

from drought since early last fall. I am currently a co-sponsor of a bill with Senator BAUCUS that would provide emergency funds to farmers and ranchers suffering crop and livestock loss. I believe Senator THOMAS' bill fits in perfectly with my earlier efforts to help our producers. It is a common sense approach to a real problem.

I look forward to working with my colleagues to pass this legislation.

IN MEMORY OF TIMOTHY WHITE

Mr. HATCH. Mr. President, I wanted to take a moment to note the passing of Timothy White, who was the editor-in-chief of *Billboard* magazine until he died unexpectedly a few weeks ago, leaving a wife and two young sons. He has been honored by many throughout the music industry, particularly for his trumpeting of new, not yet famous artists, working to give them space in a medium generally reserved for the already successful.

We worked with Tim on artists' rights issues, such as work-for-hire, during my tenure as chairman of the Judiciary Committee. His efforts on behalf of all artists will be remembered.

Looking to boost artists whom he felt deserved more attention, he wrote, "At its high end, rock 'n' roll can periodically fill in the hollows of this faithless era—especially when the music espouses values that carry the ring of emotional candor." I share the hope that true artists who offer a lift to their listeners from the weight of the world will be found by those seeking the joy and inspiration music can offer, and note with sadness the passing of a friend of that cause, as I also join my friends in the music industry in extending our condolences and best wishes at this difficult time to Tim's wife and sons. I trust they will find Tim's legacy a source of pride and solace in the coming months and years.

Mr. SMITH of New Hampshire. Mr. President, I rise to say a few words about human cloning as the Senate will soon be recessing for the month of August. Not only has the Senate failed to ban human cloning altogether, we have not had a meaningful debate on this critical issue.

Let me begin my remarks with an insightful and profound line in the movie "Jurassic Park," delivered by a mathematician played by Jeff Goldblum. As the creator of the park is praising his scientific team for taking science into uncharted waters, Goldblum's character interrupts him. "Your scientists were so preoccupied with whether or not they could, they didn't stop to think if they should." The Senate needs to stop and think if it should.

In my remarks today, I will outline five reasons why the Senate should vote for the Brownback-Landrieu bill which bans all human cloning. Let me start by saying that there has been a lot of talk about "the two different kinds of cloning"—that is, reproduc-

tive and therapeutic. But let me be clear: All human cloning is reproductive, in the sense that it creates—reproduces—a new developing human intended to be genetically identical to the cloned subject. The difference is that one is intended to be carried to term and the other is intended to be deliberately killed for its cells.

Therapeutic cloning is when scientists clone an embryo solely to utilize its stem cells either to create large "control groups" or to attempt mass production of genetically matched stem cells for treatment of diseases. Many of my colleagues believe that only reproductive cloning is immoral, but they are in favor of therapeutic cloning. They say that therapeutic cloning is beneficial because it has the potential to help people with diseases. They don't want a cloned embryo to be implanted in a woman's womb and begin to grow, but they support creating the embryo and then plucking its stem cells until it dies.

The first reason my colleagues should vote to ban all human cloning is that the human embryo is a human life with a soul, whether it is cloned or is conceived naturally, and should be destroyed for any reason. There is not one person in the Senate or on the face of the Earth who did not begin their life as a human embryo.

If we allow the creation of embryos solely for their destruction, we will effectively be discriminating against an entire class of human beings by saying to them: I will destroy your life for the sake of someone else's or my own. If we accept the notion that some lives have more value than others, if we allow scientists or doctors or politicians to play God and determine which lives have value and which do not, then we have demolished the very foundation upon which we have built our freedom. Human embryos are not machines to be used for spare parts, all in the name of "medical progress." We cannot view human life as an exploitable natural resource, ripe for the harvest.

