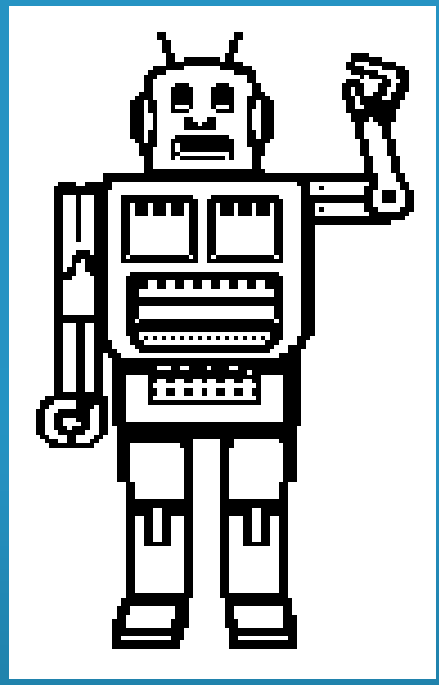
Technology Portrayed in Science Fiction :

CS 110

Summer 2004

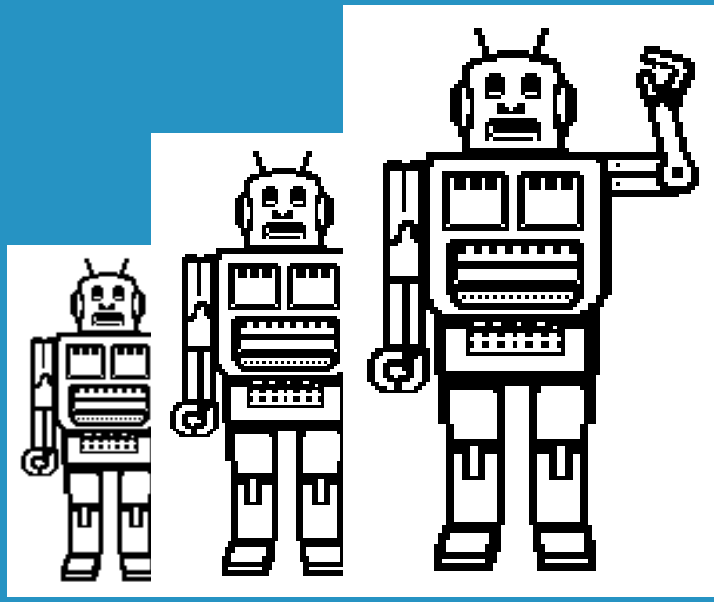


Overview of Topics

- Technology portrayed in fiction
- Computers portrayed in fiction
- Public attitudes about computers

Technology Portrayed in "Science" Fiction

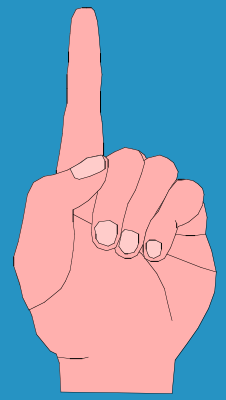
- Science inspired fiction
- Fiction inspired science!
  - Miniaturization
  - Space travel
  - AI/ robotics



  - Applications in education/ medicine / entertainment
- New technologies inspired new fiction

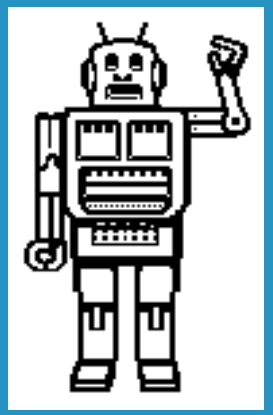
Themes in Science Fiction

- Playing God - unleashing a monster, tampering with the natural order
  - Frankenstein
  - Time Machine
- Control - man versus technology
  - 2001 Space Odyssey
- Ethics - how we treat our creations
- Environmental impact of technology



Computers Portrayed in Fiction

- Information and Power
  - 9 million names of God
  - The Answer
- Clockwork Society
  - Machine “utopia”
- Control of Behavior
  - Responsibility and Decision-Making
- Man in Transition
  - Total control to shared control to no control!



