

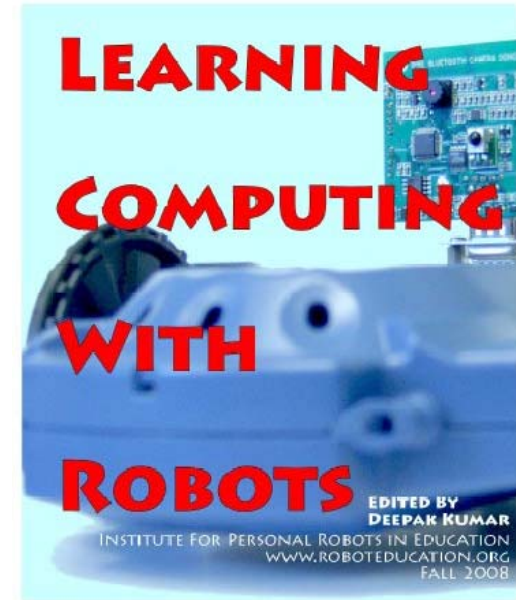
# CS110

# Introduction to Computing

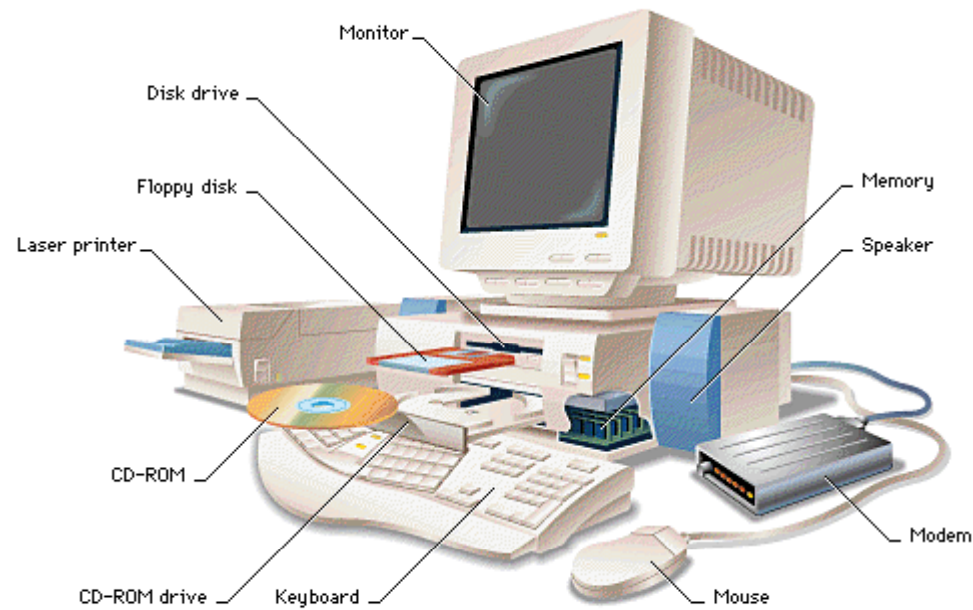
Deepak Kumar

# CS110: Introduction to Computing

- Instructor: Deepak Kumar
- Teaching Assistants: TBA
- Labs: Each TA will give 4 hours/week
- Text: Learning Computing with Robots
- Plus: Personal Robot Kit
- Website: [www.cs.brynmawr.edu](http://www.cs.brynmawr.edu)
  - Spring Courses
  - CS110 (Deepak Kumar)



# What is a computer?



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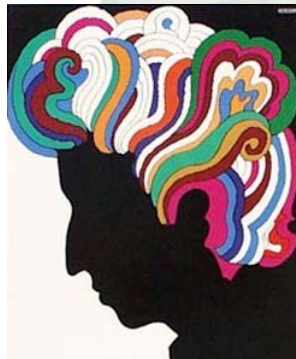
# What is a computer?



