

THE BIG PICTURE

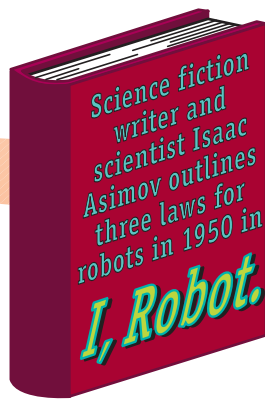
A SHORT HISTORY OF ROBOTS AND THINKING MACHINES

Although robots are considered a 20th-century invention, their origins lie in the distant past. From the earliest times, people have created myths about mechanical beings built in their own likeness with superhuman powers. The ancient Egyptians and Greeks built mechanical automatons to perform simple tasks. In modern times, mechanical toys entertained and ever-more-complicated machines were invented. The idea of a lifelike mechanical humanoid influenced both art and science; in 1818, Mary Shelley's

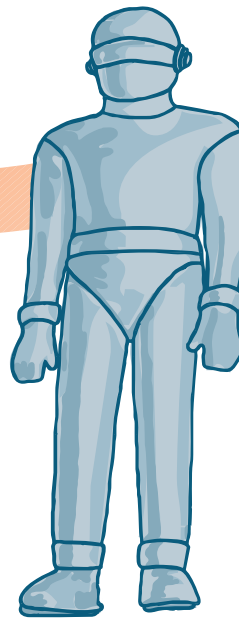
Frankenstein explored what happens when a man-made monster is given life by a well-meaning scientist. As computer technology became more advanced, scientists became more interested in building intelligent machines that could eventually think for themselves. Today, robots of all kinds populate our world and are used for varied applications in space exploration, the military, medicine, industry, research, police work and, of course, the movies. Here are some highlights of robot invention in the 20th century.



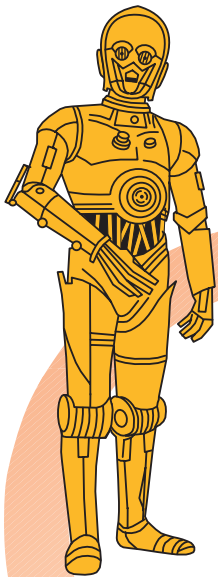
In 1921, the Czech dramatist Karel Capek coins the word robot in his play *R.U.R.* from a Czech word meaning "compulsory labor."



Science fiction writer and scientist Isaac Asimov outlines three laws for robots in 1950 in *I, Robot.*

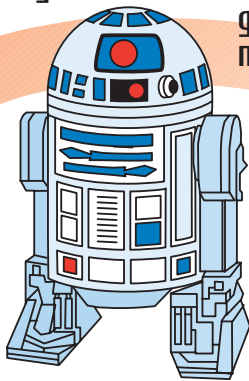


Classic sci-fi movies like *The Day the Earth Stood Still* and *Forbidden Planet* in the 1950s and '60s show robots in various roles, from advanced saviors to malevolent monsters.

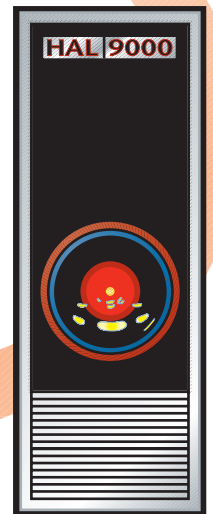


Beginning in 1977 (and re-released in 1997), the *Star Wars* trilogy captures the popular imagination of several

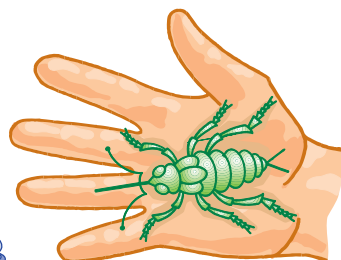
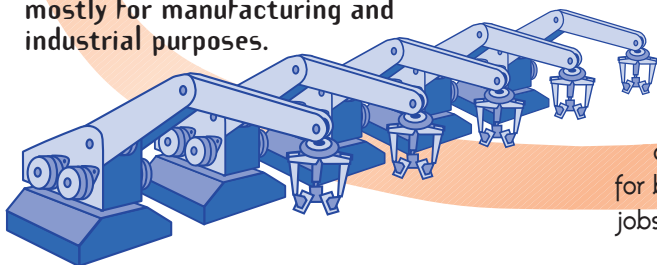
generations of moviegoers.



According to Arthur C. Clarke's popular 2001: *A Space Odyssey*, published in 1968, the homicidal computer HAL 9000 "becomes operational January 12, 1997." Though this novel was written before computers became as powerful and popular as they are today, some of Clarke's predictions ring true.



Since 1984, the U.S. Census has kept track of the robot population. Today, more than 70,000 robots are in use in the U.S., mostly for manufacturing and industrial purposes.



Today, robotics researchers build machines that are learning to walk, think, search for bombs and perform other dangerous jobs. Some robots are modeled on other forms of life, especially insects.

The Mars rover *Sojourner* (below), now on its way to Mars, is expected to land on July 4, 1997; the robot Dante explores volcanoes; robots even assist with surgery.