Some base their passion for so-called therapeutic cloning upon the false premise that what is created in the lab is not a human embryo. The facts dispute these unsupported claims. Dr. John Gearhart of Johns Hopkins University, one of the discoverers of human embryonic stem cells, told the President's Council on Bioethics on April 25, 2002, that he thinks the product of cloning is and should be called an "embryo." He said: "I know that you are grappling with this question of whether a cloned embryo created in the lab is the same thing as an embryo produced by egg and sperm, and whether we should call it an 'embryo', but anything that you construct at this point in time that has the properties of those structures to me is an embryo, and we should not be changing vocabulary at this point in time."

Even the American Medical Association believes that the clone is fully human. The Senate should also listen

to the House of Representatives and the American public. The House passed a strong prohibition on human cloning last summer, and poll after poll shows that the vast majority of American citizens are opposed to all human cloning.

The second reason to ban all human cloning is that there are better and more ethical ways to discover cures for diseases that do not involve the destruction of a human embryo, especially in light of the fact that cloning may not even work!

Almost weekly we read of amazing breakthroughs in the scientific and medical communities using adult stem cells and other noncontroversial tissues and cells to treat human conditions. Adult stem cells are used with success in more than 45 human clinical trials, while embryonic stem cells and stem cells from human clones have not helped a single person. Here are just a few examples of the successes of adult stem cells:

Last July, the *Harvard University Gazette* reported that mice with Type 1 diabetes were completely cured of their disease using adult stem cells. Additionally, University of Florida scientists reported recently that adult rat liver stem cells can evolve into insulin-producing pancreatic cells, a finding that has implications for the future of diabetes research.

On June 15 of last year, the *Globe and Mail* reported that Israeli doctors injected a paraplegic with her own white blood cells, and she regained the ability to move her toes and control her bladder.

In December of last year, *Tissue Engineering*, a medical journal, reported that researchers believe they will be able to use stem cells found in fat to rebuild bone. If this research works, people with osteoporosis and other degenerative bone conditions could benefit significantly.

A researcher at the University of Minnesota has discovered what is being called the ultimate stem cell. The stem cells found in adult bone marrow have passed every test by proving that they can form every single tissue in the body, can be grown in culture indefinitely with no signs of aging, can be isolated from humans, and do not form cancerous masses when injected into adults.

Scientists from Celmed BioSciences reported that adult neural stem cells taken from a patient's own central nervous system have been successfully used to treat Parkinson's disease. Their research suggests this method of using adult stem cells may possibly be useful in treating a variety of other neurological conditions.

Scientists reported success last week in converting skin cells into immune cells. This development has great promise for treating diseases such as diabetes, immune deficiencies, Parkinson's, Alzheimer's and spinal cord injuries. When using cells from the patient's own body, the risk of rejection is overcome.

Researchers found that intravenous injections of cells from human umbilical cord blood improved the neurological and motor function of rats recovering from severe traumatic brain injury. The study appears in the June 6 issue of the journal *Cell Transplantation*, a special issue that focuses on emerging approaches in neural transplantation and brain repair.

In fact, these ethical approaches to stem cell research are also safer for patients than embryonic stem cell research because embryonic stem cells may cause tumors in patients, and the body may reject embryonic tissues in the same way the immune system rejects transplanted organs. As President Bush has stated: "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." Embryonic stem cells have never been used successfully in a human trial. The haven't even been used to completely cure disease in a rat or a mouse.

With the success of adult stem cells, you do not need to clone human beings. Let's invest in medical research that the entire Senate can support. There is also increasing evidence to indicate that human cloning may not even work! You may disagree with my moral or ethical arguments, and you may not care how successful adult stem cell therapies have been, but I hope you will at least pay attention to this important point. Let me repeat it: There is convincing evidence that human cloning may not even work.

The April 5, 2001, issue of *Nature* reports that cloning human embryos to harvest their stem cells is being abandoned by many researchers as inefficient, costly, and unnecessary. The article says that "many researchers have come to doubt whether therapeutic cloning will ever be efficient enough to be commercially viable." Noting the short supply of human eggs and the expense and inefficiency of cloning, the article concludes that the prospects for therapeutic cloning have "dimmed" and those who still favor it are taking a "minority view."