# What is computing??



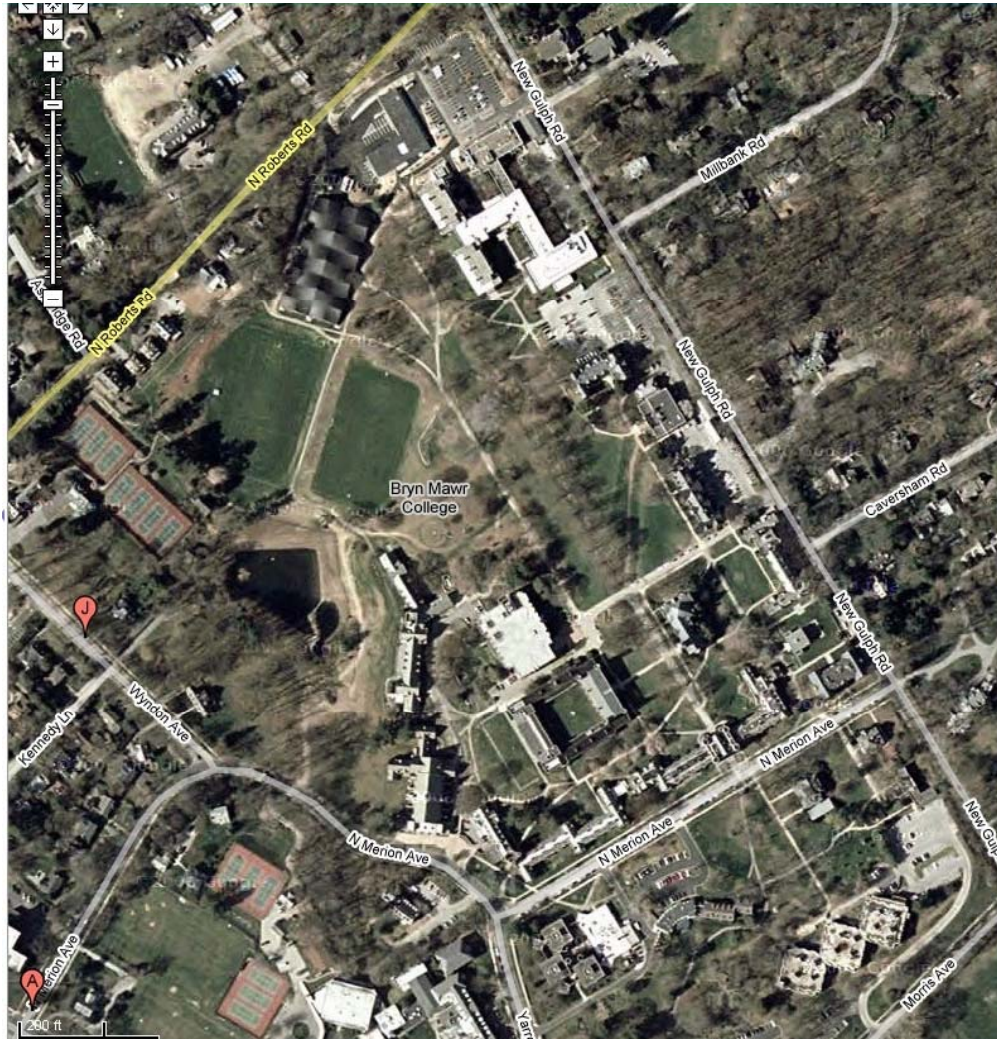
Google™

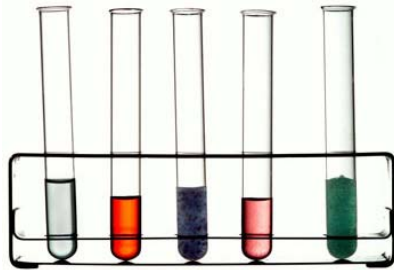




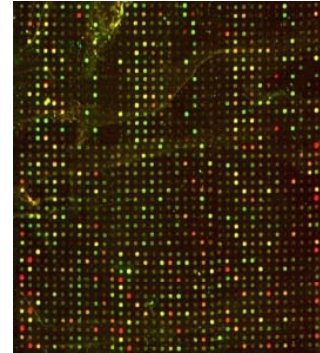
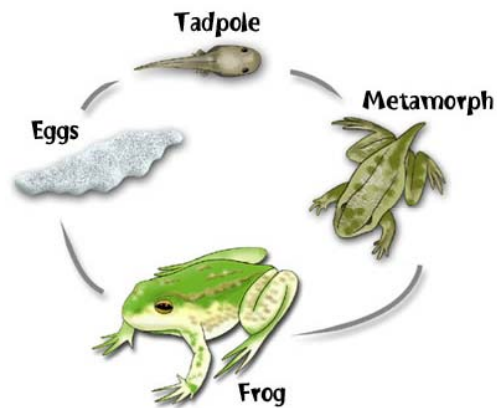
Computing is...  
A new way of looking at the world.

