

Press Release



Pandora's Baby

by [Robin Marantz Henig](#)

- [About the Book](#)
- [About the Author](#)
- [A Conversation with Robin Marantz Henig](#)
- [Praise for *Pandora's Baby*](#)
- [A timeline of significant events in the history of IVF](#)

"An engrossing, hard-to-put-down read telling how a once highly controversial potential advance becomes a widely appreciated tool for today's life." — James D. Watson, Nobel laureate and author of *The Double Helix*

About the Book

If today's controversies surrounding human cloning and germ-line engineering seem familiar, it's because strikingly similar disputes arose over in vitro fertilization (IVF) twenty-five years ago. In her timely new book *Pandora's Baby: How the First Test Tube Babies Sparked the Reproductive Revolution*, Robin Marantz Henig provides a context for the current debate, taking us back to the 1970s, when IVF first arrived on the scientific scene and met with immediate resistance.

Opponents of the technology argued that it posed significant threats to society, including the risk of chromosomally damaged babies, the disruption of ordinary family relationships, and the incursion of science into matters of procreation best left to nature and God.

The most vehemently voiced argument, though, was that of the "slippery slope," the assertion that each new development in science potentially catapults us farther down a treacherous hill, at the bottom of which lie even more unnatural and dangerous manipulations. In vitro fertilization was feared as the precursor to surrogate mothers, frozen embryos, genetic engineering of babies, and human cloning. While Henig considers the "slippery slope" claims worrisome and antiprogressive, she acknowledges that certain predictions about the applications of IVF technology are indeed proving accurate.

In addition to her in-depth discussion of these profound moral and medical issues, Henig also tells the moving story of the people behind the scientific and ethical debate over IVF.

She introduces us to the infertile couples, like John and Doris Del-Zio, who first looked to IVF as the answer to their prayers, and she takes us inside the world of the American and English doctors who forged ahead in their fields while controversy swirled.

Furthermore, Henig explores how IVF research thrived in the United States even though these physicians could not get federal funding. Critics of IVF prevented the government from sponsoring grants to support the research, so entrepreneurial scientists, financed by private money, were able to proceed without adhering to any federal standards. Because scientists were able to carry on their work beneath the radar, IVF turned into a kind of cowboy science driven by supply and demand.

What happened beneath the radar came into the spotlight, however, on July 25, 1978, when Louise Brown, the world's first test tube baby, was born in England. The successful birth and Brown's perfectly normal development paved the way for one million other births like hers (half of them in the United States) in the past twenty-five years. As a result, "today scientists doing in vitro fertilization don't think much about elemental lines . . . Questions about the right and wrongs of such manipulations, questions about whether the ends justify the means, are virtually never asked," Henig notes. A procedure now considered routine enough to be covered by most insurance plans, IVF is simply accepted as part of our medical and societal landscape.

Despite this level of success and acceptance, Henig points out that there is a dark side to IVF that, because of the lack of regulation over the years, has only recently come to light: birth defects. Test tube babies are twice as likely as naturally conceived infants to have multiple major birth defects — specifically, chromosomal and musculoskeletal abnormalities. They are also two and a half times more likely to have a low birth weight.

It remains to be seen whether society's anxiety about cloning will follow the same path as our feelings about IVF. Will our attitudes change, leading us to embrace this controversial technology and even consider it mundane? We don't yet know. What we do know is that today the federal government is actively involved in regulating cloning (perhaps too involved, in fact, to the point of discussing outlawing new research, as Henig notes in the attached interview), in an apparent attempt to avoid repeating the errors made with IVF, when regulatory decision-making was simply avoided.

On the frontiers of reproductive technology, very real parallels exist between the past and the present. In *Pandora's Baby*, Henig illustrates that the IVF experience offers many lessons we can learn from as we face the challenges of new genetic applications. She provides the historical context and bioethical perspective we need now, as science advances ever further and new moral dilemmas arise.

About the Author

Robin Marantz Henig is the author of eight books. Her previous book *The Monk in the Garden: The Lost and Found Genius of Gregor Mendel*, was a finalist for the National Book Critics Circle Award. She writes about science and medicine for such publications as the *New York Times*, *Scientific American*, and *Seed*. She and her husband, who have two daughters, live in New York City.

A Conversation with Robin Marantz Henig about *Pandora's Baby*

Q) What drew you to this subject of test tube babies, or in vitro fertilization, and its place in our culture?

A) When I listened to the contemporary debate about reproductive technology — which in 2003 means methods like cloning and preimplantation genetic diagnosis — it all sounded so familiar. Concerns about creating genetic monsters, treading on God's territory — a lot of these fears were the same ones I remember hearing thirty years ago, before the first test tube baby was born. I thought it would help enlighten the current debate for people to hear how it played out with IVF.

