

TESTIMONY REGARDING HB 370 (Cameron Henry)
“Prohibits public funding of human cloning”
House Health & Welfare Committee, April 9, 2008

Good Morning, Madam Chairman, and Ladies & Gentlemen of the Committee!

My name is Dr. W. A. Krotoski. I am a physician and retired medical scientist. I have lived in Louisiana since 1974, and in Baton Rouge since 1982. Although no longer in medical practice and bench work, I am President of, and represent *The Hippocratic Resource*, a Louisiana-wide organization of physicians, dentists, nurses and other health professionals who have committed to promoting the life-respecting principles of the Hippocratic Oath, the foundation of medical ethics. My active career included 26 years with the U.S. Public Health Service, and produced some 55 research articles, several chapters for medical texts, and co-authorship of one such text. In 1989 my research was honored by a nomination for the Nobel prize in physiology and medicine. I have taught at both Tulane and LSU Schools of Medicine and Public Health, and also their Graduate Schools. Currently, despite retirement, I continue to serve on the research ethics board of Baton Rouge General Medical Center, and next month am having a new article published in *The Linacre Quarterly*, a journal devoted to the philosophy and ethics of medical practice; this one is on the U.S. traffic in human ova or oocytes, the basic cell used in human cloning. I mention all this, not for personal aggrandizement, but to serve as a basis for my comments on Representative Henry’s HB 370 to ban human cloning in Louisiana.

I am testifying today in favor of his bill for several reasons:

First ... As a physician and medical scientist, I remain unconvinced that human cloning is anywhere nearly as promising as its proponents claim. And I am not alone in this realistic pessimism. To begin with, on theoretical grounds, the possibility of rejection of *any* cloned cellular transplant always exists. Clones produced by somatic cell nuclear transfer, or SCNT, are not as identical as science fiction or the media would suggest, because maternal genetic factors left behind when the oocyte is depleted of its nucleus influence the makeup of the resultant clone. It has also been shown that there is a greater propensity for malignancy – cancer – probably due to the absence of specific control factors during the development of tissues isolated from their normal, developmental environment. Then there is the issue of simple practicality. Up to millions of oocytes would be needed for meaningful research and to develop medical treatments; however, they are of a size approximating the period at the end of a sentence, and only about 10-20 are obtainable by any intensive procurement procedure. Procuring enough for practical experimentation would lead to the exploitation of at least tens of thousands of women – who would inevitably be mostly poor, whether students or otherwise. Furthermore, even if theories suggest some desirable outcomes, medical science has progressed very well by the stepwise process of first, test tube and “lower” animal; then “higher” animal; then primate; and finally, human subject. Yet, few of these required steps have been taken in the area of cloning – certainly, no primate work has been successful – and proceeding directly to a human subject without them is simply impatient, doubtfully ethical, and often poor medical science. Additionally, although there has been a great deal of talk regarding the potential “promise” of human cloning for over a decade, there has not been a single, successful therapeutic modality developed – *not even one* – and not even in countries which may have lesser, voiced concern for ethics and human rights. Certainly, nothing therapeutic has happened during the 4-5 years that we have been debating the issue in Louisiana! So why are some American scientists and institutions so eager to pursue what experience suggests will be unproductive, regardless of their theories? One answer is research funding. California, for one, has earmarked over three billion dollars of yet-to-be-collected taxpayer funds for what is expected to be largely human cloning and embryonic stem cell research, the ethics and morality of which are seriously challenged, if not condemned. Most recently, after a quick funding fling with human embryonic stem cell research, the European Union is being asked by Germany, Austria, and other nations to institute a funding ban on such research for their newest budget, also based on the realization that destruction of even embryonic human beings is ultimately immoral and unethical. Only sporadic clinical application has been seen, some with disastrous results.

