

# BIOTECHNOLOGY

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## THE FIRST WORD

# Reproductive Technologies, Reproductive Responsibilities

It is becoming more and more possible to manipulate the human reproductive process to produce healthy babies on demand, and to treat sick fetuses early in development. As evidenced by the review from Gene Levinson and his colleagues in this issue, ingenious remedies for infertility and sophisticated fetal genetic testing and therapy have come very far indeed and given us an opportunity to confront with new authority the most formidable challenges of reproductive dysfunction and hereditary disease.

Reproductive technology is big business. In 1988, the U.S. Office of Technology Transfer estimated that the treatment of infertility would be a billion-dollar market; current estimates are that it is a multibillion dollar industry. There are reported to be 300 fertility treatment centers in the U.S. alone. Infertility treatments range from \$2000 to \$15,000 per treatment and often a number of treatments are necessary to achieve success.

Ethical guidelines and regulatory policy about how we are going to use these technologies have not, however, kept pace with the remarkable development of the technologies themselves and of the business. What is equally disheartening is how often the problems that result from the lack of guidelines and policy surface, and are argued, not in the professional literature but in the popular press.

The most recent case involves charges that the University of California at Irvine (UCI)-based Center for Reproductive Health and some affiliated clinics were allegedly involved in the "unauthorized transfer" of embryos to women who were not part of the original "parent couples," as well as the unauthorized use of the embryos in their care in unspecified research, the use of unapproved drugs on women whose eggs they were harvesting, and some comparatively straightforward monetary irregularities. The story first broke in May in the *Orange County Register*, although whistleblowers from the center had been telling their story since 1992. As of this writing, lawyers are trying to sort out ownership of the remaining embryos.

This is not the first time that reproduction, technology, and commerce have collided on a slippery slope: Nobel sperm banks, surrogate motherhood, and embryos as orphans and divorce hostages and raw materials have all underscored the need to set out the responsibilities of public institutions with respect to this most intimate of personal activities—an activity that often intimately involves not just mother and father, but doctors, lawyers, and many others once it enters the domain of biomedical technology.

Reproductive technologies have changed and will continue to change the ways in which children come into the world. They call into question our thinking about parenting, personhood, property, in fact the entire social fabric. We must consider very well indeed the ramifications of our reproductive interventions, well-intentioned as they might be. How do we balance the needs and interests of the various parties involved in reproductive issues—health-care providers and patients, parents and children? How tailor-made do we want our offspring to be? Where are the boundaries between the correction of genetic defects and the selection of genetic traits? Which cartographers will get to make the map? Which genome will they base it on? Are there limits to kinds of research and intervention that should be allowed?

Unless one is like the Vatican, bound by explicit doctrinal instruction, it is very difficult to maintain internal consistency with respect to these questions. That's why attempts to answer them have been so halfhearted.

But we must think through, in public forum and public policy, via media conducive to thoughtful discourse rather than in the popular press, the consequences of what are, in many respects, the most potent technologies we have yet conjured up. A U.S. commission on reproductive technologies is certainly a place to start. Other countries have already had the good sense to begin.

—SUSAN HASSLER

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