Q) Was there a predecessor form of medically assisted fertilization that was as controversial as IVF?

A) Yes, but that was basically before my time, though I write about it in the book. The controversy over artificial insemination by donor, which dates back to the early twentieth century, sounded a lot like the subsequent controversy over IVF. In fact, infants born after artificial insemination used to be called test tube babies.

Q) What was the biggest surprise you came across in your research?

A) That in debates over reproductive genetics, we've been arguing the exact same points for thirty years — sometimes even verbatim, sometimes even with the same detractors and defenders making the same pronouncements.

What was also surprising, and sort of gratifying from the writer's point of view, was how quickly things changed in our attitude toward IVF. In 1973, when an attempt was made to create a test tube baby for John and Doris Del-Zio, the procedure was considered so dangerous and scary that Raymond Vande Wiele, the boss of the scientist involved, opened up the test tube and stopped the experiment. But just five years after that, Louise Brown was born — and Vande Wiele lost the case that the Del-Zios had brought against him. And here's the part I find the most interesting: in 1983, just ten years after Vande Wiele saw IVF as a terrible intrusion into the natural order of things, he became codirector of the first IVF clinic in New York City. That's how quickly attitudes changed in a single decade.

Q) How much of in vitro fertilization research was regulated in the early days?

A) In the 1970s the federal government had a hands-off policy toward IVF. The research itself was controversial, with anti-abortion activists complaining that it was toying with God's proper role and that discarding some of the embryos thus created would be as bad as abortion in terms of throwing away a human life. So the government decided not to fund any research that might involve human embryos, human fetuses, or IVF.

The result was that the research continued anyway, but outside the reach of the federal government. It became something of a cowboy science, supported by desperate patients and engaged in by some of the most far-out research entrepreneurs of the day.

Q) Has the regulatory situation changed at all?

A) IVF is still basically unregulated, and it's controlled more by market forces than by government oversight. But the government seems to have learned the wrong lesson from IVF as it considers how to regulate a new generation of reproductive technology. Realizing that it was a mistake to refuse to support IVF research — supporting it would have given the feds some control over how it was done — Congress now is talking about outlawing controversial new research altogether. This is why we have debates these days about banning cloning, not only "reproductive cloning," which is intended to create a cloned baby, but even "research cloning," designed to generate embryonic stem cells that might be useful in the treatment of a range of degenerative diseases. The lesson we've learned, it seems, is not to confront controversial research and figure out how to regulate it, but to clamp down on it altogether, as though it were possible — or even preferable — to keep such science from taking place.

Q) What do you think about some of the biggest controversies in reproductive genetics today?

A) I think these controversies reflect our generally ambivalent attitude toward scientific progress. On the one hand, we are fascinated by what genetics can tell us, and we love the idea of knowing everything there is to know about what our genes look like, which genes are responsible for which disorders, what it means to be normal, how we can eliminate disease and disability, and how genetics can help us create a world — including all living things, from food crops to people — that is as good as it can be.

On the other hand, the very idea of messing with genes is terrifying to many. Even knowing about genes frightens a lot of people, and it frightens me if the result is that we ascribe ultimate importance to genes in a way that reeks of biological determinism. I think our genes help explain a lot of things about us, but they don't explain everything — they don't lock us in to a particular fate.

Q) Can you be more specific about what you think about such issues as genetic engineering, gene therapy, surrogate mothering, preimplantation genetic diagnosis, and human cloning?

A) My attitude can probably be summed up as "proceed with caution, but proceed." Inserting new genes into cells doesn't bother me unless we do it for whimsical reasons, like making sure we won't go bald. It worries me to start messing around with sperm and egg cells, but I don't really see a big ethical difference between doing that and changing the genes in a fetus or a newborn baby — in both cases you're trying to ensure some sort of specific future for a child, but you don't necessarily know what you're doing.

Q) Would you say the same thing about cloning — that it's okay to proceed?

A) I must admit that I'm not as troubled by it as a lot of thinkers seem to be — maybe because I don't believe that genes are an explanation for everything. Yes, the clone will have exactly the same DNA as the donor, but everything else about it will be different, beginning with the egg in which the genome grows, the uterus in which the egg grows, the family in which the baby grows. All those environmental influences will, I think, have an effect on how the particular genome is expressed. I think if you create a baby who has

exactly the same genes as, say, Bill Clinton, you're not going to end up with a boy who will grow up to look and act exactly like Bill Clinton — unless the Clinton clone also goes to Yale, is raised by a single mother, and eats too many Big Macs.

