

## Session 2 Robotics The Natural and the Artificial



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Science and technology today provide powerful instruments for understanding and controlling not only the world around us, but ourselves as well.

Mankind has always harbored an ambivalent attitude towards our sometimes daunting powers to understand and to control the natural world. In the 1960s, the novelist Norman Mailer wrote: "There is a primitive residue in man which is far from convinced, face to face with the presence of a machine, that the engine is not possessed with a variety of spirits benign and wicked. An enormous anxiety of technology remains." The roots of the ambivalence are the exhilaration of technical creativity --being godlike--and the fear of divine retribution for that hubris.

There is a special anxiety and fascination for artificial human "look-alikes." which dates to before the beginnings of recorded history. These "humanoids" reach far back into myth, literature and history. Ancient Egypt produced talking statues that worked by concealing a speaking trumpet. Daedalus, the fabled Greek hero-artist-inventor, was reported by Aristotle to have built statues that walked and talked. Historians tell us of a moving wax figure of Julius Caesar, rising from his funeral bier, that Marc Antony used to galvanize the crowd. The medieval Jewish legends of the Golem, the story of the sorcerer's apprentice, and the tale of Albertus Magnus's creation of a brazen head, all attest to the early recognition of the dangers of unbridled "technology."

The Industrial Revolution made workers part of the machine process as machine tenders. What is termed the "Second Industrial Revolution" of the twentieth century introduced the assembly line and made the workers part of the machine itself. It was at this point that mankind began to fear that machines might actually replace humans or win control. As the poet Emerson had earlier warned, "Things are in the saddle and ride mankind."

The term "robot" was introduced in the play "R.U.R." by Karel Capek in 1921. It was an early example of the genre that played on the dread that the machines could supplant people. This genre includes the films "Frankenstein," "The Stepford Wives," "Colossus: the Forbin Project," and many others.

But what of our own efforts in the twenty-first century? Is mankind undermining its own future by developing rivals via artificial intelligence, robotics and even high-tech prosthetics?

### Further Reading:

- Kurzweil, Ray. *The Age of Intelligent Machines* (Cambridge: MIT Press, 1990)
- Marx, Leo. *The Machine in the Garden* (Oxford University Press, 1964) Essays on the advent of machines and their impact on the American landscape
- Mazlish, Bruce *The Fourth Discontinuity: the Co-evolution of Humans and Machines* (New Haven: Yale University Press, 1993)

### Videos:

- *Colossus: the Forbin Project* (1969) Super-computers in a cold war setting.
- *Frankenstein* (1931) The classic.
- *The Stepford Wives* (1975). A social/gender relations commentary in picture garb.

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