

**IMAGINING SCIENCE:**

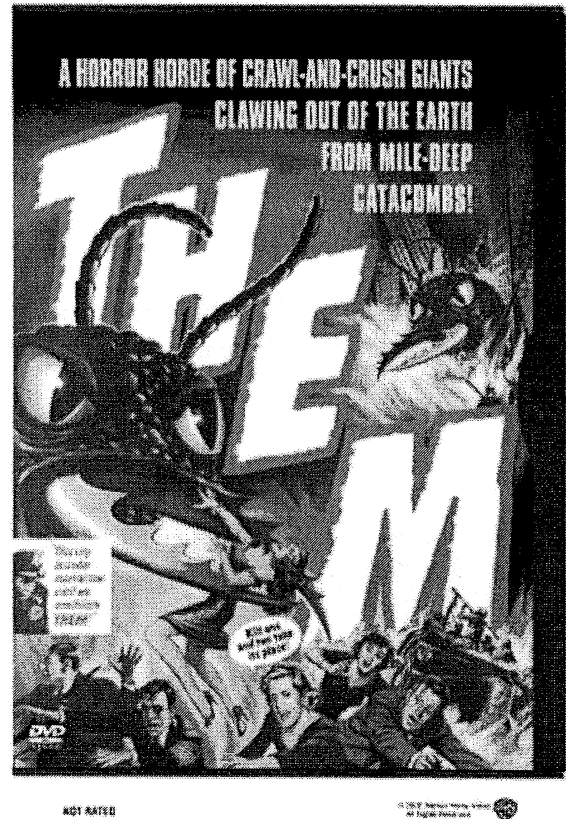
**THE HISTORY OF SCIENCE THROUGH SCIENCE FICTION**

Lecturer:

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Tuesday & Thursday, 6:30 - 7:45 p.m.  
4308 Social Science Building

Science fiction is far more than a simple diffusion of scientific ideas into popular discourse. It has served not only as a place to critique and worship science, but has also acted as an impetus to inspire the imagination of scientists. H.G. Wells, for example, introduced the idea of an “atomic bomb” in 1913, long before such a technology existed. As a genre, science fiction has provided a place for authors to express their concern with contemporary technological and social developments, to imagine possible futures different from their own reality, and to present scientific theories in a popular context.



[Image: <http://images.amazon.com/images/P/B000067FP3.01.LZZZZZZZ.jpg>]

Over the course of the semester, our historical sources will range from early modern Europe (a voyage to the moon in Kepler's *Somnium*) to the 20th-century U.S. (cyborgs and cyberspace in Gibson's *Neuromancer*), revealing the historical, sociological, and political contexts of science in these stories. We will read a combination of primary texts (science fiction novels, films, comics) as historical documents, and secondary historical articles written about science at the time the primary texts were produced. This combination of contemporary and historical perspectives will provide the basis for examining both the anxieties and awe produced by science and technology in these works of fiction.

**Questions to keep in mind throughout the class...**

- What is the social structure of science in these narratives (*i.e.* who has *control* of science and/or technology? who has *access* to science or technology?)
- What is the role of women and men to each other and to science and/or technology?
- How are scientists portrayed? What is the role of the scientist?
- Who is the intended audience for these stories?
- Does the author have an agenda? What might that agenda be?

- What kind of science fiction motifs are expressed in the text (science for fun and profit, saving the world, losing the scientific race, research gone wrong, repel the invaders, return to the wilderness, superweapons/superheroes, etc...)
- What scientific “advances” are depicted in the work? What are the consequences of this new knowledge/technology?

### **The structure of the class...**

I strongly believe that by the time you graduate from the University of Wisconsin there are a few skills which you ought to possess regardless of your major: the ability to think critically about the world around you, and the ability to communicate your thoughts coherently both in written form and orally. Thus, I designed the structure of this class to emphasize each of these areas.

On **Tuesdays** I will lecture about the historical and scientific context for the week’s readings—but my hope is that these will be more interactive than me as a ‘talking head’. There will be a contemporary history of science article assigned for each Tuesday to provide context for that week’s SciFi reading. On **Thursdays** we will discuss the science fiction and historical selections for that week—no lecture whatsoever, so come in ready to talk.