Dr. Stuart Newman of NY Medical College noted in his March 5 Senate testimony that genetically matched cells from cloning may well be useless in treating conditions with a genetic basis such as juvenile diabetes—because these cells will have the same genetic defect that caused the problem in the first place.

Due to these factors, as well as advances in genetically tailoring cells without using cloning, many experts do not now expect therapeutic cloning to have a large clinical impact. In fact, this whole approach is said to be "falling from favor" among both British and American researchers.

Last December, Michael West of Advanced Cell Technology predicted that within 6 months, his company would be ready to create "magic" cells that would save 3,000 lives per day because he would be able to clone a human embryo. However, it was later revealed that West was unable to garner stem cells from his cloned embryos. Scientists quickly pronounced West's cloning experiment a failure. Dr. Donald Kennedy summarized the study this way: "This scientific effort did not succeed by any measure."

Thomas Okarma, the chief executive of Geron Corp., a cell therapy company, has no interest in using cloned embryos to produce customized treatments for disease. According to the *L.A. Times*, he said the odds favoring success "are vanishing small," and the costs are daunting. He also said that it would take "thousands of [human] eggs on an assembly line" to produce a custom therapy for a single person. "The process is a nonstarter, commercially," he said.

Let's review the headlines of what the experts say about cloning: "Did not succeed", "Falling from favor", "may well be useless", "prospects have dimmed", "vanishing small", "did not succeed", and "nonstarter". If I were a cloning advocate, I wouldn't want this to be made public.

Writer Wesley J. Smith says human cloning is indeed immoral. But that isn't the reason it will eventually be rejected. He says "there is increasing evidence that therapies based on cloned embryo cells would be so difficult and expensive to develop and so utterly impractical to bring to the bedside, that the pie-in-the-sky promises which fuel the pro-cloning side of the debate are unlikely to materialize. Not only is human cloning immoral but it may have negative utility—in other words, attempting to develop human cloning technologies for therapeutic use may drain resources and personnel from more useful and practical therapies."

I want to briefly mention another form of hype that ties into the notion of human cloning and its "boundless potential." Let's talk about the much ballyhooed fetal tissue transplantation experiments. It was originally thought of as the "ultimate cure of the future" and that interfering with these experiments was to interfere with saving countless lives. Now, after 13 years of private and publicly funded trials, some of the worse case scenarios have come to pass, while nothing of scientific value has been accomplished.

Today there is a thriving market in the sale of baby body parts, which I brought to light a couple of years ago. Also, the methods and timing of abortions are being changed to garner better tissue for research, and the most comprehensive study on the use of fetal tissue to treat Parkinson's showed no overall health benefit. Research described side effects of the treatment as "absolutely devastating." Patients implanted with fetal tissue chewed con-

stantly, writhed and twisted, and one patient had to be put on a feeding tube because his spasms were too severe. Dr. Paul Greene says it best: "no more fetal transplants." Some panacea.

Gene therapy is another example of hype that not only as yielded no results, but is has also been responsible for the deaths of many people and over 1,000 serious adverse effects. A patient's group advocate noted: "It's hardly gotten anywhere. I have been very disappointed."

The only thing cloning will do is "clone" all the similar hype that has gone before it.

Additionally, trials in animal cloning indicate that 95 to 99 percent of the embryos produced by cloning will die; of those that survive until late in pregnancy, most will be stillborn or die shortly after birth. The rest may survive with unpredictable but devastating health problems. In fact, a review of all the world's cloned animals suggests every one of them is genetically and physically defective.

Four years ago, it took about 270 attempts to clone Dolly, the sheep. Is the Senate willing to go on record to sacrifice 270 human lives in order to successfully produce 1 cloned human being?