Example: Google™





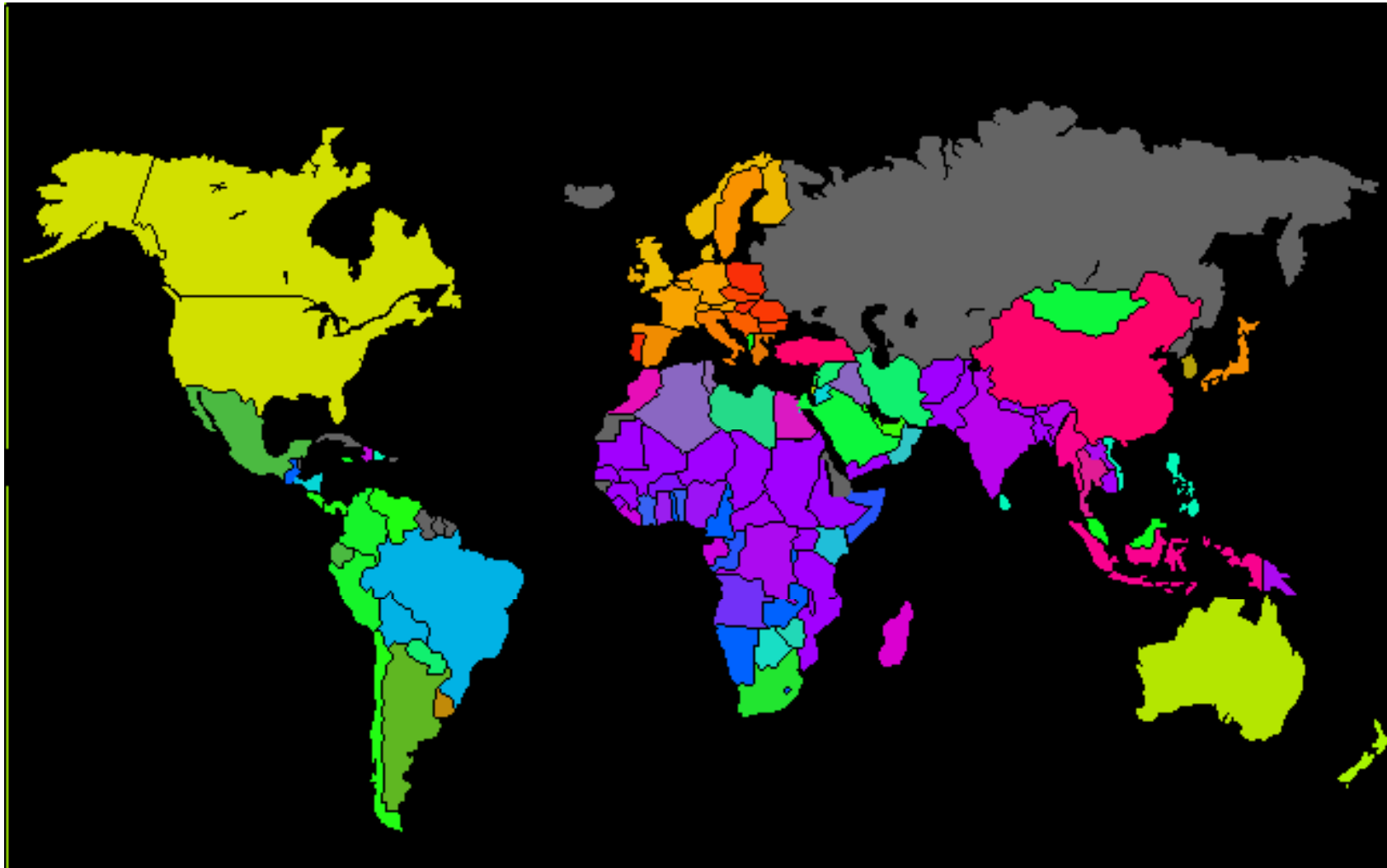
# Old Biology



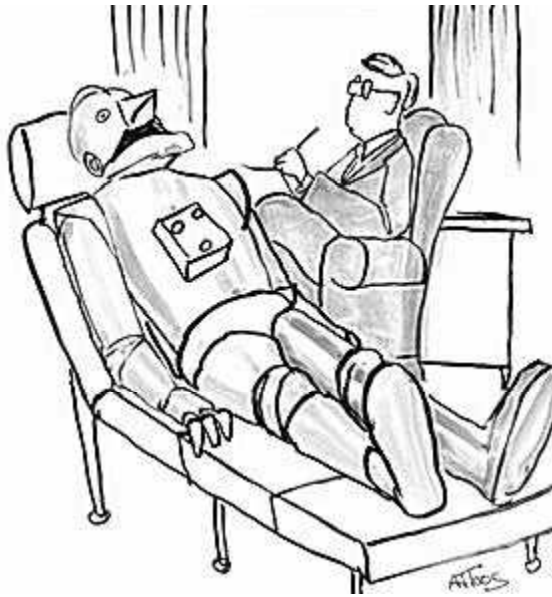
# New Biology



