

# BIOMEDICAL FUTURES SINCE 1945

HSHM 423/HIST 417

Professor Joanna Radin

Tuesday 1:30-3:20

Office Hours: By Appt

WTS A72

Saybrook P21

The birth control pill, chemotherapy, heart transplants. These are visions of the future of biomedicine that, in the decades after World War II, became a reality for many. Universal health care, pesticide-free food, assisted reproduction. These visions have become a reality for some, but not others. X-ray vision, gene therapy, robotic physicians. These are visions of the future of biomedicine that are still on the horizon. Still other visions—immortality, bioprospecting, synthesizing life—hover at the border between dystopia and utopia.

## **The goals of this course are two-fold**

The first is to ask how and why the future has mattered in the realm of biomedical science. Is there a connection between science fiction and other forms of scientific speculation? Whose ideas about the future get to count, where and why? What kinds of emotions—fear, hope, love—have animated and been attached to ideas about the future? How can thinking about futures past, including fictional ones, redirect contemporary visions of the future?

The second, and related goal is to consider how ideas about time—themselves—can be generative for historical research. Does examining conceptions of the future give us unique purchase on values and priorities of various historical moments? What happens when the future doesn't arrive?

**We will read three kinds of sources** [\*This syllabus is provisional and may change based on student preferences]

Fiction

Non-fiction, including scientific articles, op-eds, and advertisements (~10 pages per week)

Provocations, including critiques and historical takes on each week's themes (~50 pages per week)

*With the exception of novels and films, all readings will be available on Canvas*

## **You will participate in four ways**

Attendance is mandatory, as is active participation and respectful engagement with your peers. Cheating, plagiarism, and other forms of self-destructive activity will not be tolerated. (20% of grade)

Each week, submit a one page (250 words, **maximum**) "response" to the readings. It can either provide an analysis of a text or theme or be a speculation, a fictional take on the ideas presented in the readings. (30% of grade)

Over the course of the semester you will develop your own historical inquiry into a biomedical future. This can take the form of a 15-page term paper or an equivalent piece of original research, including film, graphic novel, short story, exhibition catalog, etc. In any form, your project must incorporate historical source material. (40% of grade)

A course blog, "BiomedicalFutures," will allow us to continue the conversation between meetings. You must make at least 5 original postings throughout the semester. (10% of grade)

*Credits:* Ava Kofman (TD '14) helped to research and reflect on this syllabus. Participants in the 2015 "Histories of the Future" workshop at Princeton inspired this course. Students in the 2015 and 2016 versions of the course have contributed to its evolution.

### **Required Texts (available for purchase at deep discount at most online booksellers)**

Margaret Atwood. (2003). *Oryx and Crake*. Anchor  
Octavia Butler. (1980). *Wild Seed*. Doubleday.  
Michael Crichton. (1990) *Jurassic Park*. Ballantine.  
Don DeLillo (2016) *Zero K*. Simon and Schuster  
Philip K. Dick. (2013 [1960]) *Dr. Futurity*. Mariner Books  
Daniel Keyes. (1964). *Flowers for Algernon*. Millennium  
Ursula LeGuin. (1969). *The Left Hand of Darkness*. Ace  
Hanya Yanagihara (2013). *The People in the Trees*. Anchor Books  
John Wyndham. (1960) *Trouble with Lichen*. Penguin UK.

### **SEPTEMBER 12: INTRODUCTION TO THE COURSE**

Bill Pomidor, and Alice K. Pomidor. (2006) "'With Great Power...' The Relevance of Science Fiction to the Practice and Progress of Medicine." *The Lancet* 368: S13-14.

### **UNIT ONE: ORIGIN STORIES**

#### **September 19. Creating Life**

##### Fiction

Michael Crichton. (1990) *Jurassic Park*. Ballantine.

##### Nonfiction

Marshall Nirenberg. (1967) "Will Society Be Prepared?" *Science* 157(3789)  
Beth Shapiro (2014). *How to Clone a Mammoth*. Chapter 11 "Should We?" pp. 189-208.

##### Provocation

Franklin, Sarah. "Life Itself: Global Nature and the Genetic Imaginary." In *Global Nature, Global Culture*, edited by Sarah Franklin, Celia Lury and Jackie Stacy. London: Sage, 2000.  
Jenny Kitzinger "Questioning the Sci-Fi Alibi: A Critique of How 'science fiction' fears are used to explain away public concerns about risk" *Journal of Risk Research*. 13(1): 73-86.

