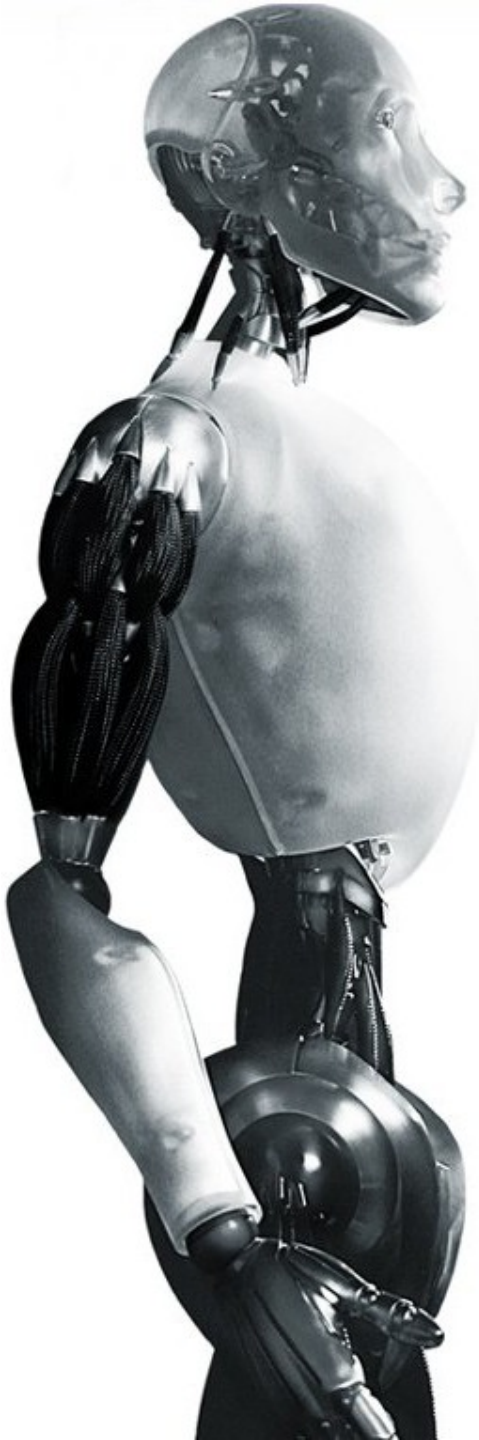


Disclaimer

These slides are intended as presentation aids for the lecture. They contain information that would otherwise be too difficult or time-consuming to reproduce on the board. But they are incomplete, not self-explanatory, and are not always used in the order they appear in this presentation. As a result, these slides should not be used as a script for this course. I recommend you take notes during class, maybe on the slides themselves. It has been shown that taking notes improves learning success.

