

you, smile and joke, and ask how things were going. He was a man who cared about you as an individual and I cared about people.

He loved high-powered debates with intellectuals, but he never put on airs. He was one of only seven southern representatives to vote for the 1964 Civil Rights Act legislation. He believed that his most significant accomplishment as a lawmaker was the 1983 Social Security reform bill, which he helped pass as chairman of the Social Security subcommittee. That legislation eased Social Security's financial problems by raising the age for full benefits from 65 to 67 in the year 2000. He could talk to farmers and mechanics as easily as Presidents such as from his mentor, President Johnson and other leaders. It is no wonder the voters of Central Texas kept Jake in Congress for 31 years. They knew a good man when they saw him. They, and all Americans, have lost someone very special.

Thank you, Mr. Speaker, for allowing me to recognize J.J. Pickle, a man whose spirit and involvement has made a lasting mark on Texas and this Nation.

Mr. DOGGETT. Mr. Speaker, I yield back the balance of my time.

STEM CELL RESEARCH

The SPEAKER pro tempore (Miss McMORRIS). Under the Speaker's announced policy of January 4, 2005, the gentleman from Maryland (Mr. BARTLETT) is recognized for 60 minutes.

Mr. BARTLETT of Maryland. Madam Speaker, there have been a number of articles in the recent press relative to stem cell research, with particular reference to embryonic stem cell research. I thought it might be well in starting this little discussion to take a look at what we mean by stem cells.

I have here a chart which shows in very abbreviated form the development of an early embryo. It starts out with the zygote, which is the fertilized egg; and then it skips a couple of stages of development, and it goes through the blastocyst, and then it goes to the gastrula. By the time the embryo gets to the gastrula stage, the cells have already differentiated to the place that we have three different kinds of somatic stem cells. This is the ectoderm, and the mesoderm, and the endoderm, and then those very specialized cells, which in the female will be the germ cells in the ovary, the ova, and in the male will be the millions and millions of sperm that are in the gonads of the male.

If we look back, Madam Speaker, at these stem cells that are present here in the gastrula, where we have these three, as we call germ layers, we see the ectoderm can further differentiate into skin and nervous system and some of the pigment cells in our body; and then the mesoderm, the middle layer, that differentiates into what is most of us by mass and weight, cardiac muscle, our big skeletal muscles, the bone, the smooth muscle, all of our blood, and the blood is an organ, it happens to be a liquid organ that is dispersed through the body; and then the endoderm. This is much more limited in volume and in

variety, but still very important. The pancreatic cells, the thyroid cells, the lining of the gut, the lining of the lung and so forth.

It might be worth just a moment, Madam Speaker, to take a look at our next chart, which kind of puts this in context. We started out with the zygote, which is the fertilized egg here, and we ended up with the inner cell mass with these three germ layers. What we show here are all the stages that were omitted in that first chart. This is one-half, as the little diagram here in the upper left shows, of the reproductive tract of a female. It shows the ovary on one side and the fallopian tube, with the funnel-like opening here called the infundibulum. Then it shows the fallopian tube on down to the uterus itself.

What it shows, Madam Speaker, is that fertilization takes place well up in the fallopian tube, and that begins day one. And then as the egg slowly moves down the tube, it splits first into two cells, then four cells, and then eight cells, and then the larger variety of cells, and finally where you have the inner cell mass and then to the gastrula.

There are two kinds of stem cells, adult stem cells, and those are derivatives of the cells that we showed in the previous chart. For instance, in the humans we have adult stem cells in our bone marrow. These are cells which are differentiated to the point that they will produce a limited variety of cells, but still undifferentiated to an extent because these stem cells in the bone marrow can produce red blood cells and polymorphonuclear leukocytes, part of the white blood cells, and the thrombocytes, those are the cells, the platelets as we call them, that are associated with clotting. And there are a number of adult stem cells similar to that that still retain some of the capability for producing more than just one kind of cell.

We have been working with adult stem cells medically now for more than 3 decades, and there have been a number of medical applications, treatment of humans that have been made with adult stem cells. But just because they are what they are, Madam Speaker, a great number of people believe that there should be more potential from the embryonic stem cells simply because they can produce any and all of the tissues of the body.

Since we have been working with embryonic stem cells for now just a little over 6 years, we have not had the opportunities for medical applications we have had in adult stem cells, but this does not dim the hopes of the scientific community and the medical community that ultimately there may be more and better applications of embryonic stem cells to treatment of diseases than adult stem cells, simply because of what they are, pluripotent cells retaining the ability to produce any and all of the tissues of the body.

It is possible, Madam Speaker, that this characteristic, which makes them

so potentially attractive and exciting, may be uncontrollable. They may be so bent on dividing that we cannot control their division. They may end up producing tumors and cancer-like growths in the organism in which you put them.

But if that can be controlled, the medical community and the researchers associated with it believe there is potential for enormous applications to medicine of embryonic stem cell research. We have now had 58 applications of adult stem cells in helping to treat some of the diseases.

What are the diseases that could be treated with stem cells? Ordinarily, one thinks that the greatest potential for the use of stem cells would result from use in diseases from tissue deficiency rather than diseases that result from some organism, although if there is an infection in the body and a tissue is damaged, there is the hope that it might be replaced with stem cell application. There are a number of diseases that the scientific community and the general public believe might be amenable to treatment with stem cells, particularly embryonic stem cells.

Diabetes is one of those. This is the most costly disease in our country. It costs more to treat the diabetics in our country than any other single disease. I have these come through my office. Particularly heartrending are the little children that come there, 5 and 6 years old some of them, such brittle juvenile diabetics that they have an implanted pump and they have to prick their finger or some part of their body a number of times a day to monitor the glucose level so that just the right amount of insulin can be injected to control this.

This insulin is produced by cells called island of Langerhan cells. Dr. Langerhan was the German scientist that described them. And they look like little eyelets because they are simply distributed through the tissue of the pancreas. The pancreas is a very large gland at the very beginning of the small intestine that secretes all of the different kinds of digestive enzymes so that fats, carbohydrates, and proteins all are digested using the enzymes secreted by the pancreas.

□ 2115

I have no idea why nature placed the islets of Langerhans in the pancreas. They could be placed anywhere. With these stem cell applications if we could create islet tissue, they could be placed in the person. It could be placed in the groin, under their arm, under the skin, anywhere. It does not have to be in the pancreas. This islet tissue could then make insulin which would cure diabetes. When you give insulin to the diabetic, it delays progression of the disease, but it does not cure it. A person with juvenile diabetes faces the prospect that they probably will have a shortened life, problems with their vision as the vascular bed in the back of the eye breaks down, and they may

have problems with circulation in their extremities, particularly in the feet where there is some difficulty getting blood back uphill to the heart.

As many people in this country know through relatives and friends, this results frequently in sores that do not heal and results in gangrene, so the toes or a foot may need to be taken off. Diabetes is one of the diseases that is very attractive as a potential for use of stem cells, because if we could just produce islet tissue, we could cure diabetes, the most expensive disease that we have.

Another disease is multiple sclerosis, and if impaired cells could be replaced through stem cell therapy, then the person could walk again.

Lou Gehrig's disease, I remember my grandmother was tripping and falling, and they did not know why. It took them quite awhile back, this was a number of years ago, to determine she had Lou Gehrig's disease. I remember as a teenager going to her bedside. She was maintained in the home. She slowly deteriorated, losing first one muscle function and then another. Finally, at the end, the only muscle function she had remaining was the ability to blink her eyes. It was once for yes and two for no, as I remember. She could not swallow and had indicated she did not want to be force fed and ultimately she died from starvation with this disease.

Well, anybody who has a friend or a relative that has gone through that kind of experience has to be enthusiastic about the potential for stem cell therapy. This was a number of years ago, but if it were tomorrow or the day after tomorrow figuratively, maybe there could be stem cell therapy for my grandmother, and she would not have to have died at the relatively young age she died at.

Alzheimer's disease is another one. President Reagan died from Alzheimer's disease. Victims do not even recognize their favorite loved ones, have no memory and may wander outside and wander off.

There is a whole category of autoimmune diseases. I have a paper which lists 63 of the autoimmune diseases. By that, I mean a disease where the body gets confused as to what is the body and what is not the body.