##### Beyond

Mike Cummings (2015). "[Yale's Legacy in Jurassic World](#)" Yale News, June 18.

#### **September 26. Breeding a Better Human?**

##### Fiction

Octavia Butler, (1980) *Wild Seed*, DoubleDay

### Nonfiction

Galton, Francis, 'Eugenics: Its Definition, Scope and Aims,' *The American Journal of Sociology*. vol. 10, no.1, July 1904.

DuBois, W.E.B. 'The Talented Tenth.' Excerpt from *The Negro Problem*. New York: James Potts and Company, 1903.

### Provocation

Lisa Yasek. (2006). "Afrofuturism, Science Fiction and the History of the Future" *Science and Democracy* 20(3): 41-60.

Canavan, Gerry. "Bred to Be Superhuman: Comic Books and Afrofuturism in Octavia Butler's Patternist Series." *Paradoxa* (2013).

### Beyond

Jill Lepore. (2015) "The History Lurking Behind Orphan Black." *The New Yorker*.

## **October 3. Sex, Gender and Reproduction**

### Fiction

Ursula LeGuin. (1964). *The Left Hand of Darkness*. Ace

### Nonfiction

Anna Meigs (1976). "Male Pregnancy and the Reduction of Sexual Opposition in a New Guinea Highlands Society" *Ethnology*. 15(4): 393-407.

Rene Almeling and Miranda Waggoner. (2013) "More and less than equal: How men figure in the reproductive equation" *Gender and Society*. 27(6): 821-842.

### Provocation

Emily Martin. (1991) "The egg and the sperm: How science has constructed a romance based on stereotypical male-female roles." *Signs*: 485-501.

### Beyond

Julie Phillips. "The Fantastic Ursula LeGuin" *The New Yorker*, Oct 17 (2016).

## **UNIT 2: BEING HUMAN**

### **October 10. Intelligence and Experimental Subjects**

\*\*Meet in Medical Historical Library at 333 Cedar Street\*\*

### Fiction

Daniel Keyes. (1964) *Flowers for Algernon*

### Nonfiction

Paul, Diane. "A double-edged sword." *Nature* 405.6786 (2000): 515-515.

Dresser, Rebecca. "Mentally disabled research subjects: the enduring policy issues." *Jama* 276.1 (1996): 67-72.

### Provocation

Pagani, Camilla. "Perception of a Common Fate in Human–Animal Relations and its Relevance to our Concern for Animals." *Anthrozoös* 13.2 (2000): 66-73.  
Stephen J Gould. *The Mismeasure of Man* (2006). Ch TBD.

### Beyond

John P. Gluck. (2016) "[Second Thoughts of an Animal Researcher](#)" 2 Sept. *The New York Times*.

### **October 17: Cyborgs: Between Disability and Enhancement**

\*\*2 page final project proposal due in class\*\*

### Fiction

Edgar Allen Poe. (1839) "The Man That Was Used Up."

Anne McCaffrey. (1961). "The Ship Who Sang." *The Magazine of Fantasy and Science Fiction*.

### Nonfiction

Manfred Clynes. (1960). "Cyborgs and Space" *Astronautics*

### Provocation

David Tomas. (1995) "Feedback and cybernetics: reimagining the body in the age of the cyborg." *Cyberspace, cyberbodies, cyberpunk: Cultures of technological embodiment*: 21-43.

Donna Haraway, (1985). "A Cyborg Manifesto: Science, Technology and Socialist-Feminism in the Late Twentieth Century"

### Beyond

Hari Kunzu. "You are Cyborg" *Wired* Feb 1997. <http://www.wired.com/1997/02/ffharaway/>

### **October 24. Un/caring Labor: Doctors, Nurses, and Patients**

### Fiction

Philip K. Dick. *Dr. Futurity*

### Nonfiction

*The Black Panther Party: Service to the People Programs*. Albuquerque: University of New Mexico Press, 2008. Intro & pp. 17-39.

### Provocation

Kirk Hampton and Carol MacKay. (2002) "No Cure for the Future: How Doctors Struggle To Survive in Science Fiction" in Westfahl and Slusser, *No Cure for the Future*, p. 31-52.

