

Bioethics Book Club



Next, By Michael Crichton
Harper, 2006

Summary¹

We live in a time of momentous scientific leaps where nothing is as it seems. In *Next*, Michael Crichton blends facts with fiction into a row of tales about our genetic world where the unthinkable can happen. This is a world where tourists in Indonesia report to have seen a talking chimpanzee in Java. Scientists develop a genetic cure for drug addiction and isolate a “Master” gene, providing genetic basis for controlling other people, and people are pursued cross-country because they happen to have certain valuable genes within their chromosomes. In *Next*, the lines between humans and non-human animals has become so blurred that you’ll no longer be able to tell if everyone at your dinner table are of the same species.

Note to readers: This book raises many different themes. While it is easy to read, the plot is at times confusing with some stories crossing and others not. We recommend picking out paragraphs or chapters in the book and use these for discussion of specific themes. Some interesting chapters include, chapter 3 (genetic testing), Chapter 21 (naturalness), chapter 50 (genetic determinism and genetic modification), chapter 41 (transgenic animals).

Ethical Issues

Nature/Nurture

Human vs Non-human Animals

Genetic Modification

Genetic Determinism

Ownership of Genes

Genetic Testing

Discussion questions:

- Transgenic animals are already used widely as disease models in biomedical research, and recently the transgenic salmon have been approved for food production. Does it make a difference to you if a transgenic animal is used for biomedical research, production of medical substances or for food production?
- Should there be universal protocols for transgenesis?
- Should a genetic animal with human traits have moral rights?
- A major theme in the book is the unregulated use of DNA. Frank Burnett, a patient with leukemia, signs up for a clinical trial and gets cured after having received the non-standard treatment consisting of surgery and chemotherapy. In fact it turns out that the trial revealed that his body produces cells that fight cancer. Discovering this, the doctor

¹ Adapted from publisher’s summary.

and the university sells Frank Burnet's cells to a bio research company who use them for production medicine for cancer patients. In your opinion, did the doctor and the university do anything wrong by selling Burnet's tissue?

- In the book, the team at Columbia University isolates a gene that promotes social harmony and group cohesion. They apply for a patent on the gene. In your opinion, should it be possible to patent genes? Does it make a difference if the gene is artificially created or a "product of nature"?²
- Genetic determinism implies that the genes determine how an organism turns out. Epigenetics suggests that how an organism turns out is determined by genes and the environment. To what extent do you think we are determined by our genes?
- Imagine it would be possible to identify and eliminate socially undesirable genes by way of genetic modification? Do you think it would ethically to do so?

Discuss the following passages from the book:

- "More and more, the biggest difference seemed to be hair. Dave was hairy; those around him weren't. According to her reading, the loss of hair had occurred after human beings separated from chimps. The usual explanation was that human beings had become for a time swamp creatures, or water creatures. Because most mammals were hairy – their coats of fur were necessary to help maintain their internal temperature. But water mammals, such as dolphins and whales, had lost their hair in order to be streamlined. And people, too, had lost their hair. But for Lynn the strangest thing was the persistent sense that Dave was both human and not human. She didn't quite know how to deal with that feeling. And as the days passed, it did not get any easier."
- "I wanted to ask about anti-social personality disorder. I've read there is a gene for it, and it's associated with violence and crime, sociopathic behavior..." "Yes, that's true. The gene appears in about two percent of the population around the world." What about New Zealand? It is in thirty percent of the white New Zealand population and sixty percent of the Maori population..." "That's been reported, but you must be careful-" "But doesn't that mean violence is hereditary? I mean, shouldn't we be trying to get rid of this gene, the way we got rid of smallpox?"
- " – there are five hundred genetic diseases that can, potentially, be cured by gene therapy. Many of these diseases cause terrible suffering in children, early and agonizing death. Other diseases hand over a person's life like a prison sentence; the person must wait for the disease to come and strike him down. Should we not cure these diseases if we can? If so, we must change DNA. Simple as that."
- "The notion that someone owns part of the human genome strikes some people as unusual, Bellarmino said. But it's what makes America great and keep innovation strong."

² "A gene patent is the exclusive rights to a specific sequence of DNA (a gene) given by a government to the individual, organization, or corporation who claims to have first identified the gene. Once granted a gene patent, the holder of the patent dictates how the gene can be used, in both commercial settings, such as clinical genetic testing, and in noncommercial settings, including research, for 20 years from the date of the patent. Gene patents have often resulted in companies having sole ownership of genetic testing for patented genes." (Source: Can Genes be patented? NIH U.S. National Library of Medicine <https://ghr.nlm.nih.gov/primer/testing/genepatents>).