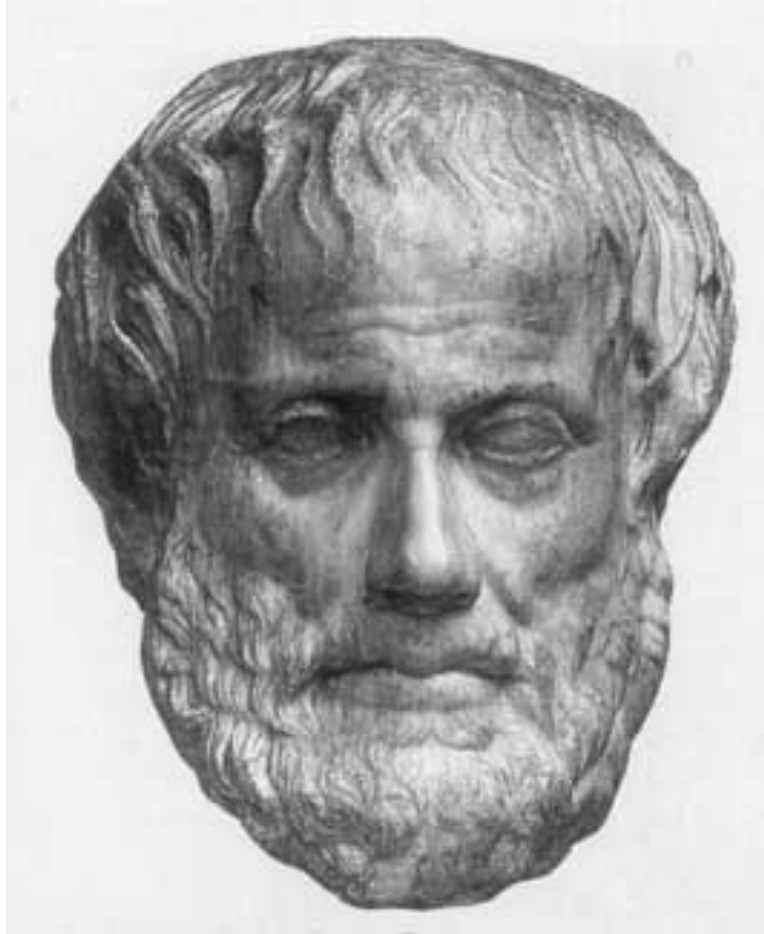


Robotics

Excerpts from the History of Robotics

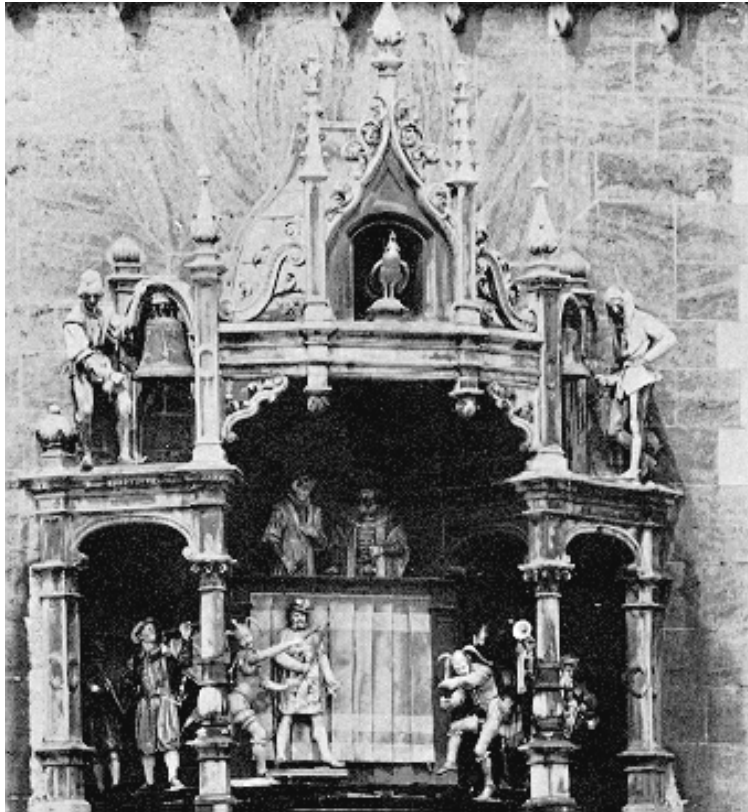
TU Berlin
Oliver Brock

Aristotle



Early “Robots”