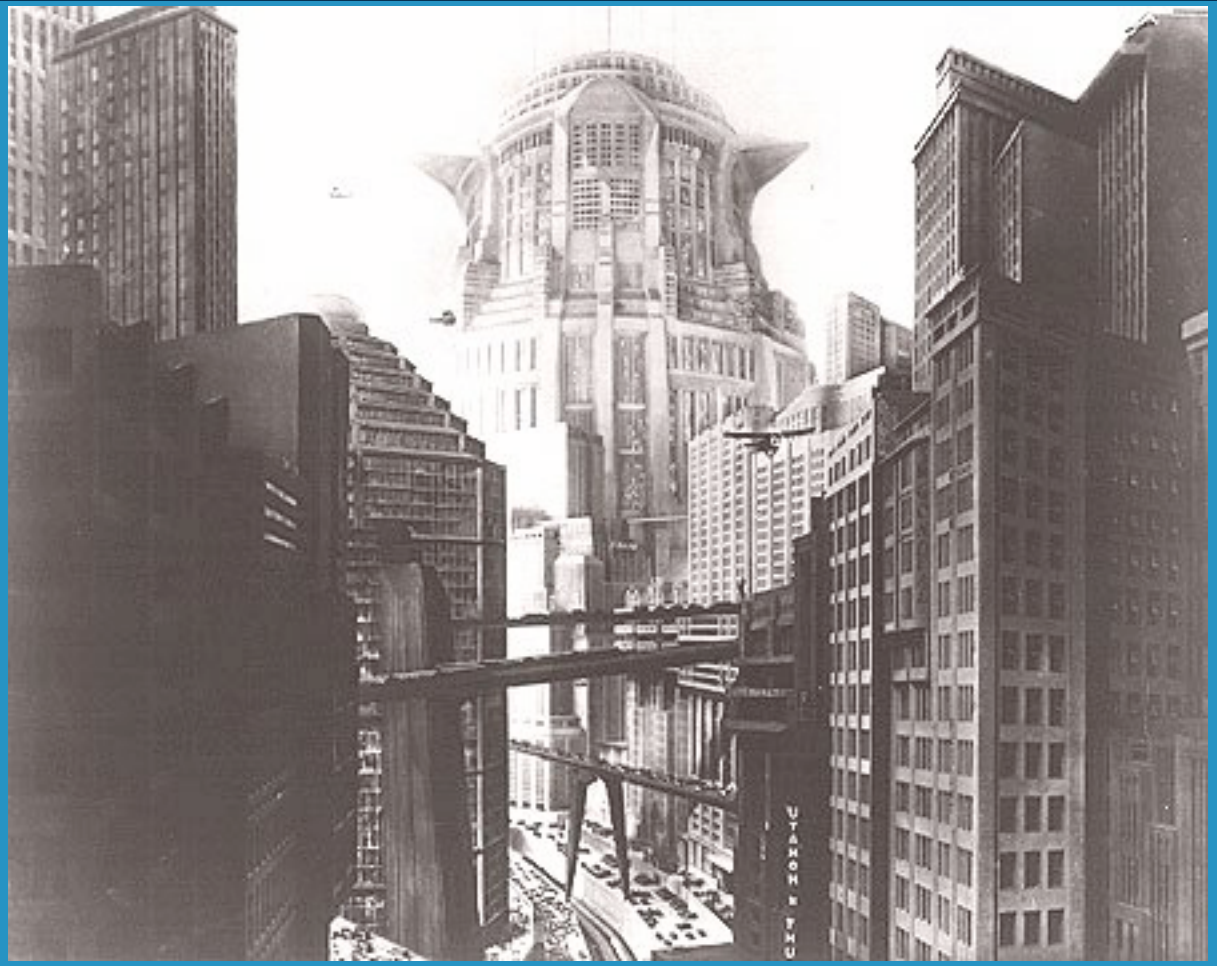
Historical Perspective of Technology

- Jules Verne - The Lost Novel: Paris in the Twentieth Century, 1996
- William Gibson & Bruce Sterling - The Difference Engine, 1994
- CLASSIC: METROPOLIS

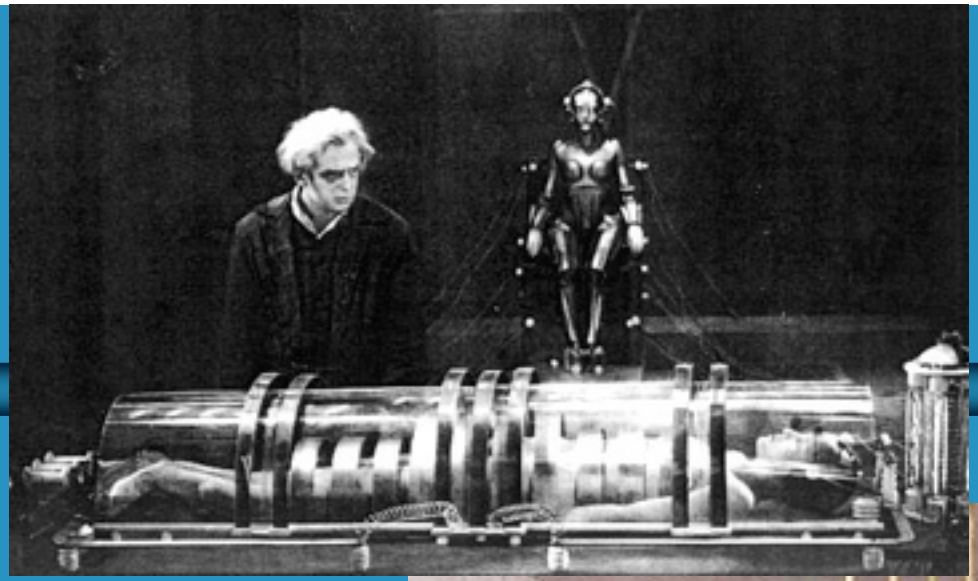
Fritz Lang's 1926 movie with a futuristic view of 2026: for more info see web site:

