

Opportunity knocks

On 6 November, the United Nations (UN) voted to delay for two years its decision on whether to ban human cloning. This is the second time the UN has tabled this debate, but its paralysis on this contentious issue may have a silver lining: it presents scientists with a promising opportunity to take matters into their own hands.

In choosing to delay a ban, the UN endorsed a proposal put forward by several Islamic nations. The decision, while not ideal, is still the lesser of two evils because it avoids passing a proposed total ban on human cloning—even so-called therapeutic cloning for medical and scientific research—sponsored by Costa Rica and supported by more than 60 other countries, including the US. A second, less popular, proposal, sponsored by Belgium, Britain, China, Japan and more than 20 other countries, would have banned reproductive cloning but allowed individual countries to determine guidelines on therapeutic cloning.

Given the wide range of religious and moral belief systems across the world, it is perhaps not surprising that no international consensus was reached on such ethically and politically charged research. But it is a shame that amidst all the political wrangling, the UN was unable to pass a resolution forbidding reproductive cloning, despite nearly unanimous worldwide support for such a ban.

Currently, the laws governing cloning vary widely. Some countries, including Australia, Canada, Germany and Norway, ban cloning altogether; others, including the UK, allow therapeutic cloning—also called nuclear transfer—for biomedical research; still others do not yet have any legislation regulating human cloning. Because countries are adopting vastly different research practices, scientists worldwide need a better framework to define acceptable standards for cloning research. Science is a collaborative venture, and international partnerships are increasingly the rule, not the exception. In this context, it is lamentable that the UN has lost its chance to act as—or create—a governing body for protocols using therapeutic cloning.

Therapeutic use of stem cells is now a scientific reality and not just a distant idea. Some of the most immediate applications for therapeutic cloning are in the field of neuroscience. Experiments in rodent models indicate that effective treatment of neurodegenerative conditions such as Parkinson and Alzheimer diseases could soon be realized. Another promising therapy is in the treatment of spinal cord injury. In China, experimental spinal cord therapies using olfactory ensheathing cells from aborted human fetuses are showing promise. What if, within the next few

years, a promising stem cell therapy were to emerge? Would patients in countries with a ban on stem cell work needlessly suffer?

The US lobby to ban all types of human cloning is philosophically consistent with the Bush administration's stance on stem cell research. The US now restricts federal funds for human embryonic stem cell research to cell lines harvested before August 2001. The work that can be done using the available stem cell lines is limited. The federal restrictions have therefore fostered numerous partnerships between basic scientists and biotechnology companies that create their own stem cell lines. Funding for this work must come from the private sector, leaving scientists funded by the US National Institutes of Health at a serious disadvantage. Those circumstances make eminently possible a 'brain drain' of American scientists who would move to other countries to do such work.

In the absence of UN leadership, there is no international body to regulate research with embryos and stem cells. But this is where scientists can step in and fill the void. For instance, an international agency led by scientists could approve experiments, in much the same way that a university's institutional review board approves clinical trials on experimental therapies. Without the power to enforce law, such an agency would not prevent a rogue scientist from pursuing unethical experiments, but the mere presence of the organization might help nations navigate the murky ethical quandaries these experiments pose. One also cannot underestimate the public value of scientists taking an active role in matters of political and ethical debate.

There are precedents for scientists taking strong steps toward self-regulation. What is now known as the 'Bermuda convention' established regulations to ensure that genome sequences would remain in the public domain to benefit society. Yet another model of scientific initiative is the 1975 Asilomar convention, where researchers created guidelines to minimize risk in recombinant DNA research.

If the true potential of therapeutic cloning is to be fulfilled, scientists should take up the mantle themselves, rather than relying on the UN or others to make the decisions for them. The next few years provide an opportunity for researchers to demonstrate to the public the enormous medical potential of therapeutic cloning, while at the same time framing appropriate ethical standards. Progress on those fronts will provide ammunition for a reasoned debate in the UN in 2005, and whenever else the issue is revisited.