature. House Bill 1424, defines human cloning as "human asexual reproduction, accomplished by introducing the genetic material of a human somatic cell into a fertilized or unfertilized oocyte, the nucleus of which has been or will be removed or inactivated, to produce a living organism with a human predominantly human genetic constitution."

At this point, it may help to break the process of human cloning to its basic parts. The techniques employed in the process may differ, but the process itself is always similar, by definition of what is human cloning. In natural -- meaning sexual -- human reproduction, the new organism is created by the joining of two *gamete*

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cells, one male and one female. Each human gamete cell has 23 chromosomes. The genetic make-up of every human being is determined by the combination of the 23 chromosomes from the female and the 23 chromosomes from the male. A *somatic* cell is basically a non-gamete cell. Every somatic cell, such as a skin cell or blood cell, contains the set of 46 chromosomes that make up that person's unique genetic identity.

In cloning, the nucleus, including genetic material, of the egg (female germ or gamete cell) is removed or inactivated. The genetic material -- all 46 chromosomes -- of a somatic cell is removed and placed into the now genetically void egg cell. The egg and its new genetic material is triggered to start the process of division to become an embryo. This process of somatic cell nuclear transfer is cloning.

At this point, the new individuated organism is not biologically different from an organism at the same stage created through natural reproduction. The high death and mutation rate of clones indicates that there exist some not yet determined differences, but as to *what* it is, there is no scientific or moral difference between a cloned embryo and an embryo created through sexual reproduction.

This is an important fact to remember. Some persons wish to obfuscate the scientific facts and, therefore, the moral consequences, regarding human cloning by claiming, for example, that somatic cell nuclear transfer does not create an embryo or that cloning does not actually occur unless the new organism is implanted for reproductive purposes. These word games contradict the scientific community's acknowledgement that somatic cell nuclear transfer creates an *embryo* and that cloning is the creation of an organism -- in this case an embryo -- genetically identical to another.¹

Stem Cell Research

Discussions about human cloning are often complicated by confusion about stem cell research. For this reason, a brief look at the facts regarding stem cell research will help explain the parameters of the prohibition in HB 1424.

¹ The National Academy of Sciences, the National Institutes of Health, and the National Bioethics Advisory Commission concur with this consensus among the scientific community.

Stem cells are pluripotent cells that have the potential to be "directed" to develop into specific types of cells. For that reason, they hold great promise for medical treatments. There exist two types of stem cells -- adult and embryonic. Adult stem cells are those obtained from fully developed tissue, such as bone marrow, blood, or umbilical cords. Embryonic stem cells are obtained from human embryos at the blastocyst stage and require killing the embryo.² The perceived relationship between stem cell research and human cloning comes from the desire of some researchers to use cloning for the sole purpose of creating embryos that can be destroyed for their embryonic stem cells.

Some proponents of cloning for embryonic stem cells have argued that the cloning process merely creates stem cells for research, not human embryos. This is not scientifically accurate. As noted above, the consensus in the scientific community is that cloning creates embryos. Moreover, embryonic stem cells can only be obtained from embryos.³ The existence of a complete human organism must precede the isolation and culturing of human stem cells.

Pro-cloning advocates have also argued that the created embryos are not really "human" embryos because the process did not involve a human sperm cell. By definition, however, all cloning, whether for research or reproductive purposes, does not directly involve a sperm cell. That is what makes the process cloning. Under this reasoning, "Dolly" was not a sheep.⁴

"Therapeutic" and "Reproductive" Cloning

The desire to create cloned embryos solely for the purpose of obtaining embryonic stem cells has given rise to the labels of "therapeutic" and "reproductive" cloning, and an attempt to differentiate the ethical consequences of the two. These labels, however, are misleading. There is no

² A common misconception is that adult stem cells must come from adult human beings. Adult stem cells can come from humans of any age, but do not require the destruction of human embryos.

³ The fallacy of the position is further demonstrated by the fact that the product of cloning, if implanted in a uterus, could continue growing into a fetus. A stem cell is not capable of this accomplishment.

⁴ The argument, which is becoming more prevalent, also fails to recognize that the genetic material that determines the identity of the organism -- since it comes from the somatic cell -- is the result of a union of sperm and egg.