When we are developing as embryos in our mother's womb, there are certain cells in our circulatory system called T-cells located in the lymphatic tissue, and the T-cells are imprinted with who we are because once we get out of the mother's womb, we are going to be in a hostile environment, exposed to bacteria and viruses, and so it is important that the body knows what it is so the defense mechanisms in the body can be marshaled to eject the intruder.

These T-cells identify what is you and what is not you, and they alert some of the specialized cells in our white blood cell system so they are attracted to the site, and they eject, they may consume, they eject the intruder.

There are 63 distinct autoimmune diseases. For some reason, the body

gets confused and the autoimmune system gets confused and starts attacking your joints, for instance. We know that disease as arthritis.

I remember my first real introduction to this big list of autoimmune diseases was a secretary I had, a very vibrant young lady whose life was really, really changed because she had lupus. There are many Americans who have family or friends who have lupus, and lupus was one of the first autoimmune diseases that was discovered.

There is a controversy going on over the potential for embryonic stem cell medical applications and adult stem cell medical applications. We have been working for more than 3 decades with adult stem cells, and our very able medical scientific community has been able to develop a number of applications that can cure or at least lessen the severity of disease using adult stem cells.

Since we have been working with embryonic stem cells for only a brief period of time, we do not have any direct applications to medicine of embryonic stem cell therapy, but that does not dim the enthusiasm of the medical community because they believe that the potential there ought to be greater.

But the real problem here is that up until this time the only way that we can get embryonic stem cells is to destroy the embryo. The scientists go into the inner cell mass stage. That is this stage here, day five. Of course, what we are doing now in the laboratory is not done in the uterus. All of this is done in a petri dish. The *in vitro* is in glass. *In vivo* means life. The embryo is destroyed at the inner cell mass stage, and cells are taken to produce a stem cell line.

About 4 years ago, this produced a real dilemma for the President who, like all of us, has family and friends who have one or more of these diseases that could be potentially ameliorated or cured by embryonic stem cell application. Yet the President knew the only way we were presently getting embryonic stem cell lines was by destroying embryos. He, as I am, is a strong pro-life advocate and the President had a problem with taking one life because that embryo produced in the laboratory in surplus and *in vitro* fertilization had the potential when implanted in a receptive mother to become a baby and the President's problem was that he had a moral problem with taking one life with the hope of helping another.

While the President was wrestling with this problem and what to do about it, there was a briefing at the National Institutes of Health for Members of the Congress and for their staff. I went out there to that briefing.

As the next chart shows, when we were talking about the potential for embryonic stem cell lines, I remembered my training of more than 50 years ago when I got my doctorate at the University of Maryland and had a course in advanced embryology and

then went on to teach medical school for 4 years and postgraduate medicine doing basic research at the National Institutes of Health. I remembered what everybody knows, because they had the course in advanced embryology it was in my mind, that whenever we have identical twins what has really happened is that half of the cells have been taken from the early embryo. The half that is taken becomes a perfectly normal baby, and the half that is left becomes a perfectly normal baby.

Madam Speaker, one is a clone. When one thinks about cloning, remember that Mother Nature or God, to whom ever you want to subscribe it, has been cloning for a very long time. Now these early embryos can split either at the two-cell stage or at the inner cell mass stage or anywhere in between, presumably.

We know at least at those two extremes because we can tell by how they present at birth when they split. If they share an amnion, they split at the two cell stage. If they have separate amnions, they probably split at the inner cell mass stage.

So knowing that half of the cells could be taken away from an early embryo without harming the embryo, unless you think identical twins are somehow deficient, and I have talked with a number of identical twins, and I have not talked with any of them who thought they were less a person or deficient because half of the cells were taken away to produce the other identical twin.

It occurred to me that you ought to be able to take cells from an early embryo without hurting the embryo to develop a stem cell line from that early embryo. I mentioned this to the researchers at NIH, and they said, yes, that is theoretically possible to do that.

Just after that, I was at an event and the President was there and when I went through the line, I mentioned my visit at NIH and the response that they had given to my question. A few days later, I had a call from Carl Rove and the President had turned the pursuit of this suggestion over to Carl Rove. Carl told me that he talked to the people at NIH, and they tell me what you have suggested is not possible.

Carl, I said either they are funning you or they misunderstand you, because these are the same people that can take a single cell and take the nucleus out of that cell and put another nucleus in it. That is what they did with Dolly the sheep and the large number of clones that have been produced since then.

I said, of course, if they can take the nucleus out of a cell and put another nucleus in it, they can certainly take a cell or two out of what is a relatively big embryo. So he went back and asked them again and then called back and said they are still telling me they cannot do that. So a few days later, the President came out with his executive order.

Madam Speaker, you may remember this was kind of a decision like Solomon might have made. Obviously, from the potential efficacy of embryonic stem cell research and medical applications, it is very desirable that we do that.

On the other hand, if the only way to get embryonic stem cells is by destroying an embryo, then you are left with the quandary of, is it really acceptable to destroy one life with the hope that you are going to help another?

So the President came to a decision that I think represented great wisdom. He recognized that a number of embryos had already been killed, destroyed to establish stem cell lines, and since you cannot turn back the hands of time to change that, these embryos were gone, the stem cell lines were there, and so the President, recognizing the potential for embryonic stem cell research, and being concerned that you should not take one life with the hope of helping another, wisely I think, said we could spend Federal dollars on any exploration we chose with the existing stem cell lines, and he thought there were about 60. There have never been 60, but he was told there were something like 60 stem cell lines, and Federal dollars could be used for research on those lines, but no Federal dollars could be used for developing or destroying any additional embryos for stem cell lines.

□ 2130

This was about 4 years ago, and as we knew, the scientific community knew, as I knew because of my background, these stem cell lines would eventually run out. Stem cell lines, like people, age. For reasons that we may not understand, they do not last forever. Those stem cell lines, Madam Speaker, are running out. We now have, I think the accepted figure is 22 stem cell lines left, and all of these are contaminated with mouse feeder cells. This is the result of a technique which is used to facilitate the replication of these cells in the tissue culture, and they are now all contaminated with mouse feeder cells so that although they are perfectly good for research and a lot of research is being done, they are not good for medical application because you would not want to put the cells contaminated with mouse feeder cells in a human.

So what now? One of the potential solutions to this problem is included in H.R. 810, the Castle-DeGette bill; and the argument made in this bill is that there are about 400,000 surplus embryos out there from in vitro fertilization. You see, to make sure that the doctor is going to have a good embryo or two or three to implant in a mother, because they do not all take, he will produce more embryos than he will probably need. Then he will look at them under the microscope and pick the strongest looking of those embryos and may put two or three or so in the mother.

One of our Members, the Rohrabachers, are now the proud parents of

triplets from in vitro fertilization. All of them grew and so they are now the proud parents of these very happy and healthy little babies. Since there are 400,000 surplus embryos out there that are frozen, the argument is, and this is the argument of the bill, that since these embryos, at least many of these embryos, realistically most of these embryos will ultimately be discarded, they will not stay frozen for 49 years there, they will not last forever, and by and by they will be discarded, and so the argument is, why should medicine not benefit from cells, from embryos that are going to be discarded anyhow? That to many people is a compelling argument. It was a compelling argument to a majority of people in the House, and now they are considering this bill in the Senate.

But to those in the pro-life community, there is another way of looking at these embryos. I am at the microscope and there is an embryo under the microscope there. That embryo could become a snowflake baby. More than 100 times parents who do not have an ovum, cannot get pregnant any other way, have adopted these surplus embryos and we have more than 100 of what we call snowflake babies. The embryo that I am looking at under the microscope might be adopted and that could be any one of the 400,000 embryos, and it might be the next Albert Einstein. How could I destroy an embryo that might be adopted and might be the next Albert Einstein? So this is the argument on the other side, which is why the great debate over H.R. 810.

As a result of a series of discussions with the White House and with a number of the interested groups, we have developed a bill which is called H.R. 3144, the Respect for Life Pluripotent Stem Cell Act of 2005.

Madam Speaker, I will make this short bill a part of the RECORD.

H.R. 3144

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled.