The third point I would like to drive home to you is the slippery slope argument. It is interesting to see how this debate has evolved, especially when one considers last year's debate, which was about whether to condone the dissection of embryos that would be destroyed anyway. This year's debate is about whether to destroy embryos that wouldn't have been created otherwise. One of my colleagues, on the subject of killing embryos, had this to say: "Private companies are creating embryos specifically for stem cells, and I think that's a very bad idea." However, he is now sponsoring a bill that would allow what he once opposed: the creation of embryos specifically for stem cell research.

If the debate alone has evolved and is subjective and prone to change and charging down a slippery slope, how much more so the issue of medical experimentation with human beings? Many cloning supporters scoff at the slippery slope argument, but let's look at what is happening with animal experimentation. Already scientists have taken cloned cow embryos past the blastocyst stage, allowed them to develop into fetuses, and reimplanted their tissue back into the donor animal.

If we allow for therapeutic cloning—again, this is cloning where you grow a cloned embryo simply to utilize its cells for medical research—why not allow cloned embryos to further develop until their organs can be harvested for transplantation? If a cloned baby could save or improve the lives of many people, why not sacrifice its organs for the sake of many other people's quality of life? The only distinction, if morality and ethics are not a

consideration, is a few months of time to wait for the embryos to develop.

It is no secret that our society wants to live forever. What would stop a person with financial means from cloning little versions of themselves so that when they get old, they could pluck out a younger version of a failing organ from their clone?

If we are willing to use cloned human embryos to save human lives, why shouldn't we consider sacrificing other "less important" people for our own gain? For example, how about taking healthy organs from persons who are in a permanent vegetative state? What about plucking parts from the terminally ill, mentally retarded, or "old" people past the age of 60. I know this may sound far-fetched to my colleagues, but let us ask ourselves what the Senators standing in this Chamber a mere 25 years ago would have thought of a debate such as the one we are having here today on human cloning. They would have thought predictions of deliberation on such matters were far-fetched as well.

Once we start down the slippery slope of creating life for utilitarian purposes, there is no definitive line that separates what we ought and ought not to do. There are no ethical boundaries that will keep scientists in check once we accept the premise that the goal of curing diseases outweighs the ethical or moral value of human life. But once we accept the "anything goes" philosophy, then "everything goes." When we begin to decide who should live and who should not, we effectively remove God from every area of our lives and our Nation. After the events of September 11, it is clear that this Nation needs God more than ever.

This is to say nothing of the eventual creation of a brave new world. Will genes be modified to give people higher IQs or eliminate the tendency to be overweight? What if we inadvertently introduce disastrous abnormalities into the human race? Will we introduce abnormalities that lead to new diseases that afflict our fellow man? Cloning is just not worth it.

The fourth point to consider is that human cloning represents the commodification and commercialization of human life. Some biotech firms hope to patent specific cloned human embryos for sale for many types of experimentation—just as designer strains of cats, mice, and other animals are already patented and sold as "medical models." These firms are amoral and will pursue whichever path provides the greatest potential for financial gain. They will not regulate themselves. This Congress bears the responsibility of regulating these companies. It is our duty to the American public to hold amoral corporations to a higher ethical standard. These biotech firms are forgetting that human life is not a good to be traded in the marketplace nor a means by which they can profit financially.

The fifth and final reason we should not allow any form of human cloning is

that it will be impossible to keep women from implanting cloned embryos into their wombs.

A ban on reproductive cloning will not work because cloning would take place within the privacy of a doctor-patient relationship and because the transfer of embryos to begin a pregnancy is a simple procedure. Would the woman be forced to abort the "illegal product"? This has been called the "clone and kill" approach because you would force the woman to kill her unborn child.

Even the Department of Justice agrees that it is nearly impossible to enforce a bill that allows for the creation of human embryos for research. They said: "Enforcing a modified cloning ban would be problematic and pose certain law enforcement challenges that would be lessened with an outright ban on human cloning." And "anything short of an outright ban would present other difficulties to law enforcement."

