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The Artificial Alien: Transformations of the Robot in Science Fiction

By MORTON KLOSS

ABSTRACT: The robot, though a relatively recent arrival in the real world, has been a subject of interest in literature—primarily, though not exclusively, science fiction—for most of this century. It is possible to note significant transformations in perceptions of, and attitudes toward, the robot during this period by reviewing the literature. Thus the earliest robots are flesh and blood creations, and are perceived as potentially inimical in a number of ways. Over time the robot becomes a mechanical equivalent of humans and takes on many but not all of the attributes of aliens: interestingly the one most threatening alien attribute in Western perception—that of sexual threat—is not accorded the robot. Instead the robot is perceived as the perfect and perpetual servant, though with a distinct potential for danger. It might make humans superfluous in certain areas, but if humans can manage to prevent that, the literature implies, they will rejoice in a human-equivalent servant and companion. This article is of possible interest to those in the fields of the anthropology of work, anthropology and literature, futures research, and ethnic relations.

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THE robot—the manufactured equivalent of the human—is almost here. There are those in fact who would claim that it has already arrived and that quite a few people are currently engaged in the process of adjusting to its presence. There is another argument, however, one reflected in this article, that in an important sense manufactured equivalents of human have been with us for most of this century if not longer and that there is a substantial body of literature dealing, speculatively and varyingly but still significantly, with the implications, opportunities, and problems inherent in the association of humans and the manufactured equivalents of humans.

“Manufactured equivalents of humans” is admittedly an awkward way of putting it, but it does have its uses. I emphasize the word “equivalent” because the term introduces an important anthropological dimension, that of the alien—the person who in many societies is viewed as not of us, not truly human but only an equivalent of the true human. The views held in a given society of the nature of the alien may be quite complex. The alien may be simultaneously scorned and feared, for example, or considered both nonhuman—say, non-marriageable—and yet very human—sexually quite desirable. It is certainly legitimate, therefore, for the anthropologist to inquire into the extent to which the manufactured equivalent of a human has reflected the particular perceptions of the alien that is characteristic of Europe-derived societies.

I also emphasize the word “manufactured” because it is the most satisfactory solution I could find for the rather knotty problem of defining what is meant by “robot.” I intend it, however,

only as a provisional solution, for the questions remain to be answered. Is the robot a machine only, and never anything else? Suppose it were constructed of living tissues, by genetic engineering? Suppose, whatever its composition, it could somehow reproduce itself? Or does the term imply the issue not so much of construction and composition but rather of human-like appearance? In other words, is it a robot because it has the equivalent of a human brain, or of human-like appendages, or because it moves or communicates like a human? Would it still be a robot if it were enclosed in a featureless box? Or is the term “robot” intended to reflect some sort of intellectual capacity? Might we call any programmed or programmable machine a robot or should we reserve the term for the machine that can program itself, that can learn, that can think? Or it is all of the above, or at least many, in some kind of combination?

Most of these questions, and many related ones, have been pursued in the voluminous literature of science fiction during the past half century. They become suddenly of anthropological interest, however, once we ask how our society has responded to the presence—if only fictional—of robots as aliens, as human-equivalents. The anthropologist will want to know the particular ways in which the robot is perceived as equivalent to humans, and the ways it is not. After all the alien is known to all human societies, but there is considerable variation from one to another about the supposed characteristics or attributes of the alien—that human/nonhuman. Is the robot, for example, marriageable or just sexually desirable? This is not a flippant question: we shall see that it is worth pursuing.

Some readers might observe with impatience that most of the foregoing questions become irrelevant if we but turn our attention to the actual contemporary industrial robot: unquestionably a machine, and a particular kind of machine, with specific capacities and limitations. I would argue, however, that it is precisely for this reason that a brief review of the fictional history of the robot becomes a useful exercise. From its first appearance, the term "robot" has undergone a series of transformations, though no living—non-fictional—human had ever actually encountered one of the entities encompassed by the term. It follows then that an analysis of these transformations will illuminate what people find attractive about robots—about even the notion of robots—and what they find disturbing or even frightening.