Q) How are cloning and in vitro fertilization different? How is that difference crucial in the larger discussion about scientific inquiry and its benefits to human life?

A) I was surprised, as I talked about my book to friends and relatives, at how little people really understand about human cloning. Very few people realize that cloning starts out a lot like IVF — something takes place in a petri dish that will grow into an early embryo that gets implanted back into a uterus and grows into a baby — but everything about the genetics involved is different. In IVF, what's put into the petri dish is an egg and a bunch of sperm, and fertilization takes place the way it always does, the only difference being that it happens in the laboratory instead of in a woman's body. But with cloning, what's put into the petri dish is an egg whose own genetic packet has been removed, and into which is placed the genetic packet, or genome, of a single individual rather than of two individuals, the mother and the father. If cloning were done on a large scale, it would subvert the normal mechanisms of evolution, which depend on the mixing up of male and female genes to keep the species strong.

I like to say that the biggest difference between IVF and cloning is what we're afraid of. With IVF, the biggest fear always was that the technique might fail. With cloning, I think the biggest fear may be that it might succeed.

Q) You use the phrase "slippery slope" a great deal in your book. What exactly does it mean, and what impact do you think it has had on research into IVF and other forms of reproductive genetics?

A) I think of the "slippery slope" argument as being very antiprogress, and it worries me. What it says is that once you take a first step in using a new technology, you're heading down an inevitable slide toward worse and worse applications of that technology. In other words, the first step itself might not be so bad, but since it could lead to other things, it shouldn't be taken in the first place. I use the phrase a lot in *Pandora's Baby* because it was the argument used most forcefully against IVF in the early days: that in vitro fertilization wasn't necessarily a problem, but that it was the first step down a slippery slope toward surrogate mothers, frozen embryos, genetic engineering of babies, and human cloning. And in a way, there's something to that argument: if we hadn't perfected IVF, we wouldn't even be talking about some of these more problematic methods. But I think that the slope isn't as slippery as some people make it out to be. I think when we notice that a technology is being used in objectionable ways, there is always time to stop it.

Praise for *Pandora's Baby*

"*Pandora's Baby* is an engrossing, hard-to-put down read telling how a once highly controversial potential advance becomes a widely appreciated tool for today's life." — James D. Watson, Ph.D., Nobel laureate and author of *The Double Helix* and *DNA: The Secret of Life*

"*Pandora's Baby* is informative, thought-provoking, and gracefully written. With the voice of a good storyteller and the authority of a careful researcher, Henig brilliantly probes the moral, philosophical, and social issues surrounding that most intimate of all scientific endeavors: the creation of human life." — Alan Lightman, author of *Einstein's Dreams*

"Robin Marantz Henig's formidable talents are on proud display in this previously untold tale of courage and hubris, discovery and desire. Timely and provocative, *Pandora's Baby* brilliantly illuminates the ongoing debate over what it means to be human in a technological age. A stunning achievement: gripping, evocative, and true." — Ellen Ruppel Shell, author of *The Hungry Gene*

"A most engaging book. Through a very well written succession of personal stories, the author succeeds in walking us in the shoes of those who need to make taxing decisions regarding the bioengineering of future infants. Many of us or those we love will face these decisions, and all of us will have to live with the consequences. This book could hardly be more timely." — Amitai Etzioni, author of *My Brother's Keeper: A Memoir and a Message* and *Genetic Fix: The Next Technological Revolution*

"*Pandora's Baby* is a brilliant, gripping account of the courtroom drama that spilled from one hospital administrator's act of outrage; of the ensuing scientific race that led to the first successful test tube baby; and of a decade torn apart by the struggle between the drive to know and the drive to not know. Robin Henig has plucked a moment from a seemingly more innocent past and put all our current concerns about human cloning and genetic engineering in a palpable new light." — James Shreeve, author of *The Genome War*

"In telling the forgotten story of the first test tube babies and the terrors they ignited, Robin Marantz Henig invites us to examine our own angst about today's nascent eugenics revolution. With great charm and marvelous detail she reassures us that we have passed this way before and emerged not as a race of Frankensteins but as a more humane species with the technical prowess to give hope to thousands of men and women fearful of never having a chance to share that terrible, wonderful, utterly human experience we call parenthood." — Erik Larson, author of *The Devil in the White City*

"*Pandora's Baby* illuminates one of those rare moments in science — a genuinely suspenseful tale with haunting moral questions behind it. This quest to create life in the laboratory raises questions about the power of science to shape our world — and ourselves — that remain imperative today. Compelling and fascinating." — Deborah Blum, author of *Love at Goon Park: Harry Harlow and the Science of Affection*