- Each of you will take turns as part of a ‘panel of experts’ 4 times during the semester (and you will have partners in crime, not to worry. I have divided the class into three groups (A, B, and C), and the experts for each week are noted on the syllabus. Experts should be able to clarify questions people have about the readings and have thoroughly answered the discussion questions. Even if it isn’t your week as an expert, you are still expected to participate. Sometimes you may be divided into small groups to discuss different aspects of the reading, sometimes we may stay as a larger group.
- You will also write a 10-12 page research paper over the course of the semester, and present a synopsis of your findings to the class in a 10 minute oral presentation. Assignments for the research paper are distributed throughout the semester, and the presentations will take place during the last week of class.

Grades will be based on a combination of discussion (36%), writing (54%), and oral presentation (10%) as follows...

|                                                                           |        |
|---------------------------------------------------------------------------|--------|
| Participation in discussions                                              | 20 pts |
| Discussion question responses                                             | 16 pts |
| Essay Topic due Thursday, March 2                                         | 4 pts  |
| Annotated Bibliography due Thursday, April 6                              | 10 pts |
| First Draft of Essay due Thursday, April 27                               | 20 pts |
| Final Draft due Saturday May 13 (Late final essays will not be accepted!) | 20 pts |
| Oral Presentations of research material, May 2 or 4                       | 10 pts |

### **Books to Buy...**

It is not necessary to have the same printing as the rest of the class, just make sure it is an unabridged edition. In addition, readings not readily available online or easily purchased are posted

on the course webpage as .pdfs. We'll discuss logistics of how to make movie viewings convenient for everyone (an evening viewing, plus a reserve copy in the library?).

- Mary Shelley. *Frankenstein, or, The Modern Prometheus* (1818).
- Jules Verne. *20,000 Leagues Under the Sea* (1870), also available online:  
<http://www.online-literature.com/verne/leaguesunder/>
- Aldous Huxley. *Brave New World* (1932)
- Frank Herbert. *Dune* (1961)
- Philip K. Dick. *Do Androids Dream of Electric Sheep?* (1968)
- Ursula Le Guin, *The Left Hand of Darkness* (1971)
- William Gibson. *Neuromancer* (1984)

### Class schedule...

#### Week 1: January 17, 19      **Introductions & Definitions of Science Fiction**

- Brian Stableford. 2003. "Science fiction before the genre," in *Cambridge Companion to the History of Science* (Cambridge University Press): 15-31.
- Mary Bartter. 1988. "Introduction: The Superman syndrome," in: *The Way to Ground Zero: The Atomic Bomb in American Science Fiction* (Greenwood Press): 1-13.

*Discussion:* What is science fiction? What use is science fiction?

#### Week 2: January 24, 26      **Heliocentrism and 'science' in Kepler's *Somnium* (1634)**

- Gale E. Christianson. 1976. "Kepler's *Somnium*: Science Fiction and the Renaissance Scientist," *Science Fiction Studies* (3): 79-90.
- Johannes Kepler. 1634. *Somnium; The Dream, or Posthumous Work on Lunar Astronomy*, commentary and translation by Edward Rosen (Madison, University of Wisconsin Press). [This reading is in two parts. The first is the story itself, about 25 pages; the second is Kepler's own footnotes about the story, about 120 pages (a 14.5M file). I have them as two files to enable easier cross-referencing.]

*Discussion:* Alchemy, magic, and science in early modern Europe, moon as a new environment  
**EXPERT GROUP A**

#### Week 3: January 31, February 2      **Exploring the World— Inside & Outside the Body: *Frankenstein* (1818)**

- Iwan Rhys Morus. 1998. "Galvanic cultures: electricity and life in the early nineteenth century," *Endeavour* 1(22): 7-11.
- Mary Shelley. 2003. *Frankenstein, or, The Modern Prometheus* (New York: Penguin Books).