SECTION 1. SHORT TITLE.

This Act may be cited as the “Respect for Life Pluripotent Stem Cell Act of 2005”.

SEC. 2. FINDINGS.

The Congress finds as follows:

(1) Stem cells may be derived from various sources, including adult tissue, umbilical cord blood, and living human embryos. The use of cells from embryos has drawn great interest in the scientific community but also raises very serious ethical concerns for many Americans, because as practiced today it requires the destruction of human embryos to obtain their cells.

(2) The President’s Council on Bioethics in its May 2005 White Paper: “Alternative Sources of Pluripotent Stem Cells,” describes several potential methods to derive stem cells like those now derived through the destruction of embryos, but which would not involve doing harm to embryos. Some methods propose to involve embryos in ways that do not harm them, while others propose to reprogram adult cells to produce cells with the capabilities of embryonic stem cells without producing or involving embryos at all.

(3) Such proposals should be thoroughly tested in animal models before being applied

to humans, to establish that they do not involve creating or harming human embryos.

(4) Several scientific reports also suggest that some subclasses of adult stem cells (derived from postnatal tissues, umbilical cord blood and placenta) show a flexibility comparable to that of stem cells now derived through the destruction of embryos.

(5) American scientists should be encouraged to pursue all ethical avenues of stem cell research and to explore morally uncontroversial alternatives to research requiring the destruction of human embryos.

SEC. 3. DERIVATION OF STEM CELLS WITHOUT HARMING EMBRYOS; RESEARCH THROUGH NATIONAL INSTITUTES OF HEALTH.

Part B of title IV of the Public Health Service Act (42 U.S.C. 284) is amended by adding at the end the following:

“SEC. 409J. BASIC AND APPLIED RESEARCH ON DERIVATION AND USE OF PLURIPOTENT STEM CELLS WITHOUT HARMING EMBRYOS.

“(a) DEFINITIONS.—In this section, the following definitions apply:

“(1) HUMAN EMBRYO.—The term ‘human embryo’ includes any organism, not protected as a human subject under 45 CFR 46 as of the date of the enactment of the Respect for Life Pluripotent Stem Cell Act of 2005, that is derived by fertilization, parthenogenesis, cloning, or any other means from one or more human gametes or human diploid cells.

“(2) PLURIPOTENT STEM CELL.—The term ‘pluripotent stem cell’ means a cell that can in principle be differentiated to produce all or almost all the cell types of the human body, and therefore has the same functional capacity as an embryonic stem cell, regardless of whether it has the same origin.

“(b) IN GENERAL.—With respect to producing stem cell lines for important biomedical research, the Director of NIH shall, through the appropriate national research institutes, provide for the conduct and support of basic and applied research in isolating, deriving and using pluripotent stem cells without creating or harming human embryos. Such research may include—

“(1) research in animals to develop and test techniques for deriving cells from embryos without doing harm to those embryos;

“(2) research to develop and test techniques for producing human pluripotent stem cells without creating or making use of embryos; and

“(3) research to isolate, develop and test pluripotent stem cells from postnatal tissues, umbilical cord blood, and placenta.

“(c) PROHIBITIONS REGARDING HARM TO HUMAN EMBRYOS.—Research under subsection (b) may not include any research that—

“(1) involves the use of human embryos; or

“(2) involves the use of stem cells not otherwise eligible for funding by the National Institutes of Health; or

“(3) involves the use of any stem cell to create or to attempt to create a human embryo, or

“(4) poses a significant risk of creating a human embryo by any means.

“(d) AUTHORIZATION OF APPROPRIATIONS.—For the purpose of carrying out this section, there are authorized to be appropriated \$15,000,000 in fiscal year 2006, and such sums as may be necessary for each of the fiscal years 2007 through 2010. Such authorization is in addition to other authorizations of appropriations that are available for such purpose.”

Mr. BARTLETT. Madam Speaker, the gentleman from Georgia (Mr. GINGREY) has joined us. I would like to yield to him before I go through the history of how we got to this bill and the people we talked to

and exactly what is in the bill. I thank the gentleman for joining us.

Mr. GINGREY. I certainly thank the gentleman from Maryland for yielding. It is indeed a pleasure to again be with him tonight, Madam Speaker. Any opportunity that I have as an original co-sponsor of the gentleman from Maryland's legislation, H.R. 3144, is an opportunity that I gladly accept no matter what the hour. The importance of this issue really cannot be overstated.

I know the gentleman from Maryland as he started this Special Order hour discussed the fact that of the so-called throwaway embryos, throwaway babies as we see it in these in vitro fertilization clinics that exist across this country, I think somebody estimated there were 400,000 of them and that in some instances couples who had gone through in vitro fertilization and completed their families truly would have some extra embryos that they at least at a certain point in time had no intention of having reimplanted. So for the time being, maybe they were excess embryos.

But those of us who feel very strongly about the sanctity of life truly believe that there is no such thing as an excess human life at either extreme, the very youngest embryonic stage or the very oldest, many of whom I would be referring to, our octogenarians and older who might be in a nursing home suffering from Alzheimer's disease at the final stages of their lives, but all of these lives are extremely important; and as the gentleman from Maryland pointed out, there are actually 100 or close to 100 little babies, up to 6, 8 months old now who were referred to as the snowflake babies. They actually were donated to couples who were barren, infertile, from these couples who had completed their family and had these excess embryos frozen that they were not going to use.

We have seen them. I think the gentleman from Maryland (Mr. BARTLETT) had a lot to do with bringing, along with the gentleman from Pennsylvania (Mr. PITTS), these little children to the House, to the Congress, and indeed to the White House during the week that we were debating the bill brought to us by the gentleman from Delaware (Mr. CASTLE) and the gentlewoman from Colorado (Ms. DEGETTE).

As the gentleman from Maryland points out, there are a lot more of those little lives that are still on ice, if you will; and the gentleman from Maryland is so right in pointing out that, hey, maybe one of those would be an Einstein one of these days, the next Einstein. Some of my colleagues say, well, just 100 out of 400,000, that is not very many. Indeed, it is a fourth of this body, Madam Speaker, almost a fourth of 435 Members of the House of Representatives. There may be some real smart ones remaining on ice that possibly could end up being United States Senators. More importantly, of course, it could be the next Pope John II or Pope John III or Martin Luther King,

Jr. or Abraham Lincoln. Who is to say what we are talking about as a throwaway life? I am just so grateful for the gentleman from Maryland for bringing us a bill, H.R. 3144, which avoids this issue of destroying human life for the purpose of obtaining embryonic stem cells.

I do not think, Madam Speaker, that we will ever get to the point in this Chamber, as much as I, and I am sure the gentleman from Maryland is of the same mind-set, of wanting to do things in a bipartisan fashion with our colleagues on both sides of the aisle, this issue, this pro-life/pro-choice issue. The country is probably pretty evenly divided. This body is probably evenly divided.

But the point is we do not have to get into a knockdown, drag-out, hair-pulling, fingernail-scratching bloodbath over this issue. That is what the gentleman from Maryland is bringing to us, an opportunity to support a bill that does not lead us down that road where there seems like there will never be a meeting of the minds. This opportunity, basically, as he is pointing out with his posters in regard to the ability, with some research, to be able to obtain embryonic stem cells without destroying human life, without destroying the embryo, I have heard him refer to this almost like an embryonic biopsy.

As I understand the bill, it is an opportunity to encourage, with the President's blessing, increased funding through the NIH for research on nonhuman primates to make sure that this biopsy, actually it has already been done in genetic counseling studies on couples who have a really strong family history of inheritable diseases, something like hemophilia or Duchenne's muscular dystrophy where maybe if it is an adult child, it has a 50 percent chance of having one of these life-threatening, eventually fatal diseases. We are already doing testing on those embryos to make sure that it would be safe to put them back into the mother's womb to grow and develop and become a full-term fetus and there has been no harm in those instances.

This is not wild-eyed science, something that is Star Wars mentality. Not at all. We are talking about one of the brightest Members of this body, a Ph.D. physiologist, a doctor of physiology who has taught in medical school.