If you think we will never see an implanted clone, think again. Italian fertility specialist Severino Antinori is now explicitly claiming that three women are pregnant with clones. One of the pregnancies is in its 10th week.

The bottom line is that if we only vote to ban reproductive cloning but allow for therapeutic cloning, at some point we will start hearing stories of women who are pregnant with clones of their dead children, clones of their husband, and clones of themselves. We will have opened up the Pandora's box, and we will bear the responsibility for all that may follow.

Unless humans are seen as created in God's image and endowed by Him with the right to live, there will be no stopping the scientists and doctors from doing whatever they want to do.

We stand here today in an important moment in time. Pro-cloning advocates have promoted the lofty claims of miraculous breakthroughs. They play on the emotions of the ill and those who care about them, which is all of us. But just below the surface there is a dark, frightening premise. They believe that science has the right to play God, to create a lower form of human life to be harvested for medical research. This is ethically and morally wrong. Even science does not back all the hype from the pro-cloning side. There is no proof that sacrificing our ethics and morality to allow human cloning will even help these patients. There are better, ethical solutions.

Today, my colleagues, we must choose. This one decision will protect human life as we know it, or it will open the door to an ethical, medical, and moral wasteland. We can help those suffering with diseases without sacrificing our Nation's core principles. To oppose any form of human cloning is to preserve the sanctity of human life while providing real solutions based on real science. Let us choose what is right. We must ban all human cloning, no matter how it is cloaked.

Future generations will judge us based upon what we do today. We must think of the future we want for our children—an ethical world that use sound, moral science to heal, and that respects the dignity of every human life.

Our country stands at a crossroads. I hope the United States will not follow the road taken by God's chosen people many years ago as recorded in the Holy Bible: "In those days Israel had no king; everyone did as he saw fit." (Judges 21:25)

I hope and pray that the Senate will eventually ban all forms of human cloning.

IRAQ

Mr. HAGEL. Mr. President, I ask unanimous consent to have printed in the RECORD a statement on Iraq that I gave before the Foreign Relations Committee.

There being no objection, the material was order to be printed in the RECORD, as follows:

Mr. HAGEL. I would like to congratulate the Chairman and the Ranking Member for holding these timely hearings on Iraq. I agree with my colleagues that we need a national dialogue on what steps we should take to deal with the threat posed by Saddam Hussein's Iraq. Americans need to be informed about the complexities and consequences of our policies in Iraq.

I look forward to listening to and learning from the distinguished witnesses before us today about the nature and urgency of the threat we face from Iraq, including their evaluations of what the best policy options may be for meeting this threat; the prospects for a democratic transition after Saddam Hussein; and what the implications of our policies in Iraq may be for the stability of the Middle East and our security interests there.

Much of the debate by those advocating regime change through military means have so far focused on the easy questions. Is Saddam Hussein a ruthless tyrant who brutally oppresses his own people, and who possesses weapons of mass destruction that have the potential to threaten us, his neighbors and our allies, including and especially Israel? Yes. Do most Iraqis yearn for democratic change in Iraq? Yes, they do. Can Saddam be rehabilitated? No, he cannot.

In my opinion, complicated and relevant questions remain to be answered before making a case for war, and here is where these hearings will play an important role. What is the nature, and urgency, of the threat that Saddam Hussein poses to the United States and Iraq's neighbors? What do we know about Iraq's programs of weapons of mass destruction? There have been no weapons inspectors in Iraq since December 1998. Is Iraq involved in terrorist planning and activities against the United States and US allies in the Middle East and elsewhere?

What can we expect after Saddam Hussein in Iraq? What do we know about the capabilities of the opposition to Saddam inside Iraq? While we support a unified and democratic opposition to Saddam Hussein, the arbiters of power in a post-Saddam Iraq will likely be those who reside inside, not outside, the country. And these individuals and groups we do not know. Who are they? And where are they? These are the Iraqis we need to understand, engage, and eventually do business with.

What will be the future of Iraqi Kurdistan in a post-Saddam Iraq?