House Education Committee
Page 4
March 24, 2003

difference between "therapeutic" cloning and "reproductive" cloning. The cloning process and the created embryo is the same for both uses. If one is wrong, the other is wrong. The intended use of the embryo does not change the biological or moral status of the embryo. To embrace this idea is to accept a dangerous concept of utilitarianism and the notion that the end justifies the means. Moreover, the term "therapeutic" is itself misleading since the cloning process and the later killing of the embryo for its stem cells is not a therapy at all. To describe it as such is another example of obfuscating the facts by appealing to the intended result.

Proponents of making the distinction argue that the law should ban only "reproductive" cloning and that "therapeutic" cloning should be permitted. In addition to the problems with this logic mentioned above, such a ban would result in a greater evil than no ban at all. A prohibition on only reproductive cloning would not, in fact, prohibit any cloning. It would only be a ban on letting the human embryo live a full life. Such a ban would allow human cloning and then mandate killing the cloned human.

The argument that banning "therapeutic" cloning would block stem cell research is also flawed. Nothing in HB 1424 would prevent either adult or embryonic stem cell research. It only would prevent the *creation* of cloned human embryos.

House Bill 1424

With these facts in mind, the language of House Bill 1424 becomes more understandable. The definitions are designed to reflect the facts regarding human cloning and to exclude non-human cloning, assisted reproductive techniques not involving human cloning, and other research and treatments. We believe the definitions, borrowed from existing state bans and model legislation, are specific enough to embrace only human cloning and broad enough to cover the various techniques and terminology potentially used in human cloning.

Section 2 prohibits intentionally or knowingly performing or participating in human cloning and engaging in the trafficking of human clones or the materials necessary for human cloning. Subsection 2 of Section 2 is to reiterate that the bill bans only human cloning and not other techniques or the cloning of non-human organisms.

La Costa Richard
Operator's Signature

10/16/03
Date

House Education Committee

Page 5

March 24, 2003

The Moral Imperative

Human cloning raises a number of moral concerns that the state must address. The first set of concerns revolve around the creation process itself. The creation of human life through cloning is fundamentally wrong. It disrespects human dignity and the gift of creation by entirely supplanting the natural process with an artificial mechanism. It robs the created human being of the gift of unique identity and a biological mother and father. Finally, for whatever the purpose, human cloning exploits human beings for our own self-gratification, whether it be our desire for new medical treatments or our desire to have children on our own genetic terms.

The second set of moral problems revolves around the uses of human cloning. Even if disagreement exists as to whether a human embryo has the status of a "person," the fact that it is a human life cannot be reasonably refuted. The destruction of any human life for research is reprehensible. Even cloning for purposes of reproduction carries threatens human life and dignity. The failure rate in both deaths and mutations in cloning is high. Subjecting cloned human beings to that risk is morally impermissible.

Science has brought us to a crossroad. Society, however, is never at the mercy of science. The application of science is a human endeavor and, as such, how we react to this crossroad is our decision. When choosing how and where to go, we should be mindful of these words from Deuteronomy: "I have set before you life and death, blessings and curses. Choose life so that you and your descendants may live . . ." (Deuteronomy 30:19)

We urge a **Do Pass** recommendation on HB 1424.

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HH #4

March 24, 2003
Testimony of Christina Kindel
For North Dakota Family Alliance
Senate Judiciary Committee
H.B. 1424

Chairman Traynor and Committee Members:

My name is Christina Kindel. I'm appearing today on behalf of the North Dakota Family Alliance. We support H.B. 1424.

North Dakota Family Alliance opposes all types of human cloning. We believe that the experimentation of human life is a significant threat not only to society, but to the basic unit of the family, as well. Whether for reproductive or therapeutic purposes, the science of human cloning sees human life as a commodity for experimentation, a product for manipulation, rather than respecting the sanctity and uniqueness of each individual human life. Therefore, we believe human cloning should be banned. Human clones are 100% human, just as the cloned sheep Dolly was 100% sheep. To use this type of experimentation on human life is, in the words of Ian Wilmut, the leader of the Scottish scientific team who cloned Dolly, "desperately sad."