Madam Speaker, when I was in medical school, it was my instructor who taught me physiology, the functioning of the human body in a healthy situation, whether we are talking about the heart, the lungs, or any organ system of the body. That is the study of physiology. That is who we are talking about when we reference this Member, the gentleman from Maryland, who is bringing us this bill. He knows of what he speaks. He has taught not only physiology but also embryology.

I know my colleagues as they listen to his presentation tonight and they

look at the material, the visual aides that he has with him, it is clear that his understanding, his depth of knowledge is far beyond maybe what even the physician Members of this body have. So it is with a deep amount of respect for him that I have signed on to this bill. I am fully supportive of it. It gives us an opportunity to address this issue of trying to find a way with stem cells, whether they are adult or embryonic; and I tend to agree with the gentleman from Maryland that embryonic stem cells probably do have a little more potential, although we have had great success in adult stem cells and a lot of these diseases that our colleagues have talked about and we have seen public service advertisements, famous people, actors, former politicians, a former first lady, families of those suffering from diabetes, spinal cord injury, degenerative disease, Parkinsonism, Alzheimer's. These things really tear at your heartstrings.

There is no argument, I do not think, in this body, in a partisan way about wanting to help and wanting to use science to the best of our ability to look for a cure. There is not a guarantee. There is absolutely no guarantee. There are probably lots of complications, false starts, two steps back for one step forward. There will be lots of money, Federal dollars probably being spent on research. But the point is the President in August of 2001 was absolutely right, in my humble opinion, in regard to his decision to put a moratorium on the harvesting of stem cells, embryonic stem cells that would result in the destruction of human life. At that point, there were some 60 cell lines already in existence that our university research scientists at NIH and other places were using. The President said, that is perfectly okay to continue.

□ 2145

Those lives have already been destroyed in obtaining those stem cell lines. Good research was occurring. The President, this President, George W. Bush, is the very first President that, in fact, allowed Federal funding for research on embryonic stem cells. So those who criticize or suggest, Madam Speaker, that this President is insensitive and uncaring, I suggest to my colleagues that this President is the most caring that we have ever had in regard to this issue. He has done more than any other President. He does not deserve to be criticized, but rather applauded for his efforts in this regard.

And I think he is steadfast in his determination not to destroy human life because, as the gentleman from Maryland has pointed out and as I just said, we do not know those so-called extra embryos, those throwaway embryos. We do not know what those lives entail. We do know that they have a very unique, full complement of DNA that have all of their genetic material they are going to ever have. They are the

tiniest of human life, little tiny babies. We call them embryos, but they are little tiny embryos whose lives are frozen and suspended. But they should have that opportunity.

And even the couples who think, Madam Speaker, that they would never use those embryos, we have witnessed tragedies every day in the news, this 24-hour cable news that we are subjected to, but we read about children that are kidnapped, abused, murdered, the situation in Aruba, the situation in Nebraska. We can just name so many where people think that their family is complete and they have got all they want out of their reproductive life, and all of a sudden, as the old country song goes, "some days are diamonds and some days are stones," all of a sudden we have a few days that are stones and there might be a tragic loss of a child or more than one child, and all of a sudden maybe those frozen embryos do not seem so expendable anymore.

So that is why this issue is so important and why I feel so very passionate, not just myself and the author of this bill, the gentleman from Maryland (Mr. BARTLETT), but a number of others who have signed on to this bill. The White House, I think, is very supportive of this. There is a companion piece of legislation, as I understand; it originating in the other body. We are on to something here.

And again it is a pleasure to join my colleague tonight and share these thoughts, try to maybe enlighten my colleagues on both sides of the aisle, Madam Speaker; and I do thank the gentleman for giving me an opportunity to be with him to discuss such an important issue. And I will be glad to stick around for a little while if we want to get into a colloquy later on, but I thank him for giving me this opportunity.

Mr. BARTLETT of Maryland. Madam Speaker, reclaiming my time, I want to thank my colleague very much for his comments. He is very generous. I did not come to the Congress, and that was 13 years ago, until I was 66 years old; and I am very fortunate to have some prior life experiences that have permitted me to understand some opportunities here in the Congress that might not have been so obvious to others who did not have this background.

After the President came down with his executive order, I continued to meet with the folks at NIH, and I subsequently learned, by the way, I need to come back to that problem with Karl Rove and his discussion with the NIH people, and this was a typical example of failed communications. And so often we think that we are carrying on a dialogue and we are really carrying on simultaneous monologues.

However it happened, what the NIH people were telling Karl Rove was that they were not sure that they could make a stem cell line from an embryo that early. That is true. That is why in our bill we advocate animal model research rather than beginning with hu-

mans. But there is no reason we should not be able to do that.

Now, as a matter of fact, a Russian scientist working in this country, Verlinsky, says he has, in fact, done that. I have met a number of times with people from NIH. On July 20 of last year, for instance, we had an extended meeting in my office with representatives from NIH, with representatives from Health and Human Services, and with representatives from the White House.

And then, Madam Speaker, a very interesting thing happened while we were having this series of meetings with the NIH and HHS and the White House and with the outside groups. There appeared in the literature a paper, a very interesting paper, on preimplantation genetic diagnosis. And what these medical people were doing, and this was in England, the first paper came from a clinic in England, what they were doing was going into the eight-cell stage and taking a cell or two out to do a preimplantation genetic diagnosis to see if the baby would have a genetic defect. And if there was no genetic defect, they implanted the remaining seven cells, sometimes six cells. And more than 600 times that went on to produce a perfectly normal baby. That is now being done in this country just outside Washington, in Virginia. A few weeks ago I spent probably a half hour or more on the phone with two of the medical scientists there who were involved in this research.

There is one potential ethical problem here, although the President's Council on Bioethics thinks it is not a problem. I would like to avoid, Madam Speaker, even the possibility of a problem. And that problem is that the cell that we take from that embryo might, under the right circumstances, become an embryo itself. The members of the President's, and I have the white paper here I am going to refer to in just a moment, Council on Bioethics think that that is not feasible. But, Madam Speaker, if we were to wait just a little later to take the cell to the inner cell mass, and I probably ought to put that chart of the uterus back up here so that I can point to what I am referring to here, in the laboratory they are going at the eight-cell stage and taking a cell or two out and doing a preimplantation genetic diagnosis.

If there is no genetic defect, they implant the remaining cells, and more than 1,000 times worldwide now, they have had a normal baby born. The argument is that that cell they take out under the right circumstances is pluripotent, totipotent at that stage probably, and could produce another embryo. To avoid that, if we just wait until the inner cell mass stage, which is the stage from which the embryonic stem cell lines are now developed when they destroy the embryo, there is no reason they cannot go into this inner cell mass and through the trophoblast and they could take out several cells then because there are a lot of cells there.

By that time we already have some differentiation. The cells in the inner cell mass are going to produce the baby. The three germ layers that we talked about at the very beginning and the cells in the trophoblast are going to produce the decidua. The decidua is the amnion and chorion, the tissues that support the baby, and we can see those starting to develop down here in day 8 and 9 when the embryo has attached itself to the wall of the uterus and the uterus grows and produces some tissues and there is a growth of this decidua here and we have the placenta, these big opposing vascular bags through which food and oxygen and CO_2 and hormones and so forth are exchanged between the baby and the mother.

By the way, Madam Speaker, this is a pretty hazardous journey; and we do not know the exact percentage, but maybe less than half of all of the ova here that get fertilized actually implant in the uterus. As a matter of fact, one of the techniques for preventing conception is an IUD. They simply place a foreign object here in the uterus, and the uterus reacts to the presence of that foreign by not permitting the fertilized egg, the embryo, to implant there.

Mr. GINGREY. Madam Speaker, will the gentleman yield?

Mr. BARTLETT of Maryland. I yield to the gentleman from Georgia.

Mr. GINGREY. Madam Speaker, I wanted to mention to the gentleman that as an OB/GYN physician, of course I have had some experience with some of the processes that can occur in reproductive endocrine laboratories and the technique dealing with infertile couples, and I have had a discussion with the gentleman from Maryland about this. But in a situation where the couple is infertile and it is because of male infertility, there is nothing wrong with the egg, but there is a very, very low sperm count in the male, and normally it takes probably 1,000 sperm to successfully fertilize an egg in the natural way.