*Discussion:* medicine, hospitals, surgery, and bodies, galvanism and electricity, mechanical bodies, exploration and adventure  
**EXPERT GROUP B**



[Image: <http://www.mic.no/nmi.nsf/doc/art2003100215312327208972>]

**Week 4:** February 7, 9 *Science for the Public and Jules Verne*

- Fayter, Paul. 1997. "Strange new world of space and time: Late Victorian science and science fiction," In: *Victorian Science in Context*, ed. Bernard Lightman (Chicago: University of Chicago Press): 256-280.
- Verne, *20,000 Leagues Under the Sea* (1870)

*Discussion:* Victorian-era exploration and natural history, submarines, public science  
**EXPERT GROUP C**

**Week 5:** February 14, 16 *War of the Worlds* (1898/1938)

- Wells. *War of the Worlds* (1938 Radio broadcast); text available online at: [www.bartleby.com/1002/](http://www.bartleby.com/1002/) Available on the class website as a podcast.
- Janet Browne. 1996. "Biogeography and Empire," in Nicholas Jardine, James Secord, and Emma Spary, eds. *Cultures of Natural History* (Cambridge University Press): 305-321.

*Discussion:* germ theory, evolution, colonial expansion, millennialism, Mars!  
**EXPERT GROUP A**

**Week 6:** February 21, 23 *Brave New World* (1932)

- Kurt W. Back. 1995. "'Frankenstein' and 'Brave New World': Two cautionary myths on the boundaries of science," *History of European Ideas* (20): 327-332.
- For Your Curiosity, I have also attached a copy of: Harry Laughlin's 1922 "Model Eugenical Sterilization Law." This is not required reading.
- Aldous Huxley. 1932. *Brave New World*.

*Discussion:* Dystopia in science fiction, designer drugs, eugenics, totalitarianism, intelligence  
**EXPERT GROUP B**

**Week 7:** February 28, March 2

**The Golden Age of Comics and the New American Heroine: Wonder Woman (1941) & Rosie the Riveter**



"Not even girls want to be girls so long as our feminine archetype lacks force, strength, and power. Not wanting to be girls, they don't want to be tender, submissive, peace-loving as good women are. Women's strong qualities have become despised because of their weakness. The obvious remedy is to create a feminine character with all the strength of Superman plus all the allure of a good and beautiful woman." (Marston. 1943. *American Scholar*)

- Geoffrey C. Bunn. 1997. "The lie detector, 'Wonder Woman' and liberty: the life and work of William Moulton Marston," *History of the Human Sciences* 10(1): 91-119.
- Bert Hansen. 2004. "Medical History for the masses: How American Comic Books Celebrated Heroes of Medicine in the 1940s," *Bulletin of the History of Medicine* (78): 148-191.
- *Wonder Woman*: All Star Comics #8, Dec. 1941; Sensation Comics #2, Feb. 1942; Sensation Comics #10, Oct. 1942. I am also hoping to make some *Miss Victory* comics available.

*Discussion:* Depression era collapse of confidence in government and police; solutions to the problem of the common man and woman. [Image: <http://www.amazing-amazon.com/www11.htm>]

**EXPERT GROUP C**

**ESSAY TOPICS DUE**

**Week 8: March 7, 9      1950s U.S. Paranoia: *Them!***

- Cyndy Hendershot. 1998. "Darwin and the Atom: Evolution/Devolution Fantasies in *The Beast From 20,000 Fathoms*, *Them!*, and *The Incredible Shrinking Man*," *Science Fiction Studies* 25: 319-335.
- Walter Hirsch. 1958. "The image of the scientist in science fiction: a content analysis," *American Journal of Sociology* 65(5): 506-512.
- Film: *Them!* (1954)

*Discussion:* McCarthyism and communist ants; "Démons Atomiques!"; Radiation and evolution

**EXPERT GROUP A**

**Week 9: March 14, 16      *Godzilla*: Post-WWII Disaster Scenarios in Japanese Sci-Fi**

- N. Anisfield. 1995. "Gozilla, *Gojira* + Japanese Monster Films – Evolution of the Nuclear Metaphor," *Journal of Popular Culture* 29(3): 53-62.
- Gregg Mitman. 1993. Cinematic Nature: Hollywood technology, popular culture, and the American Museum of Natural History. *Isis* 84: 637-661.
- Film: *Godzilla* (1954)

*Discussion:* The effect of the atomic bomb on Japanese Sci-Fi, compare to Week 9. Translation-assimilation of science fiction icons.

