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They have a baby called Eve and a “bishop” called Brigitte. They have disciples in Canada, France, and the Bahamas. They have a UFO theme park in Quebec and the world’s largest structure made out of hay bales. Their leader has tried his hand at sportswriting and driving race cars; he likes to hang around volcanoes in France and be ravished by voluptuous female robots. They all believe the human race is descended from extraterrestrials. Oh, and they wear rather naff-looking space suits. Would you trust these people to clone you a baby? Apparently, some would.

In December, the Raelians (a hitherto obscure religious sect) successfully catapulted themselves into the headlines when Brigitte Boisselier of their Bahamas-based company, Clonaid, announced “the successful delivery of the world’s first cloned baby.” The announcement, which lacked any kind of scientific corroboration or independent verification, commanded unprecedented media coverage and elicited universal outrage from scientists and politicians alike. As *Nature Biotechnology* went to press, not a scrap of evidence had been produced to back up their claim. Even the journalist selected by Clonaid to oversee DNA testing of the baby conceded that the announcement was likely a hoax.

Incredulity about the Raelian claims, however, should be tempered by the realization that human reproductive cloning, though not imminent, is coming. Despite widespread condemnation by the scientific community, several laboratories around the world are undertaking clandestine efforts to bring a cloned human embryo to term. US fertility specialist Panayiotis Zavos claims to be working with about 20 researchers of various nationalities. And would-be cloner and maverick Severino Antinori claims 600 infertile couples in Italy and 6,000 in the United States have already signed up for his cloning program.

It is also clear that a secretive group like Clonaid might be the perfect organization for carrying out a reproductive cloning program. For such a program, the main requirements would be: 1) a small team of researchers willing to carry out the work, irrespective of the appalling risks to mother and child; 2) an initial outlay on equipment and machinery; and 3) lots and lots of human eggs.

The Raelian sect certainly has enough money to hire the expertise and equipment to satisfy the first two criteria. And it is also clear that Raelian scientists would find female disciples willing participants in egg-harvesting and implantation procedures, whereas scientists at conventional biotechnology companies find few ready egg donors from the public and must work with ethics and institutional review boards. Indeed, cloning programs at Massachusetts-based Advanced Cell Technology reportedly were constrained by the scarcity of human eggs (which incidentally came at a cost of around \$4,000 a donor). Clonaid’s program would have had no such limitations.

Dr. Boisselier (aka “Bishop Boisselier”) claims that the Raelians have created several hundred cloned human embryos and conducted ten implantation experiments on human subjects. Of these, five miscarried, two have led to live births, and three more are expected. The implantation rate of 100% is, to say the least, rather extraordinary: *in vitro* fertilization clinics usually manage only 20%.

The live birth rate at Clonaid also deserves comment: 20% at time of press, and possibly 50% if all the pregnancies come to term. Elsewhere, researchers have achieved rates of only 1–5% for sheep and pigs, and 0% in rhesus macaques. And those rates assume that it is possible to create implantable embryos by nuclear transfer: the only published data available on human embryos—from an Advanced Cell Technology publication in November 2001—shows that of 17 nuclear transfer experiments attempted, only one embryo divided as far as the six-cell stage.

From a practical standpoint, there is very little to commend reproductive cloning. It has no therapeutic value as such. However, there is evidently a consumer demand for these procedures. As happened for *in vitro* fertilization, public attitudes to the technology may change. And once nuclear transfer methods do become safer, full public discourse on the ethical, moral, and religious ramifications of the technology will be necessary.

Today, though, the goal for legislators should be to prevent those who, through the use of present cloning technologies, knowingly and negligently place human beings at great risk of personal harm. Reproductive cloning methods are currently not safe and they are not reliable. And until nuclear transfer technology can be refined to a level where abnormalities such as swollen placentas or enlarged hearts or defective kidneys no longer occur in mammalian cloned fetuses, would-be cloners must be prevented from causing needless human suffering in the pursuit of dubious scientific goals and material profit. One day, we will have a better understanding of how living cells actually function and how organisms regulate their genomes to produce adults. That will be the time to reconsider reproductive cloning in humans, not before.

Over 40 countries, including the United Kingdom, Japan, France, Germany, Russia, Portugal, Denmark, and Australia, have legislation in place to prohibit research on cloned babies. The United States has no such ban: its legislation foundered in the Senate last year. In November 2002, it also missed an unprecedented opportunity (along with 36 other nations), by rejecting a United Nations initiative to ban reproductive cloning worldwide (primarily on the basis that the ban did not go far enough).

Now is the time to act. United States legislators should quickly move to ban attempts to bring human reproductive clones to term. Debates on therapeutic cloning can come later.