In fact, the normal sperm count in a male is about 60 million. But even a sperm count as low as 1,000, pregnancy can occur in the normal, natural way. But when it gets much lower than that, it becomes less and less possible. But they have a technique. And there is an acronym, Madam Speaker. There is an acronym for everything, it seems, even though this is not in the military. That acronym is ICSI. It stands for intracytoplasmic sperm injection, ICSI. And these biologists working with reproductive endocrinologists, medical doctors who specialize in infertility, can literally take a single sperm and with a needle inject that sperm into the egg and create a life, and that has been done many times, and not just at the NIH, but in a lot of these infertility clinics across this great country, in my State of Georgia. It is something that is done routinely.

So what the gentleman from Maryland (Mr. BARTLETT) is talking about

in this poster presentation in regard to waiting to just the right point for these scientists to be able to develop a technique to obtain embryonic stem cells without destroying that embryo and beyond the point where that single cell itself would be an embryo, he knows of what he speaks. And I wanted to have an opportunity to share that, Madam Speaker, with our colleagues and make sure they understand that here again we are not talking about Star Wars technology here. We are talking about things that are being done today.

Mr. BARTLETT of Maryland. Madam Speaker, reclaiming my time, I thank the gentleman very much for that contribution.

While we are carrying on these discussions with the White House and NIH and HHS and with the outside groups, the President's Council on Bioethics submits a white paper; and in this white paper they go over four potential techniques that might produce pluripotent stem cells, which is another way of saying the equivalent of embryonic stem cells, without destroying or harming an embryo. And what our bill does, Madam Speaker, is simply ask NIH to please explore these potentials, first of all, in animal models; and the bill gives them \$15 million to begin this exploration.

I just wanted to spend just a moment talking about the four things that are in here because it may be of interest to a number of people. The first is called pluripotent stem cells derived from organically dead embryos. Well, this says that all these embryos I had mentioned earlier, all these embryos will not live. And when an embryo is moribund, it is not going to divide anymore, then it is the equivalent of a brain dead person and there should be no problem taking cells from it like they would take organs from a brain dead person.

One might have a little question about the vitality of the cell they take from that embryo, but at least ethically if the embryo is dead or moribund, the equivalent of a brain dead person, they could take an embryo from it. The second procedure, and the next chart shows a little clip from that, is one in which, down at the bottom here, it says "a similar idea was proposed by Representative ROSCOE BARTLETT." This was my recommendation in 2001. And this simply says they go into an early embryo, as I have mentioned, and take out a cell without hurting the embryo because mother nature or God, whoever people think makes identical twins, has been doing this for a very long time.

Our bill simply asks the NIH to do this in animal models to make sure that it is safe and efficacious.

A third technique is called pluripotent stem cells derived from biological artifacts. This is an interesting one. And what the proposal there is that they take an ovum and they take the nucleus out of the ovum

and then they take an altered nucleus out of a somatic cell.

□ 2200

You alter the nucleus so that you have turned off some of the genes, and then you put that nucleus inside the egg. Now, why would you do that? Because in the cytoplasm of the egg outside the nucleus of the egg, there are some factors which turn on and turn off genes and kind of control what happens inside the nucleus. So now they have turned off some genes so this thing will divide; that will never be a baby because they have kind of messed up the genetics. Well, if they can never be a baby, then maybe ethically you can take stem cells from it, and this is something that really needs to be explored.

These several techniques are all open for investigation. Oh, the fourth one of these is pluripotent stem cells by differentiation. I mentioned the differentiation of cells. That is when they decide that they are going to be just this or that, and all the cells they produce after that are just that kind of cell. Now, sometimes, you can take a cell and kind of put it in an environment where you have confused it, you have shocked it, you have done something to it, so it forgets what it was supposed to be, and it starts making cells, tissues that it would not ordinarily make in that stage of differentiation. So what our bill does is to permit the research, particularly on two of these, the nucleus transfer and the taking of cells from the early blastomere.

Our bill has received input from the White House, from the Conference of Catholic Bishops, from Right the Life communities, so there is a broad spectrum of individuals and organizations out there that are supportive of what we are doing.

In the few moments left, Madam Speaker, I would like to note that there have been a plethora of articles very recently about this, and I would like to submit these for the RECORD. They are not very long, and I will insert them into the RECORD. Here is National Geographic, July 2005. Stem cells, a big article, very good article on stem cells there. Here is a letter of May of this year from Dr. Battey who is the chief spokesman for stem cell research at the National Institutes of Health who is quite supportive of our bill and what we propose to do, and here is a very interesting op-ed piece written by Richard Doerflinger who represents the Catholic Bishops.

By the way, I need to give credit where credit is due. It was Richard Doerflinger who made the great suggestion that the first thing you do with that cell you take from the early embryo is to create a repair kit so that all during the life of that person, they will have frozen the ability to produce a new liver if they need it, islets of Langerhans, spinal cord cells, whatever they need. There is a great op-ed piece by Richard Doerflinger who explains

his support for our bill. He says, Representative BARTLETT and his colleagues are helping to demonstrate what has always been true: science and ethics were meant to be allies, not enemies, and this is certainly true.

Tuesday, July 12, Associated Press, Lawmakers Wary of Backup Stem Cell Bill. For those who would like to see just the Castle-DeGette bill passed, our bill, and the President, by the way, says that if that other bill gets to his desk, he will veto it. For those of us who believe that we really ought to research stem cells, we really look forward to a bill which the President can support.

Stem Cell Legislation is At Risk, July 9, Washington Post. GOP Probes Nondestructive Cell Research, Washington AP, June 29. And then just today, in Congressional Quarterly, Congress Considers Numerous Stem Cell Bills. It mentions our bill in the House, and that BILL FRIST is expected to draft a related bill in the Senate.

I am very pleased, Madam Speaker, that my background has permitted me to understand some of the potential here, my experience with my grandmother, with these little diabetic kids, my profound pro-life commitment. I am very pleased that I was able to propose a potential solution that I think meets the morals and the demands of both sides of this issue.

Madam Speaker, I ask unanimous consent to insert the following articles:

DEPARTMENT OF HEALTH
AND HUMAN SERVICES.

Bethesda, Maryland, May 23, 2005.
Hon. ROSCOE G. BARTLETT,
House of Representatives,
Washington, DC.

DEAR MR. BARTLETT: I am pleased that Drs. Allen Spiegel and Story Landis were able to meet with you, Mr. Otis and Mr. Aitken during your visit to the National Institutes of Health (NIH) last month to discuss ways to derive human embryonic stem cells (hESCs). Drs. Spiegel and Landis were serving as Acting Co-Chairs of the NIH Stem Cell Task Force during my leave of absence from this position. Earlier this month, I returned to chair the Task Force. NIH shares your enthusiasm on the therapeutic potentials of hESC research and thank you for your continued support of this field.

Drs. Spiegel and Landis briefed me about your April 26th meeting. I am also aware that you have had previous meetings with NIH officials, including myself, Lana Skirboll and Richard Tasca, on this topic. You propose the possibility of using a cell (or two) removed from the 8-cell stage human embryo undergoing preimplantation genetic diagnosis (PGD) to: (1) create a "personal repair kit" made up of cells removed from the embryo and stored for future use; and (2) for deriving human embryonic stem cell lines.

You suggested that creating hESC lines in this manner would avoid ethical questions surrounding the fate of a human embryo. Live births resulting from embryos which undergo PGD and are subsequently implanted seem to suggest that this procedure does not harm the embryo, however, there are some reports that a percentage of embryos do not survive this procedure. In addition, long-term studies would be needed to determine whether this procedure produces subtle or later-developing injury to children

born following PGD. Also, it is not known if the single cell removed from the 8-cell stage human embryo has the capacity to become an embryo if cultured in the appropriate environment.

NIH is not aware of any published scientific data that has confirmed the establishment of hESC lines from a single cell removed from an 8-cell stage embryo. We are aware of the published research of Dr. Yury Verlinsky in the Reproductive Genetics Institute in Chicago that showed that a hESC line can be derived by culturing a human morula-staged embryo (Reproductive Bio-Medicine Online, 2004 Vo. 9, No. 6, 623-629, Verlinsky, Strelchenko, et al.). It is also worth noting, however, that in these experiments, the entire morula was plated and used to derive the hESC lines. The human morula is generally composed of 10-30 cells and is the stage that immediately precedes the formation of the blastocyst.