1350 Rooster flapping wings and on top of Cathedral in Strasbourg, France

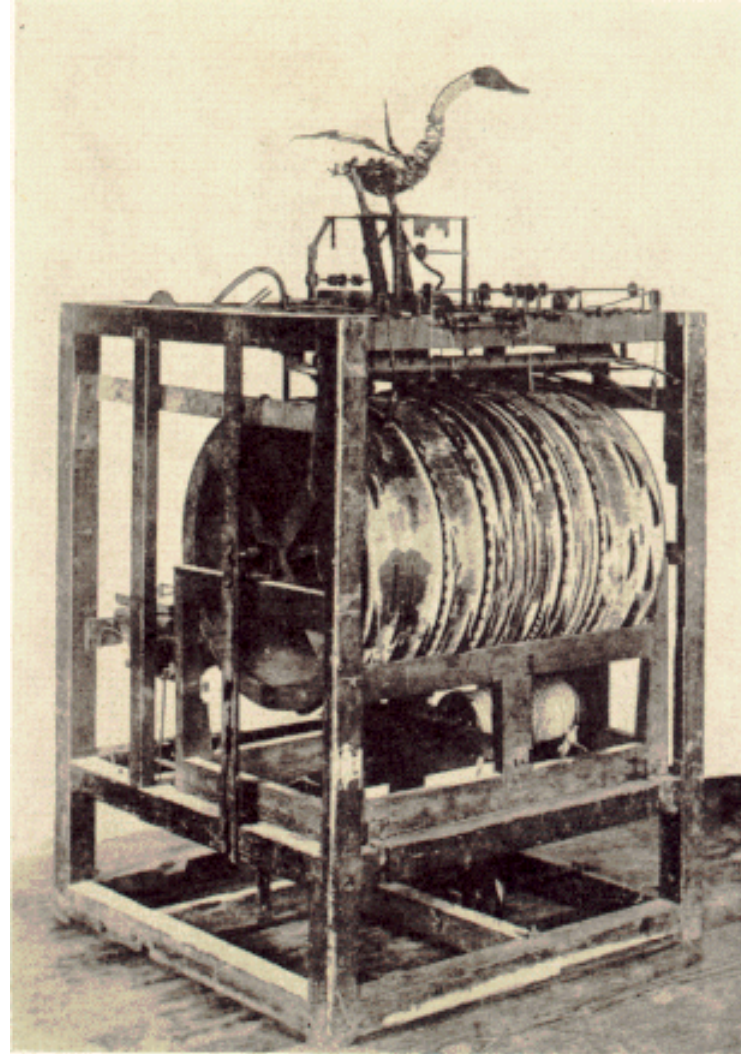
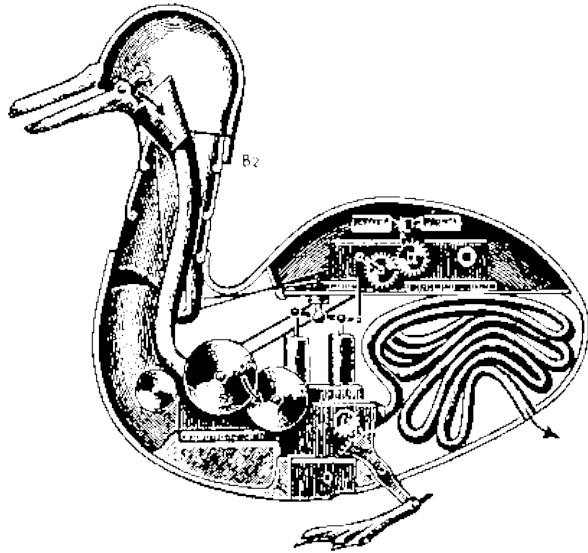


