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Would-be cloners: Severino Antinori (left), Panayiotis Zavos and the Raelians' Brigitte Boisselier.

Prospect of human cloning poses dilemma for journals

Helen Pearson, New York

This time, it seems likely to have been a bizarre publicity stunt. But the media circus that has greeted the Raelian sect's claim to have produced two cloned babies raises an ethical dilemma. Should the scientific community help to verify any future similar claims? Or would this be condoning what most biologists agree is an unethical practice?

Leading scientists say that they would feel duty-bound to examine any serious claim that a human had been cloned. Perhaps more surprisingly, *Nature*'s enquiries suggest that a success in human reproductive cloning would probably be published in a mainstream scientific journal — a move that many would interpret as an endorsement of the work.

Speculation about human clones won't go away. Italian fertility doctor Severino Antinori has claimed that one of his patients will give birth to a clone within weeks. And his one-time partner Panayiotis Zavos, based in Kentucky, asserts that he has women volunteers who are ready to carry embryos created by cloning.

Although many scientists view Antinori and Zavos as scarcely more credible than the Raelians, the birth of a human clone remains conceivable. "It's been possible for at least five years," says Tony Perry of the RIKEN Center for Developmental Biology in Kobe, Japan.

But would scientists who helped to corroborate a claim of human cloning be perceived as condoning the process? "By contributing to the debate, the inference could be that they're supporting it," says Chris Barratt, a specialist in reproductive medicine at the University of Birmingham, and a member of Britain's Human Fertilisation and Embryology Authority.

Most cloning researchers, however, argue that the public has a right to know the truth. "We have to become involved, even if we find the job repugnant," says Randall Prather of the University of Missouri-Columbia.

Prather is one of three cloning researchers who, in response to the Raelians' claims, released a statement urging them to submit to tests by a respected authority such as the US National Academy of Sciences. Britain's Royal Society, meanwhile, advocated that two independent, accredited labs should compare the DNA of the individual alleged to have been cloned with that of their 'offspring'.

For his part, Zavos says that he plans to follow established scientific protocol. "I intend to publish in scientific journals," he says. But would any journal agree to publish a paper describing work that animal data suggest would be associated with a high risk of miscarriage, birth defects and other health problems?

Nature requires work involving human subjects to have been approved by an ethical review panel and to meet the Nuremberg Code, the international guidelines for human experimentation. On these grounds, says Natalie DeWitt, the *Nature* editor who handles papers on cloning, a manuscript on human reproductive cloning would probably be rejected without peer review. Jeffrey Drazen, editor-in-chief of *The New England Journal of Medicine*, says that its editors make their own ethical evaluations, taking into account factors such as standards of informed consent.

But at least one journal would be prepared to publish such a paper if it passed scientific review. "If the reviewers thought it was OK, I wouldn't have any qualms," says Alan DeCherney, editor of *Fertility and Sterility*, published by the American Society for Reproductive Medicine.

Gerald Schatten, a developmental biologist at the University of Pittsburgh, Pennsylvania, says journals that publish such work may stand accused of condoning unethical experiments. "Even if one human clone was born in a normal fashion, it doesn't mean future experiments wouldn't have catastrophic consequences," he says. ■

German researchers set to receive Israeli stem-cell shipment

Haim Watzman, Jerusalem

For a team of scientists in Germany, the long wait is over. Collaborators in Israel this month began shipping them the human embryonic stem cells they need for their research.

Neuroscientist Oliver Brüstle and his group at the University of Bonn will receive the cells as part of a joint project with an Israeli team led by Joseph Itskovitz-Eldor of the Rambam Medical Center in Haifa.

Brüstle's team will investigate the way in which the stem cells develop into nerve cells. Although the work was approved by Germany's main research-funding agency, the DFG, last January (see *Nature* 415, 566; 2002), the grant only came through last month.

German law forbids the production of human embryonic stem-cell lines, and research on such cells can be performed only on imported cell lines that were derived before January 2002.

By contrast, Israel is one of the few countries — including South Korea, Sweden, Singapore and the United Kingdom — to permit the production and propagation of human embryonic stem cells, as well as research on them.

Brüstle says he feels that Germany's rules are too strict, as they mean that the country's researchers will not have access to newly derived, and potentially more attractive, cell lines. "I very much hope that, as we gain more data, there will be increasing pressure to open up and even develop new cell lines," he says.

In Israel, an advisory committee on bioethics said in 2001 that Israeli scientists should be allowed to use cells from surplus embryos from *in vitro* fertilization treatment and from fetuses aborted up to nine weeks after fertilization, provided that the parents give informed consent.

But Amos Shapira, a law professor at Tel Aviv University and a member of the committee, says he worries that Israel may end up as a major exporter of embryonic cells to countries with stricter rules. If care is not taken, he warns, commercial and research motives could cause violations of the requirements laid down by the committee, such as informed consent. ■

H. J. KNIPPERTZ/AP

Oliver Brüstle is getting his stem cells from Israel.