At the April 26th meeting, NIH agreed that such experiments might be pursued in animals, including non-human primates. That is, animal experiments could be conducted to determine whether it is possible to derive hESCs from a single cell of the 8-cell or morula stage embryo. To date, to the best of our knowledge no such derivations have been successful. NIH also does not know whether these experiments have been tried and failed in animals and/or humans and, therefore, have not been reported in the literature. NIH agreed to explore whether there have been any attempts to use single cells from the 8-cell or morula stage of an animal embryo to start embryonic stem cell lines by consulting with scientists that are currently conducting embryo research. From these discussions, these scientists believe it is worth attempting experiments using a single cell from an early stage embryo or cells from a morula of a non-human primate to establish an embryonic stem cell line.

Of note, a recent 2003 paper from Canada shows that when single human blastomeres are cultured from early cleavage stage embryos, before the morula stage, that there is an increased incidence of chromosomal abnormalities. Even with hESCs derived from the inner cell mass of the human blastocyst, the odds of starting a hESC line from a single cell are long, perhaps one in 20 tries. Thus, the odds of being able to start with a single cell from an 8-celled or morula staged embryo are equally challenging. This would make it difficult to accomplish the goal of establishing "repair kits" and hESC lines from any single PGD embryo. (Fertil Steril, 2003 June, 79(6):1304-11, Bielanska, et al.). It is possible, however, that improvements in technologies for deriving and culturing hESCs may improve these odds.

NIH concludes that the possibility of establishing a stem cell line from an 8-cell or morula stage embryo can only be determined with additional research. NIH would welcome receiving an investigator-initiated grant application on this topic using animal embryos. The Human Embryo Research Ban would preclude the use of funds appropriated under the Labor/HHS Appropriations Act for pursuing this research with human embryos. As with all grant applications, the proposal must be deemed meritorious for funding by peer review and then will be awarded research funds if sufficient funds are available. It also bears keeping in mind that it may take years to determine the answer.

At the April 26th meeting, you had mentioned that twins can develop when the inner cell mass splits in the blastocyst and forms two embryos enclosed in a common trophoblast. You asked if cells from the inner cell mass could be safely removed without harming the embryo. In animal studies, it has been shown that the blasto-

cyst can be pierced to remove cells of the inner cell mass and the embryo appears to retain its original form but it is not known whether the embryo will result in the birth of a healthy baby. Since this experiment in human embryos at either the morula or the blastocyst stage would require evaluations of not only normal birth but also unknown long term risks to the person even into adulthood, it would have to be considered a very high risk and ethically questionable endeavor. Because of the risk of harm, this research would also be ineligible for Federal funding.

You had also asked NIH about the latest stage in development that an embryo can be artificially implanted into the womb. We know that infertility clinics transfer embryos at the blastocyst stage (approximately Day 5 in human embryo development) as well as at earlier stages.

Finally, I am providing an additional resource that was discussed at the April meeting. I have enclosed a copy of a recently released white paper developed by the President's Council on Bioethics (PCB) on Alternative Sources of Human Pluripotent Stem Cells. In this white paper, the PCB raised many ethical, scientific and practical concerns about alternate sources for deriving human pluripotent stem cells without harming the embryo. Your proposal is specifically discussed in this report.

I hope this information is helpful.

Sincerely,

JAMES F. BATTEY, Jr.,
M.D., Ph.D.,
Chairman, NIH Stem
Cell Task Force and
Director, National
Institute on Deafness
and Other Communi-
cation Disorders.

[From the News Observer, June 29, 2005]

GOP PROBES NON-DESTRUCTIVE CELL RESEARCH

(By Laurie Kellman)

WASHINGTON (AP).—Embryonic stem cell research that doesn't destroy budding human life? Right now, it's possible only in theory, or on animals. But those alternatives to the most promising stem cell science are enough to win the attention of anti-abortion Republicans and President Bush.

Senate Majority Leader Bill Frist and other GOP lawmakers are considering legislation drawn from a report in May by Bush's Council on Bioethics, which studied research that might carry medical promise but is in its infancy.

In some cases, the research is ethically objectionable, the panel wrote. Nonetheless, it said four types of studies "deserve the nation's careful and serious consideration."

Bush was receptive to funding the theoretical approaches rather than medically more promising research that destroys embryo, three lawmakers who have discussed the subject with him told The Associated Press.

"There was a sense around the table that if we could discover a way to extract the stem cells without destroying the embryo, that was something that nearly everyone could support," said Representative David Dreier, R-Calif., who discussed the option with Bush at a White House meeting earlier this month. "The president was very enthusiastic about that. He clearly supported it."

Another possible compromise, being drafted by Representative Roscoe Bartlett, R-Md., a biological engineer, would send \$15 million to the National Institutes of Health for stem cell research on animal embryos, according to a draft obtained by the AP.

"Congressman Bartlett sought and received technical assistance from the admin-

istration to ensure that the bill that he is working on would be consistent with the president's principles and goals," said Lisa Wright, Bartlett's spokeswoman.

Bush has repeatedly said he would veto a bill the House passed last month backing standard embryonic stem cell research and any similar version by the Senate, which is expected to turn to the issue in July.

"We'll probably consider a number of bills," Frist told the AP.

Senator Rick Santorum, R-Pa., who also attended the meeting with Bush, said he may try to amend one of Congress' must-pass spending bills to provide federal money for specific studies outlined in the bioethics council's report.

Senator Gordon Smith, R-Ore., said that in his own talk with Bush, he found the president "looking for a way to stay within his ethical boundaries."

Almost two-thirds of Americans say they support embryonic stem cell research and a majority of people say they would like to see fewer restrictions on taxpayer funding for those studies, according to recent polling.

The proposal may free senators from a tight spot between Bush's veto threat and public pressure for embryonic stem cell research, which has shown promise in the search for cures for Parkinson's, Alzheimer's and other diseases.

But it also would spend millions of dollars on studies whose value is speculative. Some of the techniques have not even been attempted in animals.

Frist, who is a heart and lung transplant surgeon, told the AP at least three of the processes on the bioethics council's list met his criteria for funding embryonic stem cell research.

"All of the research you have there stops short of the creation of an embryo for experimental purposes, and short of destruction of an embryo for experimental purposes," he said. "That is the direction I think we should explore."

Those are the same boundaries set out by Bush, who in a 2001 executive order prohibited federal funding of any research using human embryonic stem cells harvested after Aug. 9 of that year.

Senator Tom Harkin, D-Iowa, a chief supporter of traditional embryonic stem cell research, shrugged at the notion of an alternative.

"Most of these ideas are nothing but theories. They haven't been tested," he said Wednesday.

The processes studied by the council could theoretically develop embryonic stem cell lines—which can develop into any cell in the body—without harming the embryo. They would:

—Derive stem cells from technically dead embryos. When embryos frozen during in vitro fertilization are thawed, some never resume dividing and thus are discarded. No one knows whether scientists could find healthy stem cells inside an embryo already so damaged that it wouldn't grow, or coax them to live when transferred out of that embryo.

—Extract stem cells from two-day-old embryos using a non-lethal biopsy technique. Until now, most stem cells have been culled from embryos that contain 100 or so cells. However, in vitro fertilization clinics frequently extract one cell, called a blastomere, from a younger, eight-celled embryo to perform genetic testing—to tell, for instance, whether some embryos will have a disease like cystic fibrosis. This testing doesn't destroy the embryo, so women can choose to have only healthy ones implanted. According to one report, more than 1,000 healthy children have been born after blastomere testing. The questions are whether enough stem

cells could be culled from a single blastomere to be worthwhile, and which embryos would be used.

—Develop stem cells derived from specially engineered tissue. One such technique is called “altered nuclear transfer,” essentially cloning in a way that grows only tissue, not an actual embryo. This process hasn’t been attempted yet.