"Gaining material control over human reproduction is as portentous a technological development as the invention of flight or the splitting of the atom. In a deft, insightful, and deeply engrossing text, Henig acquaints us with the science, the human drama, and the often highly iconoclastic characters who pioneered this fateful step into our genetic future." — Ed Regis, author of *The Biology of Doom* and *The Info Mesa*

"When we read articles about cloning or stem cells, we scratch our heads, sure that we are facing ethical dilemmas that humans have never had to confront before. Not true. In crisp, elegant prose, Robin Marantz Henig shows how society was gripped by the same fears, hopes, and confusion thirty years ago, as in vitro fertilization matured from dream to ordinary procedure. *Pandora's Baby* offers a vital lesson in history for anyone who wants to

come to terms with our growing power over life." — Carl Zimmer, author of *Soul Made Flesh and Evolution: The Triumph of an Idea*

"Valuable, timely, and wise. *Pandora's Baby* has something for everyone. Robin Marantz Henig has done a superb job." — Jonathan Weiner, Pulitzer Prize – winning author of *The Beak of the Finch*

"*Pandora's Baby* is a thoughtful and revealing account of a signal moment in the reproductive life of our species. That moment came a quarter century ago, with the first test tube babies. But as Robin Henig so insightfully shows, the confusion, anger, and doubt marking the ethical debates of that time echo loudly across the years to our own." — Robert Kanigel, author of *The Man Who Knew Infinity*

"A well-documented, highly accessible reminder of the ways in which medical and moral issues intersect and of the roles played by politics, science, religion, money, and the media." — *Kirkus Reviews*

"Judicious history . . . [Henig's] level-headed book provides a welcome context for the current debate over cloning." — *Publishers Weekly*

A timeline of significant events in the history of IVF

1973

Roe v. Wade decision by the U.S. Supreme Court establishes the right to an abortion in the first two trimesters.

Sleeper, a film by Woody Allen set fifty years in the future, is released. In the film a repressive government's fallen dictator is cloned from the remains of his nose.

On September 12, in New York City, Dr. William Sweeney removes eggs from Doris Del-Zio. His collaborator, Dr. Landrum Shettles, combines them with sperm from her husband, John, and places them in an incubator.

On September 13, Shettles's boss, Raymond Vande Wiele, finds out what Shettles is planning, removes the test tube with the Del-Zio sex cells from the incubator, and stops the experiment.

On October 17, Landrum Shettles resigns from his position at Columbia University.

1974

Congress creates the National Commission for the Protection of Human Subjects, with a deadline of May 1, 1975, to issue a report on fetal research; in the meantime, Congress imposes a temporary ban on all fetal research.

Doris and John Del-Zio file suit against Raymond Vande Wiele and his employers, asking for \$1.5 million in damages.

1975

Caspar Weinberger, secretary of Health, Education, and Welfare, following the advice of the

National Commission for the Protection of Human Subjects, lifts the ban on fetal research. But the new regulations require that federal funds cannot be used to support IVF research without the approval of a national ethics advisory board — a board that does not yet exist.

1978

In His Image by David M. Rorvik is published, setting off a national controversy about whether its tale of the cloning of an unnamed sixty-five-year-old bachelor millionaire is true.

Joseph Califano, secretary of HEW, names a thirteen-member Ethics Advisory Board to advise him on in vitro fertilization.

The Boys from Brazil, a film based on the novel by Ira Levin depicting a madman's scheme to clone Adolf Hitler, is released.

On July 17, jury selection begins in the case of *Del-Zio v. Vande Wiele et al.*

On July 25, the world's first test tube baby, Louise Brown, is born in England.

The Del-Zios win their case against Vande Wiele, with the jury awarding them a total of \$50,003.

1979

The Ethics Advisory Board unanimously recommends that the federal government permit using federal funds for IVF.

Norfolk General Hospital in Norfolk, Virginia, files for authorization to open the first test tube baby clinic in the United States, under the direction of Howard and Georgeanna Jones. Antiabortion protesters do all they can to keep the clinic from opening.

1980

On March 1, despite eight months of vigorous opposition, America's first IVF clinic officially opens. The first nine attempts at IVF at the Norfolk clinic fail to produce a pregnancy.

Yale scientists create the world's first "transgenic mouse" by injecting bacterial DNA directly into one-celled mouse embryos, which incorporate the foreign DNA into every one of their cells as they develop.

1981

In May, after sixteen months of trying, Howard and Georgeanna Jones announce the first IVF pregnancy in their Norfolk clinic. Three more follow in the next seven months.

On December 28, America's first test tube baby, Elizabeth Carr, is born in Norfolk.

1983

The first IVF clinic in New York City opens at Columbia University. Its codirector is Raymond Vande Wiele.