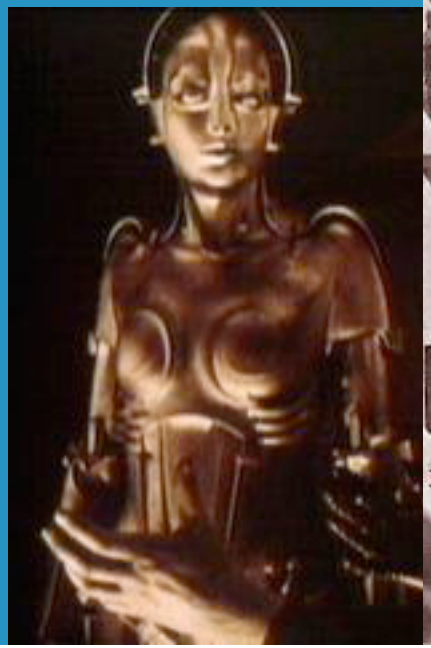
http://www.persocom.com.br/brasilia/metropo.htm

METROPOLIS - 1926 Silent Movie

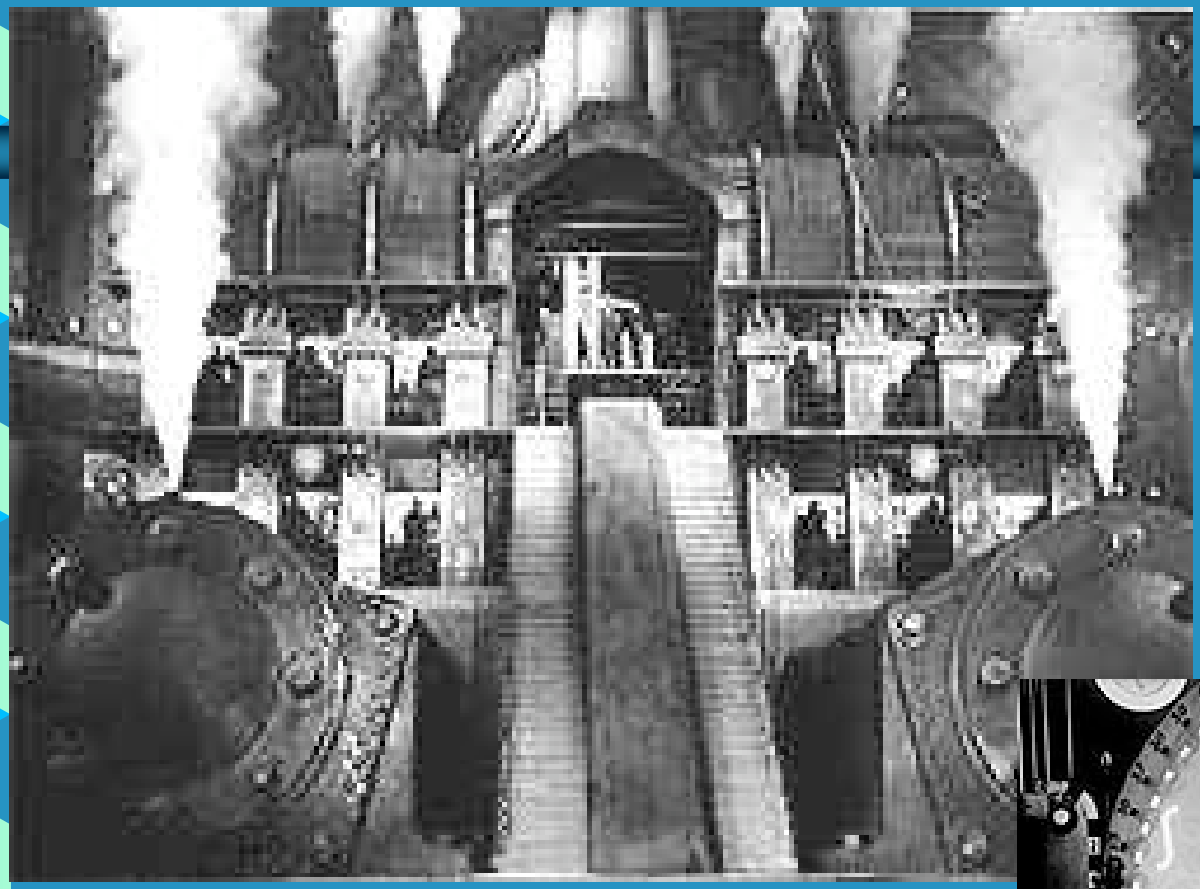


Evil Scientist





Human Bondage by Machine



Privacy / Databases/ Surveillance

- Huxley, *Brave New World, 1932*
- Orwell, *1984*, 1949
- Solzhenitsyn, *Cancer Ward*, 1968

"as every man goes through life, he fills in a number of forms for the record, each containing a number of questions…there are thus hundreds of little threads radiating from every man, millions in all. If these threads were suddenly to become visible, the whole sky would look like a spider's web. They are not visible…but every man…permanently aware of his own invisible threads, naturally develops a respect for the people who manipulate the threads."

- Atwood, *The Handmaid's Tale*, 1986

Automation / Dehumanizing

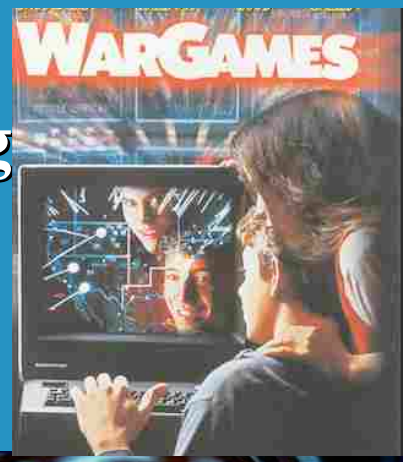
- The Case of the Killer Robot, Richard Epstein, Wiley, 1997
- Metropolis, 1926 silent movie (head vs hand)
- Soylent Green, 1973 movie: The year is 2022. New York teems with 40 million citizens; half are out of work. Strawberry jam costs $150 a jar, and voluntary death is encouraged by government sponsored clinics. The environmental erosion is so complete that people must rely on wafer like greenish foodstuff called Soylent. Charlton Heston is Thorn, a New York City cop investigating the murder of a magnate in the dictatorial Soylent Company. Edward G. Robinson, is an aged, wise researcher who remembers what the earth was like with trees, vegetables and democracy. As the threads of the killing unravel, Heston finds himself face to face with the hideous truth about the secret ingredient in "Soylent Green".

Computer Command and Control - Risk and Reliability

- What happens when computers are completely in control of critical systems?