Human cloning is a science that has many Americans concerned. A Time/CNN poll published in *Time* magazine in February of 2001 stated that "90 percent of those surveyed thought cloning human beings" was a bad idea.

North Dakota Family Alliance respectfully urges the members of this committee to give H.B. 1424 a DO PASS recommendation.

Thank you for your time and attention.

Att #5.



Testimony before the SENATE JUDICIARY COMMITTEE

Regarding HOUSE BILL 1424

March 24, 2003 10:00 a.m.

Chairman Traynor, members of the committee, I am Stacey Pflieger, Executive Director of the North Dakota Right to Life Association. I am here today in support of HB 1424 to prohibit human cloning.

Proponents of human cloning hold out two hopes for its use: (1) creating live born children for infertile couples or those grieving over the loss of a loved one, so-called "reproductive cloning", and (2) promises of medical miracles to cure diseases by harvesting embryonic stem cells from cloned embryos created from patients, termed "therapeutic cloning".

First, let's be clear on the terms. All human cloning is reproductive, in that it creates - reproduces - a new developing human intended to be virtually identical to the cloned subject. Both "reproductive" (or live birth) cloning and so-called "therapeutic" cloning (more properly termed experimental cloning) use exactly the same techniques to create the clone, and the cloned embryos are impossible to differentiate. The process, as well as the product, is identical. Only its destiny is different: either implantation in the hopes of a live birth or destruction in the hopes of a medical miracle.

A ban only on implantation of the embryos is unenforceable. As cloned embryos are produced they will become widely available, and inevitably some will be implanted. Will the law then mandate an abortion, the destruction of a born child, or incarceration of the mother and/or child?

There are good reasons why live birth cloning should be banned. It has an enormous failure rate. Out of 277 cloned embryos, one Dolly the sheep was produced, and

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Stacey Pflieger
Operator's Signature

10/16/03
Date

even this "successful" clone was plagued with abnormalities. Last month, Dolly was euthanized after being diagnosed with progressive lung disease. In the summer of 2001, a group at the Whitehead Institute achieved 5 born mice from 613 cloned embryos, and all the born mice showed abnormalities. We can expect that of those few cloned humans who survive to live birth, most will die shortly thereafter and others will be overwhelmed by abnormalities due to the cloning process.

What about the surrogate mothers? Because of the clone's abnormalities, carrying a clonal pregnancy to term will pose unique threats to the surrogate mother. According to the National Academy of Sciences, because many eggs are needed for human reproductive cloning attempts, human experimentation could subject more women to adverse health effects - either from high levels of hormones used to stimulate egg production or because more women overall would be sought to donate eggs, which involves surgery with its own inherent risks.

Creating new human life solely to destroy it for the potential benefit of others is unethical. On April 10, 2002, President George W. Bush addressed an audience comprised of lawmakers, pro-life activists, researchers and people with disabilities. I am honored to say I was one of those in attendance as President Bush called on the United States Senate to ban all human cloning. As you know, federally a human cloning ban has not yet been achieved. We are hopeful that a total ban will happen with the new Congress, but we cannot wait any longer to protect the boundaries of our state. [Note: On February 27, 2003, a total ban passed the U.S. House of Representatives, 241-155]. However, it is still critical to act now and pass a total ban here in North Dakota.

What about public opinion? In June 2001, an International Communications Research Poll asked: "Should scientists be allowed to use human cloning to create a supply of human embryos to be destroyed in medical research?" 86% responded NO. In April 2001, a Time/CNN Poll asked: "Do you think scientists should be allowed to clone human beings or don't you think so?" 88% responded NO.

There is a consensus across varying groups to ban all human cloning. President Clinton's National Bioethics Advisory Commission, in its 1997 report *Cloning Human Beings*, explicitly stated: "The Commission began its discussions fully recognizing that any effort in humans to transfer a somatic cell nucleus into an enucleated egg involves the

creation of an embryo, with the apparent potential to be implanted in utero and developed to term."