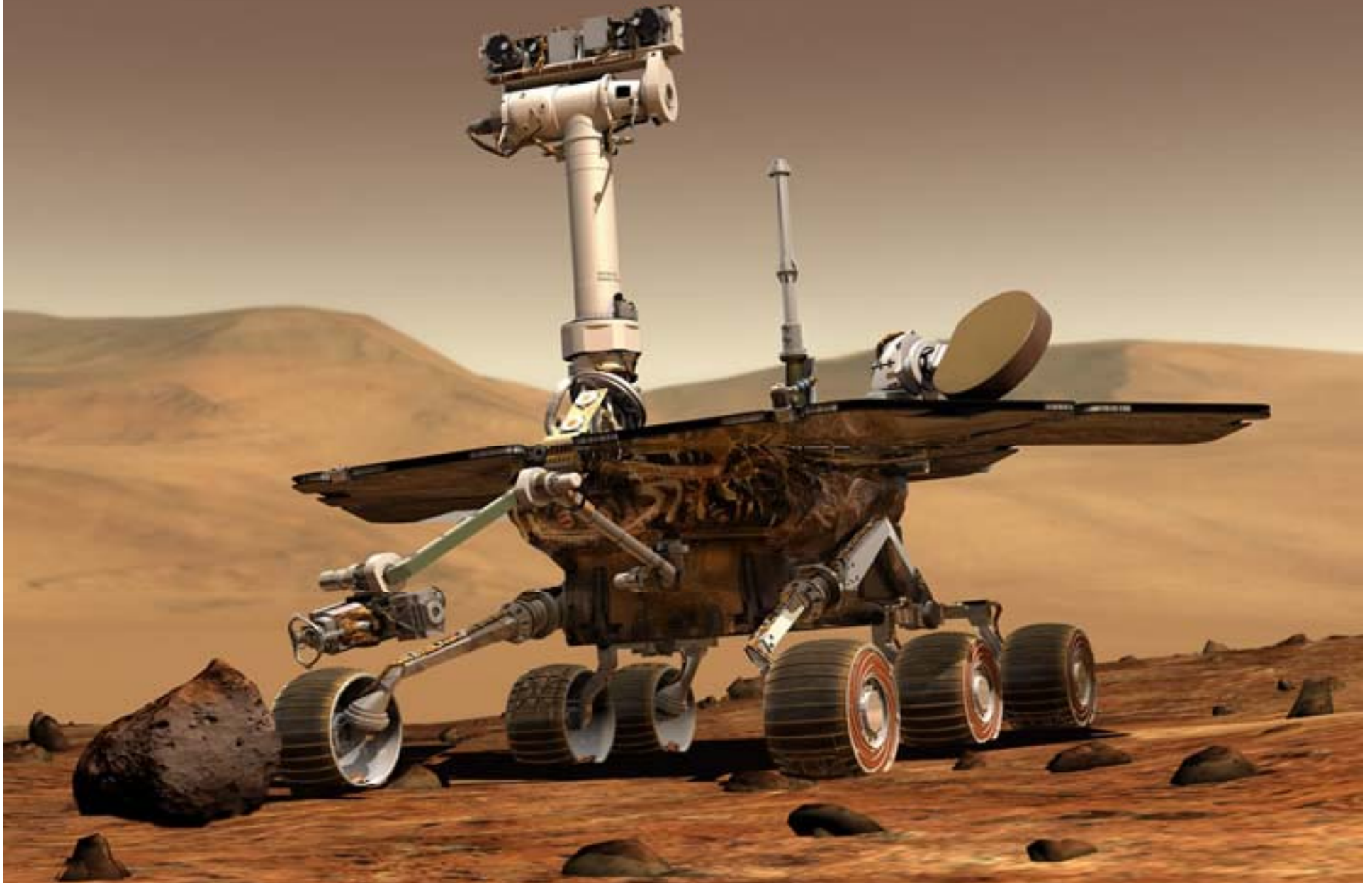
# Example: Economics



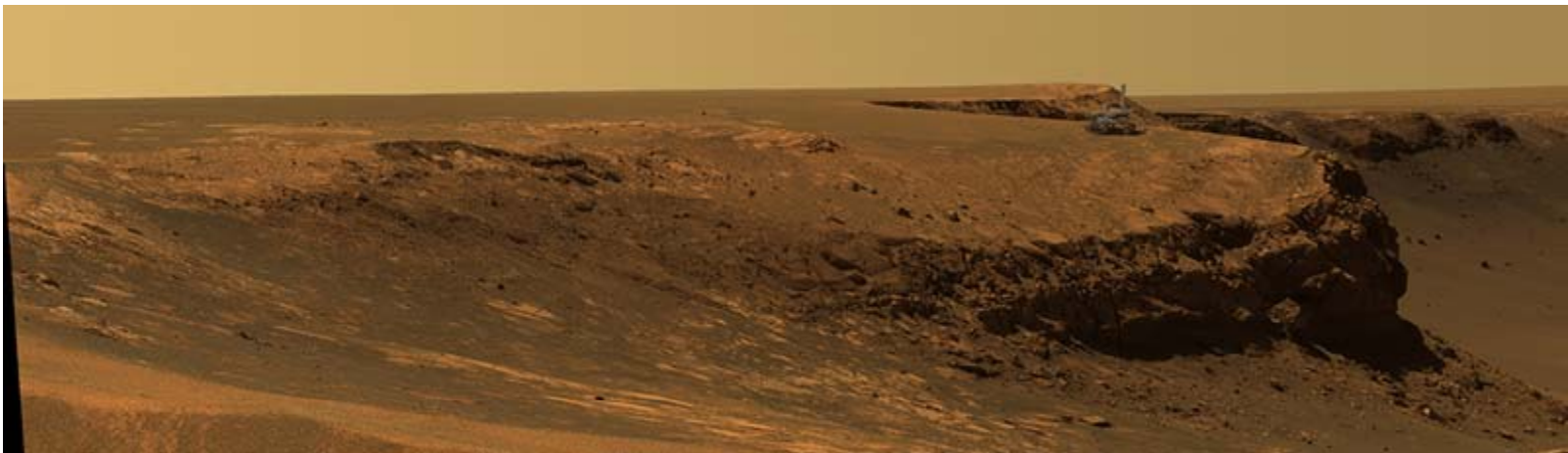
# Do the Questionnaire now...



A robot geologist!



