

## BOOKS &amp; ARTS

## The great debate

Today's take on the stem-cell field could recede rapidly in tomorrow's rear-view mirror.

**Fundamentals of the Stem Cell Debate: The Scientific, Religious, Ethical and Political Issues**

edited by Kristen Renwick Monroe, Ronald B. Miller and Jerome Tobis

University of California: 2007. 226 pp. \$50.00, £29.95 (hbk); \$19.95, £11.95 (pbk)

**Christopher Thomas Scott**

How best to portray stem-cell research, an area of biology that is on a tear? Add to the science a swarm of disciplines busily dissecting its impact — law, ethics, policy and commerce. Then, if you aren't susceptible to searing headaches, go global. Fortunately, there are brave writers out there confronting the challenge, supplying a steady stream of books that grapple with all of this. The difficulty is discovering the titles that make the best sense of it.

The editors of *Fundamentals of the Stem Cell Debate* may have had this in mind when compiling their volume. And who better to invite as contributors than a group of scientists and academics who do it for a living?

I never start a book anywhere but at the beginning, but I suggest that readers start in the middle of this one, with Lawrence Goldstein's chapter 5. Goldstein, director of the stem-cell research programme at the University of California, San Diego, hits the right notes with his concise history, clear technical explanation and straight talk about science and politics. He emphasizes that we don't settle policy disagreements by allowing governments to do some things and not others — no governing would get done. It's the same for science: if we fund just the research that some find acceptable, no research will get done.

*Fundamentals of the Stem Cell Debate* is a "comprehensive overview for a wide audience", say the publishers. Many of the surveys, though, skirt a deep treatment of the science, probably because it is fluid territory. For example, more could be said on whether adult stem cells can differentiate into different tissues and, if they do, what it might mean for future therapies. Peter J. Bryant and Philip H. Schwartz have a crack at it in the first two chapters. Thick with citations and written like review articles, these could stymie casual readers. But the authors do a solid job of summarizing the field, and the references are valuable for further scholarship.

The book breaks new ground by briefly mentioning the ethics of clinical trials. Therapeutic applications of stem cells are the next set of big



Surgeons collect stem cells in Thailand, where experimental treatments are unregulated.

issues for bioethics. The evaluation of preclinical results, safety, informed consent, choosing human subjects and oversight are a few of the topics now appearing in journals. No overview would be complete without another argument about the moral status of the embryo, and there are chapters on ethics and differing religious perspectives.

The chapter on religion is a well-written summary of the principal positions on embryonic stem-cell research around the world, but I wish authors would attempt to place the US religious framework into an international context. On some cases — and I suppose it's true here — the positions of Eastern religions are still emerging, so there is scant literature to review.

This book joins a constellation of releases that examine stem cells through different lenses. Readers should pick a few titles to get the full picture of how this formerly quiet corner of biology has exploded into new realms. For an account of the controversies surrounding patents and law, read Russell Korobkin's new book, *Stem Cell Century* (2007). If you hanker for activism, try Eve Herold's *Stem Cell Wars* (2006), an insider account of politics and law-making. New books on stem-cell ethics are overdue, but older compilations such as *The Human Embryonic Stem Cell Debate* (2001) and *God and the Embryo* (2000) offer lively debates

from a different perspective. Popular science has a few to choose from: I like Ann Parson's *The Proteus Effect* (2004). Another, Michael West's *The Immortal Cell* (2003), prefaces each chapter with a bible verse.

It is odd we have a profusion of general books about stem cells but still no introductory textbook. Likely reasons are that the field hasn't yet coalesced and the subject cuts across the tried-and-true (and profitable) developmental and cell biology texts, now lumbering into twilight editions. A good introduction should include chapters on ethics, law and society — a hybrid that may not fit neatly into a marketing niche.

In the meantime, readings from *Fundamentals of the Stem Cell Debate* could be listed on an introductory curriculum, together with seminal research papers and chapters from foundational texts such as the fifth edition of Bruce Alberts' *Molecular Biology of the Cell* (2007), and the eighth edition of Scott Gilbert's *Developmental Biology* (2006).

The challenge for the serious reader is to keep up with all these breathtakingly rapid developments. ■

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