The Boston Women's Health Book Collective testified on June 20, 2001: "Those who encourage human cloning appear oblivious to the enormous risks to women and children's health that human cloning would pose. There is no way that human cloning could be developed without, in effect, mass experimentation on human beings -women and children- of a sort that has been outlawed since the formulation of the Nuremberg Principles following World War II."

The Editorial, "Embryo Research is Inhuman," [Chicago Sun-Times, October 10, 1994, 25] stated: "We can debate all day whether an embryo is or isn't a person. But it is unquestionably human life, complete with its own unique set of human genes that inform and drive its own development. The idea of the manufacture of such a magnificent thing as a human life purely for the purpose of conducting research is grotesque, at best...."

I believe that President Bush best summed up this debate on April 10, 2002:

"Life is a creation, not a commodity. Our children are gifts to be loved and protected, not products to be designed and manufactured. Allowing cloning would be taking a significant step toward a society in which human beings are grown for spare body parts, and children are engineered to custom specifications; and that's not acceptable."

I urge this committee to give HB 1424 a **do pass** recommendation.

At this time I would be available for any questions you may have.

Attachments:

Remarks by President George W. Bush April 10, 2002

Letter from Tommy Thompson, dated May 15, 2002

Article: "Dolly the Sheep Dies Prematurely, Scientists Warn of Cloning Dangers"

[Infonet] Dolly the Sheep Dies Prematurly, Scientists Warn of Cloning Dangers

Subject: [Infonet] Dolly the Sheep Dies Prematurly, Scientists Warn of Cloning Dangers

Date: Sat, 15 Feb 2003 13:18:09 EST

From: Steven Ertelt <ertelt@prolifeinfo.org>

To: Pro-Life Infontet <infonet@prolifeinfo.org>

From: The Pro-Life Infontet <infonet@prolifeinfo.org>

Reply-To: Steven Ertelt <infonet@prolifeinfo.org>

Subject: Dolly the Sheep Dies Prematurly, Scientists Warn of Cloning Dangers

Source: CNN; February 14, 2003

Dolly the Sheep Dies Prematurly, Scientists Warn of Cloning Dangers

London England -- Dolly, the world's first cloned sheep, has been euthanized after being diagnosed with progressive lung disease, the Roslin Institute has said.

The decision was taken to end her life at the age of 6 after a veterinary examination confirmed the lung disease, a statement from the institute said.

"Sheep can live to 11 or 12 years of age and lung infections are common in older sheep, particularly those housed inside," said Dr. Harry Griffin, head of the institute.

"A full post-mortem is being conducted and we will report any significant findings."

Dolly, a Finn Dorset named after the country-western singer Dolly Parton, made headlines worldwide in 1996 when she became the first mammal to be cloned with DNA taken from an adult cell.

A team led by professor Ian Wilmut of the Edinburgh-based Roslin Institute took Dolly's DNA from a ewe's udder.

Her birth was heralded as one of the most significant scientific breakthroughs of the 1990s, but it also triggered furious debate about the ethics of cloning -- a debate which has deepened with claims of human cloning.

In January 2002, Dolly was diagnosed as having arthritis, a condition usually expected in older animals.

It was not clear whether the cloning process led to the arthritis, but research in 1999 suggested that Dolly might be susceptible to premature aging -- a possibility raised after a study of her genetics.

A team from the Edinburgh-based biotech company PPL Therapeutics examined structures in Dolly's cells called telomeres. The team found that the structures were slightly shorter than would be expected in a sheep of her age which was born normally.

"The real issue is what Dolly died from, and whether it was linked to premature ageing. She was not old by sheep standards to have been put down," human cloning expert Dr. Patrick Dixon said.

[Infonet] Dolly the Sheep Dies Prematurely, Scientists Warn of Cloning Dangers

"The greatest worry many scientists have is that human clones -- even if they don't have monstrous abnormalities in the womb -- will need hip replacements in their teenage years and perhaps develop senile dementia by their 20th birthday. This is why Dolly's health is so crucial and why scientists around the world will be waiting for the results of a post-mortem examination on her."

A Singapore-based scientist who was part of the team that created Dolly said her premature death was proof of the many dangers of cloning.

"I think it highlights more than ever the foolishness of those who want to legalize (human) reproductive cloning," said Alan Colman.

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