**EXPERT GROUP B** [Romanian movie poster, 1957]



**SPRING BREAK** (March 18-26)

**Week 10: March 28, 30      *Dune* (1961): An Ecology of Limits**

"What we call Man's power over Nature turns out to be a power exercised by some men over other men with Nature as its instrument." C.S. Lewis

- James P. Collins. "Evolutionary Ecology and the use of natural selection in ecological theory," *Journal of the History of Biology* 19: 257-88.
- For Your Curiosity: Peter Taylor. 1988. "Technocratic Optimism, H.T. Odum, and the Partial Transformation of Ecological Metaphor After World War II," *Journal of the History of Biology* 21(2): 213-244. This is not required reading.
- Frank Herbert. 1961. *Dune*.

*Discussion:* systems ecology, keystone species, 'spice' as oil, the politics of power, wilderness

**EXPERT GROUP C**

**Week 11: April 4, 6 Do Androids Dream of Electric Sheep? The Human-Android Boundary**

- N. Katherine Hayles. 1999. "Turning reality inside out and right side out: Boundary work in the mid-sixties novels of Philip K. Dick," in *How we Became Posthuman: Virtual Bodies in Cybernetics, Literature, and Informatics* (University of Chicago): 160-191.
- Alessandro Portelli. 1980. "The Three Laws of Robotics: Laws of the Text, Laws of Production, Laws of Society," *Science Fiction Studies* 7: 150-156.
- Philip K. Dick. 1968. *Do Androids Dream of Electric Sheep?*

*Discussion:* Boundary work—where to we draw the line between human-artificial? What power do we have to define ourselves? Danger—self or other?

EXPERT GROUP A

ANNOTATED BIBLIOGRAPHY DUE

**Week 12: April 11, 13 The Left Hand of Darkness**

- Sandra Harding. 1997. "Women's standpoints on nature: what makes them possible?" *Osiris, 2<sup>nd</sup> series* 12: 186-200.
- For Your Curiosity: William F. Kenkel. 1969. "Marriage and the family in modern science fiction," *Journal of Marriage and the Family* 31(1): 6-14. This is not required reading.
- Le Guin, *The Left Hand of Darkness* (1971)

*Discussion:* Feminism and science fiction, peace, the boundary between the personal and the political, what constitutes 'truth', what constitutes 'gender'.

EXPERT GROUP B

**Week 13: April 18, 20 Technology at War with the Environment**

- T.A. Shippey, "*The Lord of the Rings* (2): Concepts of Evil," and "Afterword: The Followers and the Critics," in *J.R.R. Tolkien: Author of the Century* (London: Harper Collins, 2000): 112-160, 305-328.
- Tolkien. *The Lord of the Rings* (BBC Dramatization). Excerpts: website podcast.

*Discussion:* The Green Revolution, Tolkien as counter-cultural icon. Who gets to control nature?

EXPERT GROUP C

**Week 14: April 25, 27 Humanity & Technology in Cyberspace: Neuromancer (1984)**

- Craig M. Klugman. 2001. "From cyborg fiction to medical reality," *Literature and Medicine* (20): 39-54.
- For Your Curiosity: Claire Sponsler. 1992. "Cyberpunk and the dilemma of postmodern narrative: the example of William Gibson," *Contemporary Literature* 33(4): 625-644. This is not required reading.
- Gibson. 1984. *Neuromancer*

FIRST DRAFTS DUE

[Image: <http://au.geocities.com/twodetzkireviews/neuromancer.jpg>]

*Discussion:* Cyborgs and AI—what counts as human? sentient?; hypermasculinity and cyberspace as represented by the Console Cowboy. The electronic environment. (Everyone is an expert.)

**Week 15: May 2, 4 Project Presentations & Wrap up**