—Turning back the clock on older cells so they again become “pluripotent,” the scientific term for the ability to turn into any tissue. Scientists already are trying to do this to some degree through “adult stem cell” research, such as turning blood-making cells into cells that produce liver or muscle tissues. It’s not clear whether older cells can be returned to an embryonic state.

[From the *Guardian*, July 12, 2005]

LAWMAKERS WARY OF BACKUP STEM CELL BILL

(By Laurie Kellman)

WASHINGTON (AP).—President Bush and his conservative Senate allies are trying to peel votes from a stem cell bill by offering alternative legislation that would instead fund promising but unproven studies, several senators said Tuesday.

“I’m all for these alternative sources, (but) not as a substitute, not as some way of stopping what we’re about to do,” said Tom Harkin, D-Iowa, Senate sponsor of a bill already passed by the House that would end Bush’s 2001 ban on federal funding for new human embryonic stem cell studies.

Several scientists testifying Tuesday before the Labor, Health and Human Services Appropriations subcommittee agreed that Harkin’s bill, cosponsored by panel Chairman Arlen Specter, R-Pa., should be passed before even their own research receives federal funding.

“It’s a no-brainer,” said Robert Lanza, one of the scientists working on a process by which embryonic stem cells are derived without destroying life. “I do not think we should keep the scientific community or the patient community waiting.”

Another scientist at the table, William B. Hurlbut of Stanford University, said vital science that could someday lead to cures of diseases like Alzheimer’s and Parkinson’s must have the engine of public consensus behind it.

A member of the President’s Council on Bioethics, Hurlbut noted that large sections of the public believe human embryonic stem cell research is immoral because it destroys the embryo, which many, including Bush and some congressional conservatives, consider a budding human life. Government, he said, should set “a coherent moral platform to guide our science.”

But staring down a self-imposed Aug. 1 deadline for voting on the legislation, Senate negotiators were no closer Tuesday to agreeing on a list of bills to debate on the Senate floor. Still swirling were talks over a six-bill package of legislation, including the Harkin-Specter measure, and others that would fund alternative methods or ban certain stem cell and cloning techniques altogether.

Specter, a cancer patient also helming the fight over Supreme Court nominations, said he was growing impatient with the delay and made clear that his bill is the first priority.

“If we can pass the House bill, Specter-Harkin, that is the most important bill to be enacted,” Specter said as he gavels open the Labor, Health and Human Services subcommittee hearing.

Testifying were James Battey, chairman of the National Institutes of Health Stem Cell Task Force, and Lanza, who has done research into deriving stem cells from a single animal cell without destroying the embryo.

The House approved the Harkin-Specter bill, 238-194, on May 24. That is far less than the two-thirds support that would be needed to override a veto Bush has threatened, and it was unclear that either house of Congress had the two-thirds vote necessary to override a veto.

The bill numbers are H.R. 810 and S. 471.

[From the Life Issues Forum, June 30, 2005]

STEM CELLS WITHOUT EMBRYOS?

(By Richard M. Doerflinger)

The battle lines of the stem cell debate have become familiar.

In one corner we have embryonic stem cells, obtained by destroying one-week-old human embryos. The cells are “pluripotent,” capable of producing all the 210 cell types in the human body. In the other corner are stem cells obtained harmlessly from adult tissues, umbilical cord blood and placentas. These pose no ethical problem, but supposedly are more limited.

Herein lies the alleged tension between science and ethics. We can cure devastating diseases, or respect embryonic human life, but not both.

That dichotomy has always been misleading. Embryonic stem cells are far from curing any disease, while adult and umbilical cord blood stem cells have helped many thousands of patients. Yet scientists still claim that cells obtained by destroying early human life have special advantages that cannot be duplicated.

This claim is about to be tested.

Just before Congress’s July 4 recess, Representative Roscoe Bartlett (R-MD) introduced the “Respect for Life Pluripotent Stem Cell Act.” It instructs the National Institutes of Health to fund research in obtaining “pluripotent” stem cells without creating or harming human embryos.

Mr. Bartlett knows whereof he speaks. He holds a Ph.D. in physiology, and bases his proposal on a report by the President’s Council on Bioethics and the latest research findings.

His bill outlines two ways to get pluripotent stem cells without harming embryos. One is to remove the cells from embryos without harming or destroying them. The bill would fund such efforts in animal embryos, to see if this can be safe enough to consider doing in humans.

The other approach would produce embryo-like stem cells without creating embryos at all. A dozen studies now indicate that umbilical cord blood and adult tissues contain stem cells that may be as versatile as embryonic stem cells. In addition, cutting-edge research suggests that adult cells can be “reprogrammed” in several ways into pluripotent stem cells.

One avenue is dubbed “ANT-OAR”—altered nuclear transfer by oocyte assisted reprogramming.

“Nuclear transfer” is the cloning method that made Dolly the sheep. The nucleus of a body cell is combined with an egg deprived of its own nucleus. Signals in the egg activate a much wider range of genes in that nucleus, so it no longer directs one specialized type of cell but begins the development of a whole new organism. What if the egg and the body cell were altered in advance so that, from the beginning, the result is not a one-celled embryo, but a pluripotent stem cell like those now obtained by destroying embryos?

There are good scientific reasons to believe this can be done. And many Catholic scientists and ethicists have declared that it can and should be explored (see www.eppc.org/news/newsid.2375/news_detail.asp).

It would be good news indeed if modern science ends up resolving some moral dilem-

mas that an irresponsible use of science has created. Representative Bartlett and his colleagues are helping to demonstrate what has always been true: science and ethics were meant to be allies, not enemies.

[From the *Washington Post*, July 9, 2005]

STEM CELL LEGISLATION IS AT RISK

(By Ceci Connolly and Rick Weiss)

Promising but still unproven new approaches to creating human embryonic stem cells have suddenly jeopardized what once appeared to be certain Senate passage of a bill to loosen President Bush’s four-year-old restrictions on human embryo research.

The techniques are enticing to many conservative activists and scientists because they could yield medically valuable human embryonic stem cells without the creation or destruction embryos.

Embryonic stem cells are coveted because they have the capacity to become virtually every kind of body tissue and perhaps repair ailing organs, but they are controversial because days-old human embryos must be destroyed to retrieve them.

“The new science that may involve embryo research but not require destruction of an embryo is tremendously exciting,” Senate Majority Leader Bill Frist (R-Tenn.) said recently. “It would get you outside of the boundaries of the ethical constraints.”

But because the value of these new scientific methods remains speculative, they have complicated the political calculus in the highly partisan Senate, which could take up the issue as early as next week.

Proponents of embryonic stem cell research are divided over how strongly to promote the new work because of fears it will undermine efforts to expand federal funding of conventional embryo research, which they say has better odds of success.

But some opponents of embryo research are uncomfortable with the emerging alternatives, too. That is because they involve cells that closely resemble human embryos, raising novel questions about what, exactly, is a human life.

The science poses a strategic dilemma for both groups: Should they support newly circulating legislation that would fund the new methods or try to defeat what some decry as a Trojan horse?

“This is something that could be very valuable if it works, no doubt about it,” Stanford University stem cell researcher Irving Weissman said of the new work. “But don’t tell me we should stop doing [embryo] research until we find out, because people’s lives are at stake.”

In May, the House easily passed bipartisan legislation allowing federally funded scientists to study stem cells derived from some of the thousands of human embryos destined for disposal at fertility clinics—a significant expansion of the Bush policy. Until this week, Senators Arlen Specter (R-Pa.) and Orrin G. Hatch (R-Utah) expressed confidence that they had more than enough votes to pass the same bill in the Senate, despite threats of a presidential veto.

Last week, however, opponents began circulating a competing bill that shifts attention toward the more distant but ethically more palatable new procedures. The House version, sponsored by Representative Roscoe G. Bartlett (R-Md.), was written with assistance from the White House, a Bartlett spokeswoman said.

The administration is eager for Bush to sign legislation supportive of at least some types of stem cell research, according to several lobbyists close to the congressional negotiations. Signing such a bill could take some of the sting out of a veto that is sure to infuriate patient groups and could rile a

majority of Americans, who tell pollsters they back expanded funding of embryonic stem cell research.

