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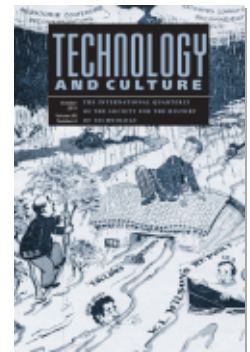
*Gods and Robots: Myths, Machines, and Ancient Dreams of
Technology* by Adrienne Mayor (review)

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Gods and Robots: Myths, Machines, and Ancient Dreams of Technology.

By Adrienne Mayor. Princeton: Princeton University Press, 2018.
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Clank, clatter, clank—is that Marley’s chained ghost? No, it’s Talos, a bronze giant from ancient Greek mythology constructed by Hephaestus, the Olympian blacksmith, to patrol the island of Crete and defend it from pirate raids. Mayor says he was the first robot, a self-propelled creature built according to Zeus’s divine command.

Gods and Robots is an absorbing study of ancient mythological and historical automata that explores their origins and significance in the ancient and modern worlds. It will intrigue anyone interested in mythology, ancient and modern robotics, and the genesis of artificial intelligence. Adrienne Mayor is a research scholar in Stanford University’s classics department, investigating ancient folklore and science plus the connections between the ancient and modern worlds. In this book Mayor concentrates on the ancient Mediterranean, while including some references to ancient India and China.

Mayor begins by exploring the Greek myths which describe automated entities in accounts of Jason and the Argonauts, Medea, Daedalus, Prometheus, and the two Zeus-commissioned beings, Pandora and Talos. While some historians believe that ancient myths describe only creatures activated by magic, Mayor says some creatures were created through *biotechne*—“life through craft” (p. 1)—using the tools and metallurgical technology of the time. She discusses specific figures and their appearances in ancient art (coins, vase paintings) and literature (poetry, plays), and goes on to note modern echoes of Talos in video games and military equipment.

The wish to enhance human capabilities is common to mythological figures and modern humans alike. The inventor Daedalus used no magic, just the crafts and materials of his time. He devised the feathered wings that bore his son Icarus to his death, and created anatomically detailed statues of humans and animals that were so realistic they seemed likely to move. These figures appeared in sixth-fifth-century BCE vase paintings, fifth-fourth-century BCE literature, and bronze and marble sculptures. Although these statues were not actually animated (scholars disagree on this point), the idea of using magnetic attraction to make statues levitate in third-century BCE Egypt is described by the Roman author Pliny. Because of the ancients’ incomplete understanding of magnets, however, the statues remained earthbound.

Mayor then discusses the idea that humans are simply automata of the gods: Prometheus, appearing in both Greek and Latin sources, is said to have created humans from mud and clay, which were then enlivened by

gods or magic. In order to punish humanity for accepting Prometheus's gift of fire, Zeus directed Hephaestus to construct Pandora, whose opened jar of evils brought the world's misfortunes, with only Hope remaining in the jar. Mayor cites Pandora's appearances in both the ancient world (in vase paintings and literature) and the modern world (in film), and notes that the manufacture of destructive machines is common in all historical periods.

Mayor next describes some actual automata of the ancient world. They include devices of war or execution (hollow bronze bulls); speaking statues (Egypt's Colossi of Memnon); and moving animals and birds (the Hippodrome's eagle-and-dolphin starting mechanism in Olympia, Greece). The inventor Philo of Byzantium (third century BCE) produced scenes of chirping and rotating birds, and Heron of Alexandria (first century BCE) created automated theaters using hydraulics and pneumatics. Chinese mechanized puppets are documented from the third century BCE, and Buddhist legends and texts dating from fifth-third-century BCE India say that mechanical guards were constructed to protect Buddha's remains. A later Burmese translation says that these mechanical beings originated in "Roma-visaya," i.e. the Mediterranean world, and were therefore directly related to early Greco-Roman automata.

How do these ideas relate to the development of AI today? While the ancient automata do not directly influence modern robotics and AI, millennia of *biotechne* stories illustrate people's continuing curiosity and active imagination about human life in relation to technology and its possibilities. Mayor says, "The rise of a Robot-Artificial Intelligence 'culture' no longer seems far-fetched" (p. 218).

Gods and Robots is a fascinating read. It includes seventy-five black-and-white figures and fourteen color plates cross-referenced to the figures, a useful glossary, detailed chapter notes, an extensive bibliography, and an index including references to the illustrations as well as the text. It is suitable for the general public as well as students and academics. Both public and academic libraries would do well to include this book in their collections.

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Georgina J. Henderson is an independent scholar and librarian who recently received her M.A. from the Greek and Roman studies department, University of Victoria, Victoria, British Columbia, Canada. Her thesis examined the design and construction of the spiral fluted architectural column in the ancient Mediterranean world and its relationship to the mechanical screw.