Second ... Adult stem cell research, which is considered completely ethical – at least, if performed in an ethical manner – has already yielded numerous clinically applicable therapeutic results, many in areas which have been touted by proponents of human cloning as the almost certain outcome of their proposals. No medical therapy is developed overnight; most are in process for years; some protocols, particularly in cancer therapy, are conducted with anticipated gains of only a few months’ anticipated survival times. Nevertheless, in the area of adult stem cell therapies, approximately four score have been proposed for, or have been placed in clinical trials, based on the possibility of regenerating tissues for the treatment of such conditions as neurologic diseases, spinal cord injuries, heart diseases, diabetes, hematologic illnesses, immune system or hematologic malignancies and genetic disorders. And credible therapies have also been proposed for diseases as diverse as Duchenne muscular dystrophy, Parkinson’s disease and Alzheimer’s disease, among many others. The use of placentas and umbilical cords as a source for non-

embryonic stem cells, based on their availability and biologic plasticity, has seen particular progress. In fact, even proprietary treatments with such pooled stem cells for, among other diseases, sickle cell anemia and childhood leukemia are currently being tested in New Orleans and Baton Rouge. Also on the horizon is the exciting prospect of *induced* pluripotent stem cells – developed just last year in the U.S. and in Japan from *non-embryonic* sources – that appear to have as much, if not more promise than those from killed clones or other human embryos.

Third ... Medical research and the development of medical therapies are obviously worthwhile in and of themselves, and, in fact, are goals to which I, personally, devoted most of my medical professional life. However, these goals are capable of being *misused* as a convenient excuse simply to satisfy human curiosity, but in an unethical way. In recognition of this, the cloning of human beings was formally banned by the Council of Europe – for moral and ethical reasons – eight years ago, there being no valid biologic distinction between a natural human embryo and a cloned human embryo. Medical research involving human experimental subjects – or animals, for that matter – must today be individually and carefully evaluated and scrutinized for its ethics by knowledgeable, designated panels or boards **that lack any conflicts of interest** – and before being undertaken. And erring on the side of caution is still considered the more moral thing to do in human medicine.

Fourth ... in the Hippocratic context of ‘do no harm,’ it is medically unethical to expose a subject to an experimental procedure where the risks significantly outweigh the benefits to him or her, or where the subject’s health integrity is significantly compromised. Obtaining oocytes from a woman for cloning research requires significant manipulation of her body, including the use of high doses of hormones, followed by harvesting of the released ova under general anesthesia – and without benefit to her health or well-being. Some of the complications include a severe ovarian hyperstimulation syndrome, which may include blood clots, twisting of an ovary to cut off its blood supply (leading to major surgery), as well as kidney malfunction, fluid accumulation in the chest or abdomen, and even death. They also include possible ovarian cancer; as well as possible early infertility, due to depletion of the finite supply of an individual woman’s oocytes. The risk ratio to the non-benefiting subject is simply too high, and clearly falls into the category of proscribed action for an ethical physician.

Finally ... We need to be acutely aware that scientists are not always ethical in their approach to their work. In addition to a fair number of ‘earth-shaking’ hoaxes – or attempted hoaxes – perpetrated in almost every scientific field over the last century, evidence for human scientific weakness in the area of human cloning has already been seen in the unethical practices and deliberate deceptions perpetrated recently by the disgraced Korean scientist, Huang Woo-Suk, who was formally indicted, with 5 members of his team, for fraud and bioethics. Scientific curiosity is naturally and necessarily very strong; so it seems inevitable that an unethical scientist would attempt to take the human clone embryo through further development, including implantation into a woman’s womb, and perhaps to the point of birth. Such an immoral and unethical proposition would create further dilemmas: either to abort the developing cloned human short of birth, or to permit him or her to be born, possessing whatever developmental anomalies might result from the very nature of clone development. Even worse is something recently projected by British scientists, and for which popular approval is being manufactured, namely the creation of human-animal hybrid clones or chimeras. Can you imagine human-pig or human-cow or human-rat hybrids? Such is the stuff, not of science fiction, but of serious nightmares, yet the marketing is already going on toward this end in Britain!

In conclusion, based on all that I have mentioned, I would suggest that we do not have the funds to compete with California’s self-mortgage of three billion dollars. As good medical research is still, obviously, a worthwhile goal, I would suggest that spending Louisiana’s medical-research-earmarked funds on cleanly ethical, less theoretical, and experientially more promising adult and placental/umbilical stem cell research would attract more, ethically motivated doctors and scientists interested in genuine medical progress. In short, ***I urge you to facilitate the cleanly ethical, moral and fiscally responsible path, and to vote in favor of Representative Henry’s HB 370.*** Thank you very much for your attention!

W. A. Krotoski, M.D., Ph.D., M.P.H.
President
The Hippocratic Resource