During the Fourth of July recess, many Senate Republicans struggled with the question of whether the new legislation should be brought to the floor as a substitute for the House-passed bill or as a competing bill—and if both were to come up, then how to vote on each. At least a handful of senators have hinted in recent days that they may transfer their vote to the new bill, Hill sources said—among them Hatch, Johnny Isakson (R-Ga.) and Kay Bailey Hutchison (R-Tex.).

The issue will get its first formal airings at a Senate subcommittee hearing Tuesday and at a Hill media event on Wednesday at which pro-research celebrities Michael J. Fox and Dana Reeve, widow of "Superman" star Christopher Reeve, will call for an immediate loosening of Bush's policy.

Some supporters of the research say they would be happy if both bills passed. But for some of the more ardent advocates of an immediate expansion of the Bush policy, Bartlett's alternative legislation is a diversion.

"Don't stop embryonic stem cell research now, hoping there will be some other way to do it in the future," Senator Tom Harkin (D-Iowa) said in an interview. "These alternative methods of deriving stem cells—we don't know whether they'll work. The one thing we do know how to do is derive embryonic stem cells."

The new techniques fall into two major categories. In one, a single cell is removed from a days-old embryo created for fertility purposes and coaxed to become a self-replicating colony of stem cells, leaving the remainder of the embryo to develop normally.

The technique shows great promise, according to researchers at Advanced Cell Technology Inc. in Worcester, Mass., who pioneered it. But critics have raised the possibility that individual cells removed from such young embryos may have the biological potential to become embryos themselves, which would mean their destruction or cultivation as colonies could still raise ethical issues.

Bush's Council on Bioethics also expressed concerns recently that such a technique may subtly harm an embryo, even if it does not kill it.

"You may get a human being, but you may not get the same human being," said William B. Hurlbut, a Stanford professor and a council member. "You might find that late in life, there are some strange differences between those people and others."

Hurlbut is the leading proponent of a different approach, which he calls altered nuclear transfer, or ANT. It involves the creation of an embryo—or what Hurlbut says is something akin to an embryo—that lacks a gene necessary for the development of a placenta. Because a placenta is required for an embryo to implant in a woman's womb, the altered embryo would be genetically incapable of becoming a fetus or a baby. For many, that would obviate ethical concerns about destroying it to get its stem cells.

Researchers have tried the technique in mice with some success, but its usefulness as a source of human stem cells remains hypothetical. Some, such as Weissman, think the difficulties inherent in making such a system work are being overlooked by Hurlbut, who is a physician but not a research scientist.

"I've been telling Bill, 'Why don't you go work in a lab this summer? Why not see how easy or hard it really is?'" said Weissman. He said he has no problem with the funding of such research as long as it does not interfere with increased funding for existing programs of embryo research.

Practical or not, ANT has gained a quickly widening circle of support. The Roman

Catholic archbishop of San Francisco, William J. Levada, has written a letter to Bush assuring the president of his support.

But other conservative leaders have mixed views on whether it makes sense to pursue the new alternative therapies or to focus single-mindedly on defeating any expansion of the current policy.

"I have significant concerns about all the alternatives," said David Prentice, senior fellow for life sciences at the Family Research Council, which he said does not yet have a formal position on the science.

Jessica Echard, executive director of the Eagle Forum, the public policy organization founded by Phyllis Schlafly, said her group opposes "middle ground" legislation that pursues alternative methods for producing embryonic stem cells.

"Most scientists will say it's never enough," she said. "We will be giving ground to more and more unethical research."

LEAVE OF ABSENCE

By unanimous consent, leave of absence was granted to:

Mr. ABERCROMBIE (at the request of Ms. PELOSI) for today on account of illness.

Mr. CARDIN (at the request of Ms. PELOSI) for today after 4 p.m. and the balance of the week on account of a family emergency.

Mrs. JONES of Ohio (at the request of Ms. PELOSI) for today and July 11 on account of constituent business in the district.

Mr. OBEY (at the request of Ms. PELOSI) for today on account of attending the funeral of the late Senator Gaylord Nelson.

Mr. EVERETT (at the request of Mr. DELAY) for July 11 on account of being unable to travel due to Hurricane Dennis.

Mr. BACHUS (at the request of Mr. DELAY) for today from 7 p.m. until July 13 at 6 p.m. on account of attending a funeral.

SPECIAL ORDERS GRANTED

By unanimous consent, permission to address the House, following the legislative program and any special orders heretofore entered, was granted to:

(The following Members (at the request of Ms. KAPTUR) to revise and extend their remarks and include extraneous material:)

Mr. HOYER, for 5 minutes, today.

Ms. WOOLSEY, for 5 minutes, today.

Mr. BROWN of Ohio, for 5 minutes, today.

Mr. DEFAZIO, for 5 minutes, today.

Ms. KAPTUR, for 5 minutes, today.

Mr. EMANUEL, for 5 minutes, today.

Mr. MEEHAN, for 5 minutes, today.

Mr. INSLEE, for 5 minutes, today.

Ms. NORTON, for 5 minutes, today.

Mr. BLUMENAUER, for 5 minutes, today.

Mr. EDWARDS, for 5 minutes, today.

(The following Members (at the request of Mr. POE) to revise and extend their remarks and include extraneous material:)

Mr. FLAKE, for 5 minutes, today.

Mr. NORWOOD, for 5 minutes, today and July 13 and 14.

Mr. SAM JOHNSON of Texas, for 5 minutes, July 13.

Mr. CUNNINGHAM, for 5 minutes, July 13.

Mr. HUNTER, for 5 minutes, July 13.

Mr. McCUAUL of Texas, for 5 minutes, July 13.

BILLS PRESENTED TO THE PRESIDENT

Jeff Trandahl, Clerk of the House reports that on July 1, 2005 he presented to the President of the United States, for his approval, the following bills.

H.R. 120. To designate the facility of the United States Postal Service located at 30777 Rancho California Road in Temecula, California, as the "Dalip Singh Saund Post Office Building".

H.R. 289. To designate the facility of the United States Postal Service located at 8200 South Vermont Avenue in Los Angeles, California, as the Sergeant First Class John Marshall Post Office Building.

H.R. 324. To designate the facility of the United States Postal Service located at 321 Montgomery Road in Altamonte Springs, Florida, as the "Arthur Stacey Mastrapa Post Office Building".

H.R. 504. To designate the facility of the United States Postal Service located at 4960 West Washington Boulevard in Los Angeles, California, as the "Ray Charles Post Office Building".

H.R. 627. To designate the facility of the United States Postal Service located at 40 Putnam Avenue in Hamden, Connecticut, as the "Linda White-Epps Post Office".

H.R. 1072. To designate the facility of the United States Postal Service located at 151 West End Street in Goliad, Texas, as the "Judge Emilio Vargas Post Office Building".

H.R. 1082. To designate the facility of the United States Postal Service located at 120 East Illinois Avenue in Vinita, Oklahoma, as the "Francis C. Goodpaster Post Office Building".

H.R. 1236. To designate the facility of the United States Postal Service located at 750 4th Street in Sparks, Nevada, as the "Mayor Tony Armstrong Memorial Post Office".

H.R. 1460. To designate the facility of the United States Postal Service located at 6200 Rolling Road in Springfield, Virginia, as the "Captain Mark Stubenhofer Post Office Building".

H.R. 1524. To designate the facility of the United States Postal Service located at 12433 Antioch Road in Overland Park, Kansas, as the "Ed Eilert Post Office Building".

H.R. 1542. To designate the facility of the United States Postal Service located at 695 Pleasant Street in New Bedford, Massachusetts, as the "Honorable Judge George N. Leighton Post Office Building".

H.R. 2326. To designate the facility of the United States Postal Service located at 614 West Old County Road in Belhaven, North Carolina, as the "Floyd Lupton Post Office".

ADJOURNMENT

Mr. GINGREY. Mr. Speaker, I move that the House do now adjourn.

The motion was agreed to; accordingly (at 10 o'clock and 5 minutes p.m.), the House adjourned until tomorrow, Wednesday, July 13, 2005, at 10 a.m.

EXECUTIVE COMMUNICATIONS, ETC.

Under clause 8 of rule XII, executive communications were taken from the Speaker's table and referred as follows: