

Lecture #1 Tuesday 22 Jan 2008 Introduction and Class Overview

The paradox of science in modern life:

science \neq mythology

but

it often functions in public discourse (such as science fiction) *as if it were mythology*

Central course goal: Examine the differences between
science as done by scientists

and

science as portrayed in popular media

A basic conflict in science fiction:

Literature is about *internal response to external events*
while

science is about *reliable description of external events*
(often while avoiding reliance upon internal responses)

Science fiction is often called a “literature of ideas”

But even though the narratives revolve around science, it is still fundamentally about internal/emotional responses to science/technology/change.

Therefore at heart, science fiction is not about the ideas of science, but about our response to science and related topics.

We will examine the role of rhetoric and narrative in science and in science fiction, and the way rhetoric is used in science fiction to give the **illusion** of science.

(Very important: we will emphasize that while rhetoric and argument are all used by scientists, science relies on external evidence in a fundamentally different way than other forms of narratives)

Because of this we will focus on novels and stories where scientific discovery and exploration are primary, and where attitudes about science are foregrounded.

BIG QUESTIONS IN THIS COURSE:

What is science and how does it work?

What is the methodology, the arguments, and what is *beyond* rhetoric?

What are the responses to science?

What are the perceived *benefits* and *threats* from science? esp, material threats (nuclear war etc) and philosophical (e.g., the weird world views of relativity and quantum mechanics, (cf. *Timescape* and *The Dispossessed*) or so-called “controversial” sciences such as the Big Bang and evolution)

How plausible are the visions of science fiction?

Could people travel to other planets and other stars?

Is it possible to clone /engineer people?

Important: the role of science fiction as literature is not to address scientific plausibility Science fiction as literature addresses narratives *about* science

When you encounter an idea or event that is “scientific” or technological in a story, I will ask you to stop and ask:

How does the story make you feel about that nugget of science/technology?

By what techniques does the story induce those feelings?

Can you place that feeling or attitude in a larger narrative about science?

Can you differentiate between that narrative *about* science and how science actually functions?

A Look Ahead: What is Science?

Q: What is science?

Linus Pauling (1901-1994) (Nobel prize winner in Chemistry 1954 and Peace 1962):

“Science is the search for truth” <http://lpi.oregonstate.edu/lpbio/lpbio2.html>

<http://www.christianitytoday.com/ct/2005/122/33.0.html>

This definition is unsatisfactory.

A description (not a definition): “Modern science is an efficient method to discover *reproducible and reliable* causal relations in the natural, external world.”

Science is not the search for the answers to *all* questions.

Some questions are difficult or impossible to answer.

Scientists often find it useful to instead ask **related** questions.

Q: What is the usefulness of intelligence?

A: *As a survival trait*, intelligence is (more or less) the ability to characterize the external world and have an *internal model* that *predicts what will happen in the external world*.

Summary: Our first clue as to the nature of science is the *survival utility* of human intelligence: the ability to develop internal models that predict the future behavior of the external world.

Science has: internal models (“theories”); predictions; deals with external world (atoms, rocks, stars) rather than the internal world (emotions, ethics, spirituality). additional element: reproducibility

How has science become mythologized?

Science has been so successful in answering *some* questions that people wrongly assume it can/ought to answer *all* questions.