Town Hall, Munich, Germany
Renaissance



1497 Clock Tower in Piazza San
Marco, Venice, Italy

The Duck of Jacques de Vaucanson, 1738



The Writer of Droz, 1774

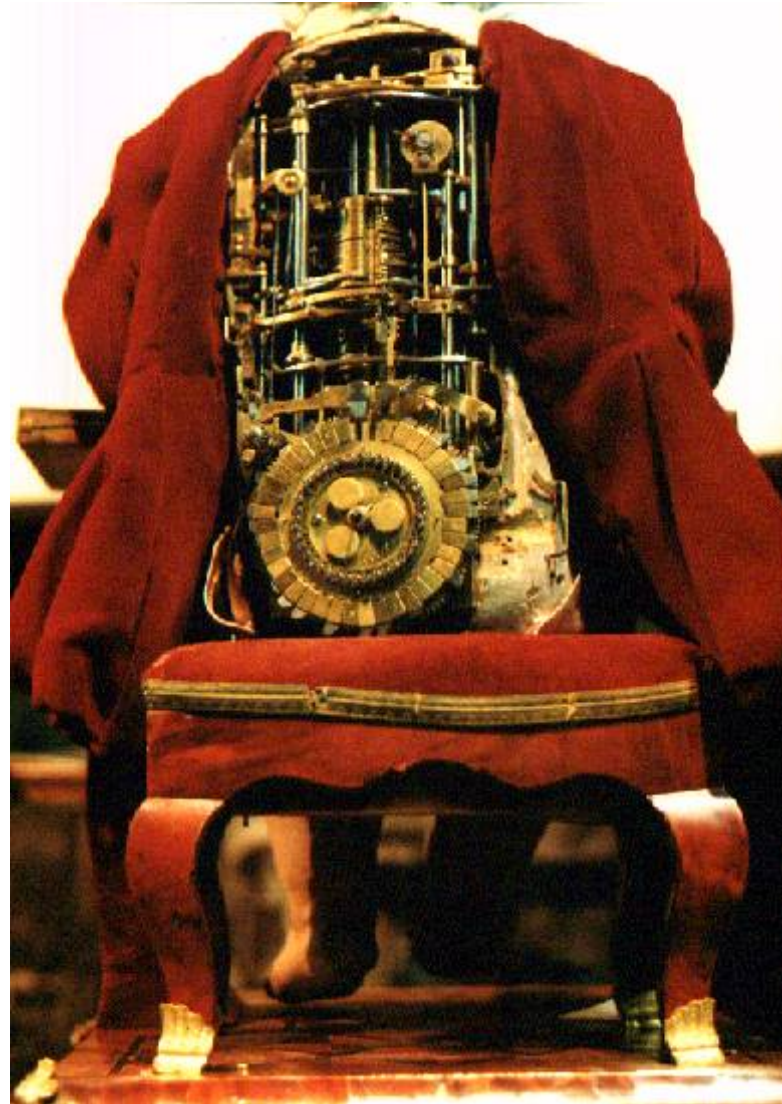


Writer



Draughtsman

The Writer of Droz, 1774



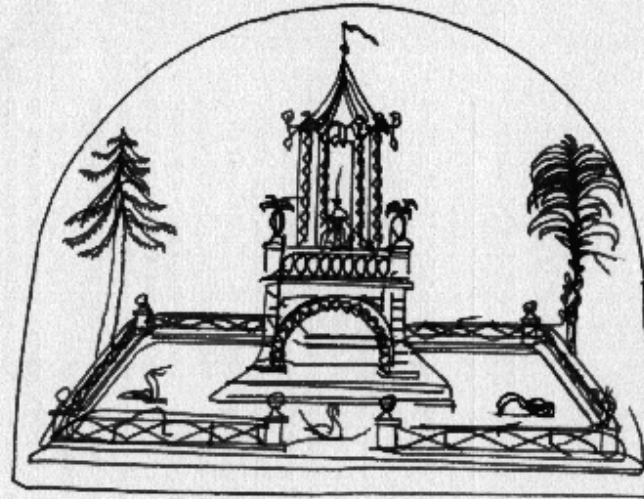
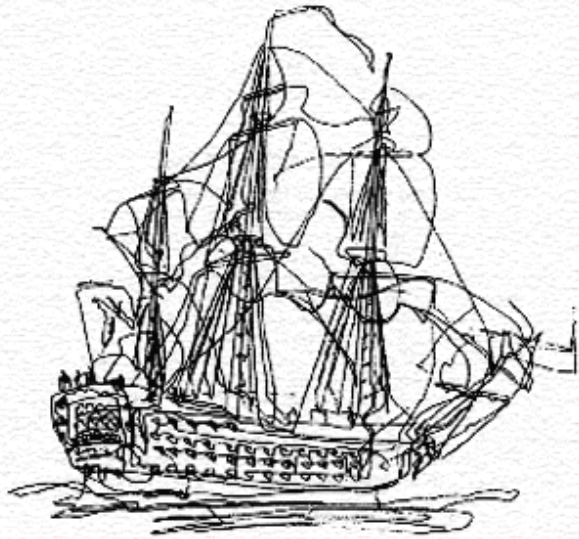
Maillardet, 1805



