Playing God?

Scientists must let society decide on the ethics of reproductive technologies.

Whose View of Life? Embryos, Cloning and Stem Cells

by Jane Maienschein

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In 1692, Nicolaas Hartsoeker drew what he thought he saw through his microscope: a human sperm, containing in its head a homunculus, a perfectly formed little person. This arresting view of life's beginnings still reminds us that scientists are not always objective; they can be persuaded to see what they believe to exist. The preformationists, who believed that sperm contain miniature people, followed a line of thought stretching back to Aristotle. A hundred years later, Rabbi Pinhas Elijah recalled Hartsoeker's drawing and argued that the ancient sages were right after all — destruction of the seed is murder, as it destroys little persons, and masturbation is wrong.

Pinhas Elijah's reasoning was impeccable, as far as it went. But his ethics were flawed because we now know that the head of the sperm does not contain a person. Our ethical understanding must depend on accurate observation of the natural world; consequently, ethical positions must change as human knowledge improves.

Jane Maienschein's latest book, *Whose View of Life?*, starts with an account of the preformationists. She maintains that the ethical, political and social issues surrounding modern reproductive technologies can be better understood with a historical perspective. She traces the history of reproduction from the recognition by Karl Ernst, Ritter von Baer, that mammals produce eggs, through Ernst Haeckel's notions of comparative embryology, to Thomas Hunt Morgan's early understanding of genetics, and modern *in vitro* fertilization (IVF) and stem-cell biology.

This is an extremely valuable approach. Scientists have repeatedly made errors of judgement through lack of objectivity, as Hartsoeker did. They have also sometimes arrogantly assumed that they know what is best for society — the pursuit of eugenics in the United States, Britain and Germany being a case in point. Maienschein cites some chilling modern examples; for instance, in the debates over cloning, modern scientists often ignore the cultural sensitivities of their society. She emphasizes that if science is to improve the lot of humans, then scientists must hone their moral thinking and be more ready to listen to the opinions of ordinary people.

Maienschein's historical account is both engaging and accurate, but there are certain gaps in this excellent book. Much of the book is centred on experience in the United States; there is no reference to the growing interest in these technologies in the Far East, and no mention of religious attitudes outside the Judaeo-Christian tradition. Nor is there any analysis of the debates in either Britain or Australia — two countries that have contributed extensively to advances in this field. After all, the first IVF babies were British, as was the first mammalian clone, and early work on embryonic stem cells was initiated in Britain too.

There is no reference either to the deliberations of the Warnock Commission, nor much mention of British or European parliamentary debates about IVF or stem cells. And Maienschein ignores the fact that many people consider proper regulation to be the best way of controlling these technologies. Europeans are concerned at the lack of regulation in the United States, a situation so different from the European and Australian models that these should surely be worthy of some consideration.

A more thorough discussion of religious attitudes would also help. Western ethics centre on a belief in the sanctity of human life, and religious principles guide much deliberation about these technologies. In the United States and Europe, many people profess some belief in God, so it would help to understand some of the religious views. For example, it is an oversimplification to imply that orthodox Jews believe that ensoulment occurs 40 days after conception. And Maienschein ignores the

The little people? Drawings by Nicolaas Hartsoeker and Dalepadius (inset) show their preformationist views of sperm.

paradox that “playing God” is by no means necessarily evil — many religious people hold that *imitatio Dei* is morally positive. If humans are indeed made in the image of God, then playing God — using God-given intelligence and hence technology — to promote and enhance life may be highly ethical.

Better discussion of some ethical principles would also be relevant. Why the “horror” of human cloning? If cloning could be developed without the risk of producing abnormal offspring, what would be the objection then? Is this an affront to human dignity, given that around 1 in 250 human births — identical twins — are already perfect clones?

Maienschein correctly points out that promoting an understanding of science is the first step in wise biopolicy decision-making, and she helpfully suggests how this might be achieved. But more knowledge may bring more public mistrust, not less. Unless scientists accept that they do not own the science, and are not masters of technology, this mistrust is likely to grow. There are massive mountains to climb. A difficult change is needed before scientists accept that society must

decide what it feels is in its best interests. Scientists need to show more objectivity, better ethical values and more concern about the commercial aspects of their work.

The US-centric position that Maienschein adopts is disappointing. It fails to appreciate the growing global anxiety that big business, often based in the United States, will control and selfishly exploit the fruits of science. Is this likely to benefit most of us? ■

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