- *2001* - 1968 Stanley Kubrick movie classic starring HAL
- *Wargames* - 1983 movie classic starring Matthew Broderick
- *The Matrix* - 1999 popular cult film
- Star Trek episode:

  The Ultimate Computer

  see www. startrek.com



Artificial Intelligence

- Asimov's Robot Series:

  Robots of Dawn, Caves of Steel, Naked Sun; Caliban

- 1950's episode OuterLimits: I Robot
  - A robot stands trial for murder of his creator.
- 1951 movie - The Day the Earth Stood Still

  A large silver saucer lands in Washington, D.C. A humanoid alien and a huge robot emerge, preaching peace.
- 1968 movie - Bladerunner

  In 21st century Los Angeles (2019), a semi-retired policeman, known as a "BladeRunner", is assigned to hunt down and eliminate four "replicants", genetically created humanoid robots. On earth illegally from an off-world colony where they were used as laborers, and with a built-in life span of only four years, the androids have jumped ship to confront their designer.

Asimov's Robot Laws: Ethics of a Positronic Brain

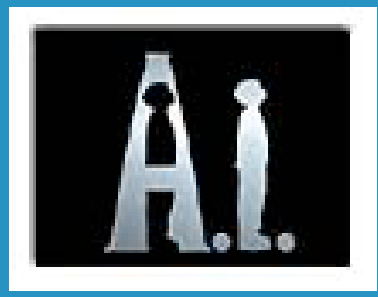
Law Zero: A robot may not injure humanity, or, through inaction, allow humanity to come to harm.

Law One: A robot may not injure a human being, or, through inaction, allow a human being to come to harm, unless this would violate a higher order law.

Law Two: A robot must obey orders given it by human beings, except where such orders would conflict with a higher order law.

Law Three: A robot must protect its own existence as long as such protection does not conflict with a higher order law.

History of AI Research



- Turing Test
- Expert systems
- Symbolic logic
- Machine learning
- 2000 Movie: AI

Public Attitudes about Computers

- Shaped by science fiction
- Shaped by the press
- Shaped by computer manufacturers
- Shaped by the Internet