Maillardet, 1805



Maillardet, 1805



Karel Čapek's R.U.R., 1920



Westinghouse's Elektro, 1940



Isaac Asimov: *I, Robot*, 1942

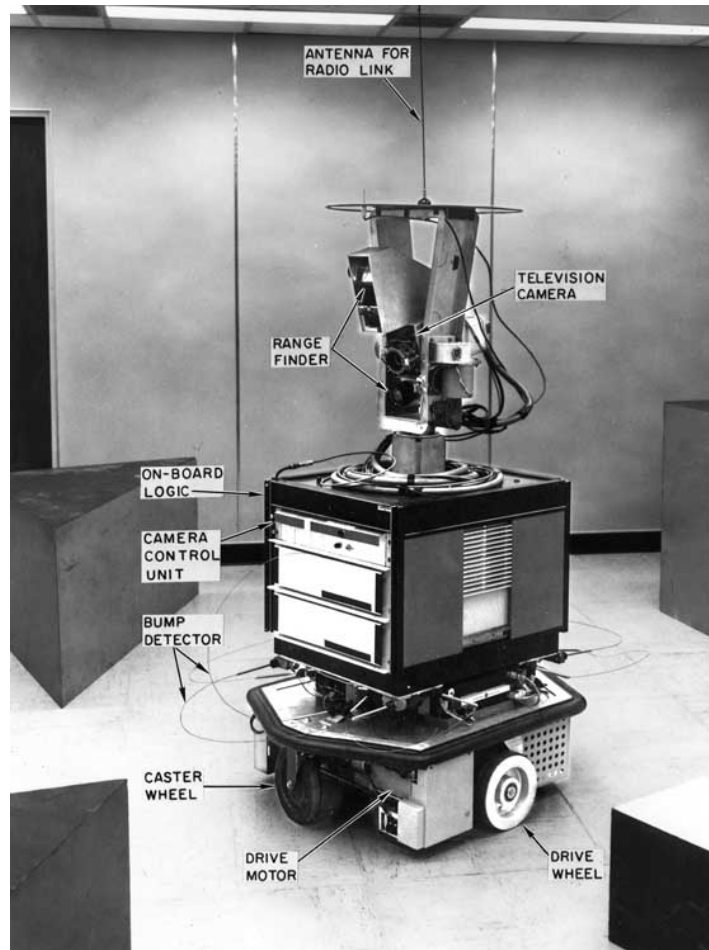
0. A robot may not injure humanity or, through inaction, allow humanity to come to harm. (This was added after the initial three laws in *Robots and Empire*)
1. A robot may not injure a human being, or, through inaction, allow a human being to come to harm.
2. A robot must obey the orders given it by human beings except where such orders would conflict with the First Law.
3. A robot must protect its own existence as long as such protection does not conflict with the First or Second Law.

Handbook of Robotics,
56th Edition, 2058 A.D.

The story unfolds...

- **1954** George Devol designs first programmable robot and founds Unimation.
- **1959** Marvin Minsky /John McCarthy establish the AI Laboratory at MIT
- **1962** GM buys first robot from Unimation
- **1963** John McCarthy heads up the new AI lab at Stanford
- **1965** Carnegie Mellon University establishes Robotics Institute

Shakey (SRI, 1968) and Mobie (Stanford,?)



Stanford Scheinman Arm, 1969



PUMA, 1978



Unimation's Programmable Universal Machine for Assembly