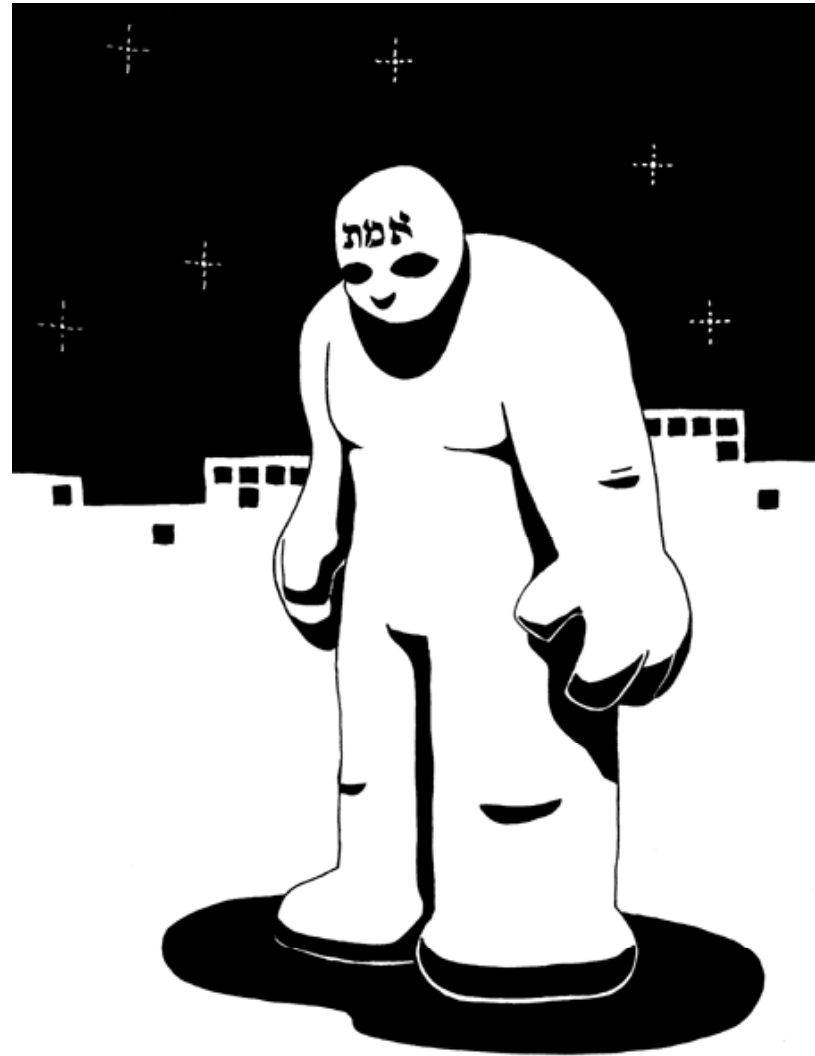
# Mars: What's going on?



# Ancient dream: “Breathe Life into Matter”

In Jewish folklore, a **golem** (גולם, pronounced *goilem*) is an animated being created entirely from inanimate matter.

Has made its way into popular culture....