Alondra Nelson. (2011). *Body and Soul: The Black Panther Party and the Fight against Medical Discrimination*. Univ Of Minnesota Press. Ch 2 "Origins of Black Panther Party Health Activism" p. 49-74.

### Beyond

The Medical Futures Lab at Rice: <http://www.medicalfutureslab.org>

### **UNIT 3: ENDS OF LIFE**

### **October 31. Ethnobiology and Colonialism**

### Fiction

Hanya Yanigahara. (2013). *The People in the Trees*

### Nonfiction

Gajdusek, D. C. and V. Zigas (1959). "Kuru: Clinical, pathological and epidemiological study of an acute progressive degenerative disease of the central nervous system among natives of the Eastern Highlands of New Guinea." *American Journal of Medicine* 26(3): 442-469.

Indigenous Peoples Council on Biocolonialism [http://www.ipcb.org/about\\_us/our\\_mission.html](http://www.ipcb.org/about_us/our_mission.html)

### Provocation

Anderson, W. (2000). "The Possession of Kuru: Medical Science and Biocolonial Exchange." *Comparative Studies in Society and History* 42: 713-744.

Beasley, A. N. (2006). "The Promised Medicine: Fore Reflections on the Scientific Investigation of Kuru." *Oceania* 76(2): 186-202.

### Beyond

Yasmin Tayang. (2015). ["Is it Possible to be a Healthy Cannibal and Avoid Prion Disease?"](#)  
Inverse.com

## **Nov 7. (Anti-)Aging**

### Fiction

Wyndham, John. (1960) *Trouble with Lichen*. London: Penguin UK.

### Nonfiction

Edmund V. Cowdry. (1947) "The broader implications of aging." *Journal of gerontology* 2.4: 277-282.

Fishman, Jennifer R., Robert H. Binstock, and Marcie A. Lambrix. (2008). "Anti-Aging Science: The Emergence, Maintenance, and Enhancement of a Discipline." *Journal of Aging Studies* 22, no. 4: 295-303.

### Provocation

Elizabeth Haiken. (1997). "The Lifting of the Middle Class: Aging in Post-WWII America" in *Venus Envy: A History of Cosmetic Surgery*. Hopkins: 131-174.

Courtney Everts Mykytyn. (2010). "A History of the Future: The Emergence of Contemporary Anti-Ageing Medicine." *Sociology of Health & Illness* 32, no. 2: 181-96.

### Beyond

"Medicine and Madison Avenue." *Duke Digital Collections*.

## **Nov 14. Apocalyptic Infections**

\*\*Annotated bibliography of secondary sources due in class\*\*

### Fiction

Margaret Atwood. (2003). *Oryx and Crake*. Anchor

### Nonfiction

Langmuir, A. D. (1963). "The Surveillance of Communicable Diseases of National Importance."  
*New England Journal of Medicine* 268: 182-192.  
Joshua Lederberg (2000) "Infectious History" *Science* 288 (5464)

### Provocation

Wald, Priscilla. (2008). *Contagious: Cultures, carriers, and the outbreak narrative*. Durham: Duke University Press. Ch XX, "Imagined Immunities"  
Lakoff, Andrew. "The generic biothreat, or, how we became unprepared." *Cultural Anthropology* 23.3 (2008): 399-428.

### Beyond

Play <http://pandemic2.org/>

## **November 21: Thanksgiving Break NO CLASS**

### **UNIT 4: LIFE AFTER DEATH**

#### **November 28: Re-Animation and Transhumanism**

Draft of final project due

### Fiction

Don DeLillo. (2015) *Zero K*

### Non-fiction

Robert Ettinger, "The Prospect of Immortality," Chapter 5 "Freezers and Religion" [Available online at: [http://www.cryonics.org/images/uploads/misc/Prospect\\_Book.pdf](http://www.cryonics.org/images/uploads/misc/Prospect_Book.pdf)]

### Provocation

Patrick McCray. (2015) "Many Are Cold, Few Are Frozen."  
<http://histscifi.com/essays/mccray/cryonics.html>  
Stephen Crane. (2012) "Frankenstein Redux: The Modern Reanimators" in *Immortality: The Quest to Live Forever and How it Drives Civilization*. Crown: 113-140.

### Beyond

Parker, L. (2014). How to Become Virtually Immortal. *New Yorker*

## **December 5: TBD**

**December 14: Final project due at midnight, either digitally or hardcopy**