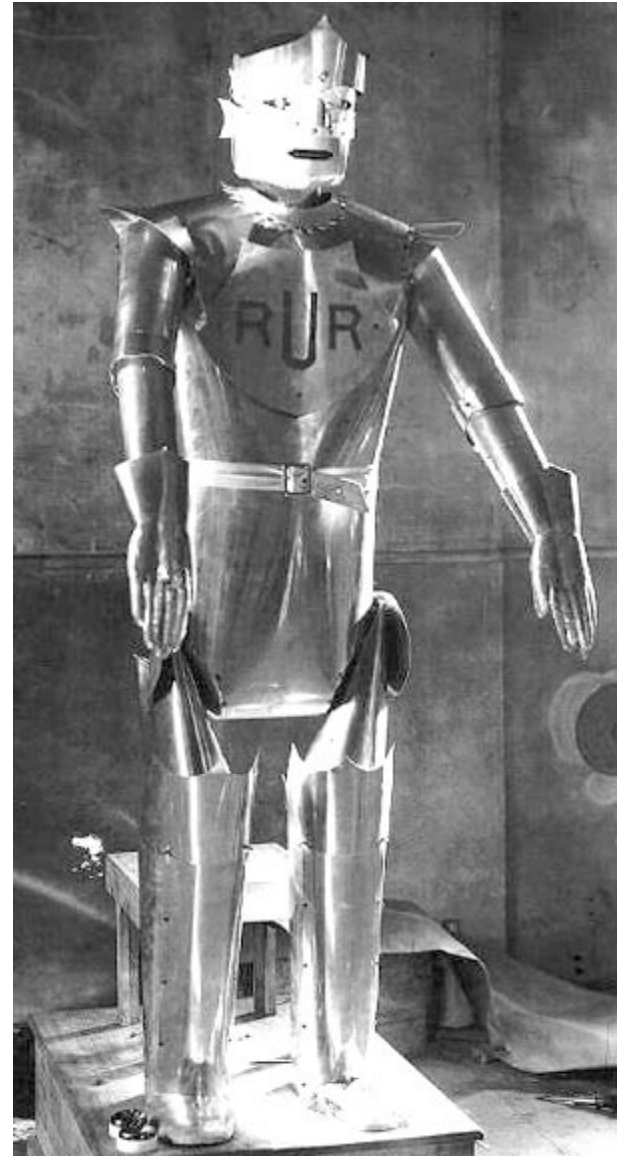


# Popular Culture

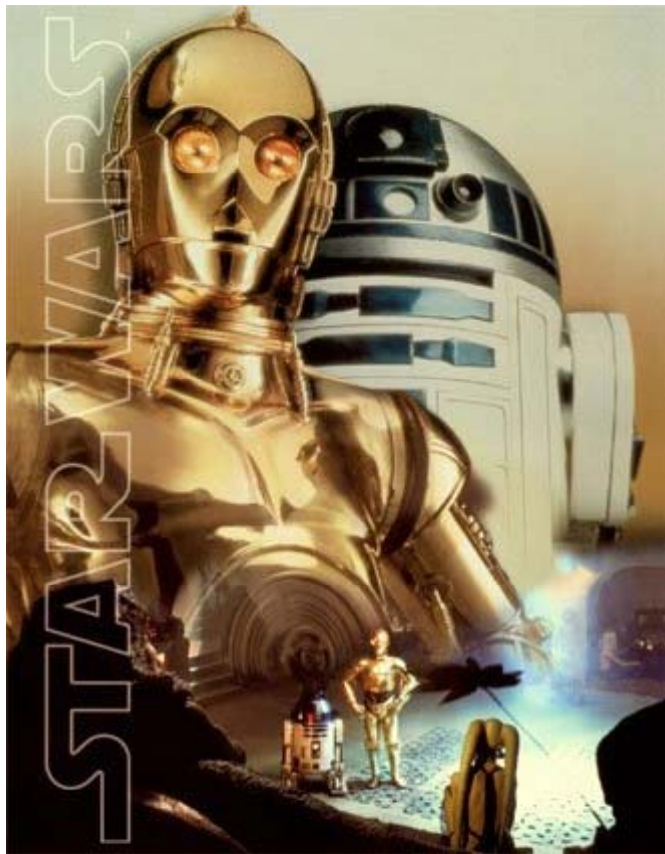


Frankenstein  
Mary Shelley, 1818

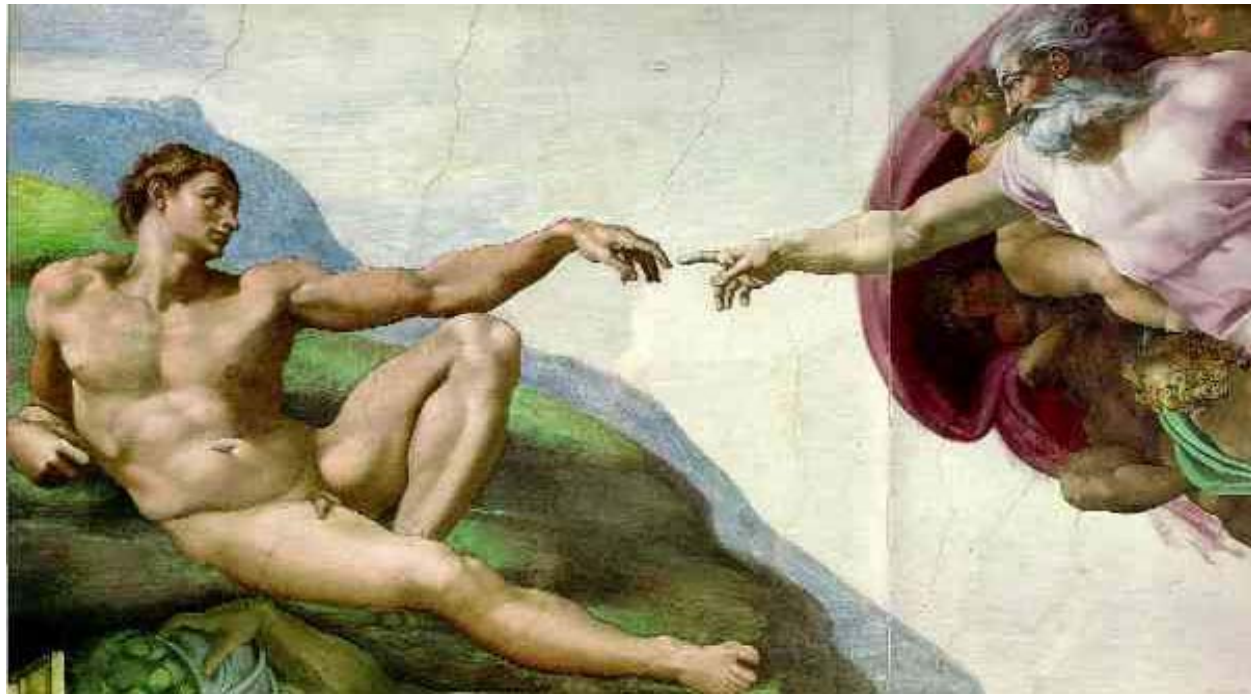
RUR (Rossum's Universal Robots)  
Karel Capek, 1921



# Robots...

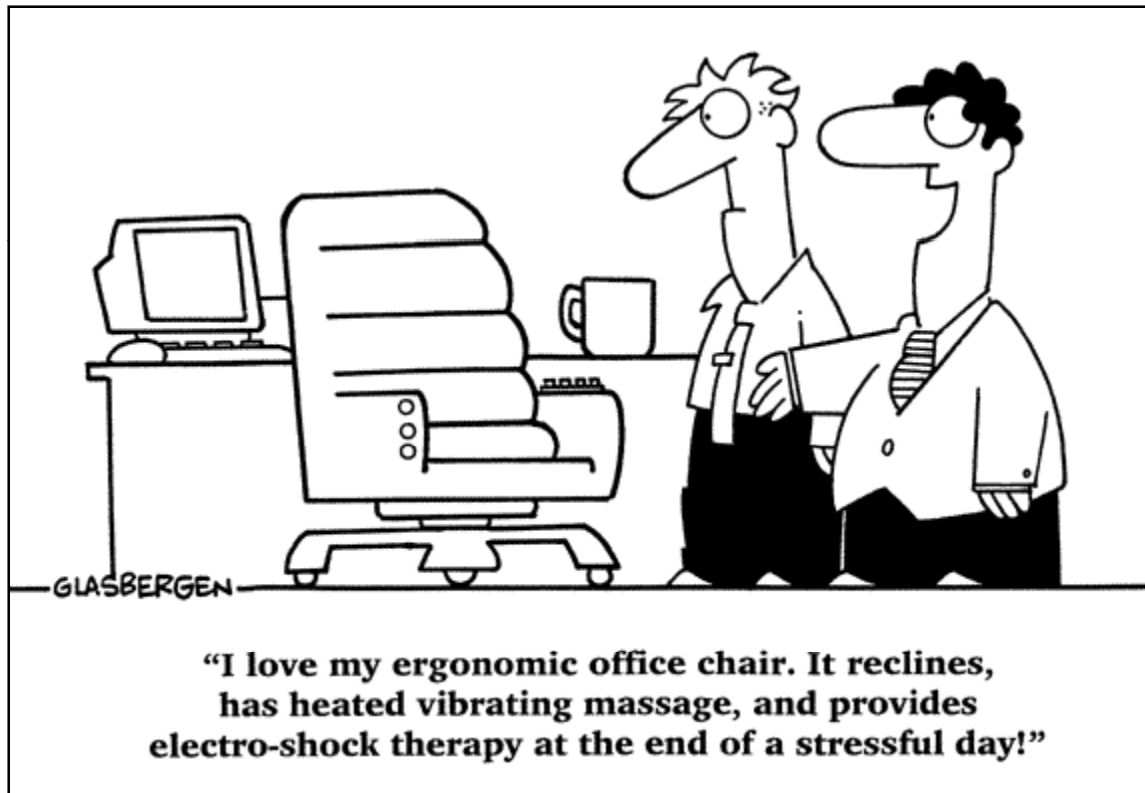


# “Breathe Life into Matter” An Alternative perspective



# “Breathe life into matter”

## A Computational perspective



Make matter do useful interesting things on its own.

# Breathing life into matter...

**"In the morning paper, I can read the weather report as well as the stock quotes. But when I look out of my window I only get a weather update and no stock exchange info. Could someone please fix this bug in my environmental system? Thanks."**



# What is a robot?

➤ a machine that looks like a human being and performs various complex acts (as walking or talking) of a human being;

also a similar but fictional machine whose lack of capacity for human emotions is often emphasized;

and also an efficient insensitive person who functions automatically

➤ a device that automatically performs complicated often repetitive tasks

➤ a mechanism guided by automatic controls

# A robot is...

*a mechanism guided by automatic controls*