ČAPEK'S ROBOT AND SHELLEY'S CREATURE

The term was introduced to the English-speaking world with the production in 1922 of Karl Čapek's play, *R.U.R. (Rossum's Universal Robots)*,¹ and is derived from the Slavic root for "work" or "worker." Let us observe, therefore, that in Čapek's play the robots are played by human actors; they are not machines of any kind, but rather protoplasmic beings that not only resemble but are supposed to resemble ordinary human beings. They differ from humans, however, in a number of ways—perhaps most significantly in that they are not born but are manufactured. Thus if we can call them machines at all we would

have to say that they are machines that look, and to a great extent act, like humans.

Čapek's robot, in fact, was remarkably similar to Mary Shelley's creature in her famous novel, *Frankenstein, or the Modern Prometheus*, written approximately 100 years earlier, first published in 1817.² Why then do we not, at least retroactively, refer to Shelley's creature as a robot? Further, why did science fiction writers of mid-century—obviously fully aware of their debt to Čapek for the term—proceed to transform the robot into a sentient, vaguely humanoid, but nevertheless thoroughly mechanical machine? Still further, let us note that this remarkable change was fully endorsed by the readers of science fiction and ultimately by our society at large, that latter endorsement being reflected in the recent appearance among us of actual machines that are everywhere called robots.

I would argue that these two issues—the apparent reluctance to refer to Mary Shelley's creature as a robot, and the swift transformation of the robot in science fiction and popular usage from a flesh-and-blood being to a thing of metal, glass, and plastic—are very much related to each other. Examining them together provides us with important insights.

Mary Shelley's creature was, one might argue to begin with, actually the first android to appear in fiction, not the first robot. The term "android" came into use during the 1930s in science fiction to denote protoplasmic creations, of the kind Shelley and Čapek had described, or at least beings, whatever

1. *R.U.R. (Rossum's Universal Robots)*, trans. Paul Silver (Garden City, NY: Doubleday, Page, 1923).

2. *Frankenstein, or the Modern Prometheus* (New York: Airmont, 1963).

their composition, capable of passing under superficial if not thorough examination as humans. The science fiction writer and editor Lester del Rey has in fact suggested that Čapek's "artificial men would now be called androids."³ Nevertheless I would suggest that Čapek's "artificial man," though it looked like what was later to be called an android, was in important ways the first robot, the fictional forerunner of the machines that go by that name in modern factories. On the other hand I would have no objection to calling Mary Shelley's creature an android. There is a distinction here worth making, and it is interesting that it is made in the subtitles of the very two works in question.

THE NEO-FAUSTIAN QUESTION

Mary Shelley subtitled her book *The Modern Prometheus*. Her concern quite clearly was the tragedy inherent in the conflict between human aspiration and divine interdiction. There are echoes of Genesis in her work, and of the Faust legend: we are asked to contemplate the plight of the human who dares to do that which the gods have forbidden or at least reserved for themselves, and who thereby endangers his soul. On the other hand the key word in Čapek's subtitle—*Rossum's Universal Robots*—may well be universal. Why universal? Presumably because, though they are factory productions, these robots are versatile; they can perform any industrial task. Since in this regard they are like humans, it follows that they can, ultimately or

potentially, replace humans. That becomes the central issue of the play, and therefore in this respect Čapek's robot exactly resembles the machine that goes by that name in the factory in Detroit, and the term is appropriate in both contexts.

Čapek's concern, let us observe, was not the Faustian question at all—that is, actions leading to an individual's damnation. His concern, rather, was what might be termed the neo-Faustian question: can a society as a whole aspire to the forbidden, can it set its collective foot on a path that will endanger its collective, or Durkheimian, soul? This is a recurrent question in the literature of this century, of course, and the path most commonly viewed with trepidation as the one leading to perdition is that of industrialization, even more specifically that of assembly line production. From this perspective *R. U. R.* takes its place alongside such works as Robert Graves's *Watch the North Wind Rise*—how we destroyed the machines and found God—and most particularly Aldous Huxley's *Brave New World*.⁴ In Huxley's novel, for example, we knock the tops off our crosses to convert them into Ts—as in Henry Ford's Model T. Having thus symbolically damned ourselves, we serve the demonic assembly line by genetically engineering humans to fit it. In *R. U. R.* we do exactly the same thing, but by replacing humans with workers manufactured in the factory itself.

Science fiction writers and readers of the 1930s and 1940s, however, exhibited

3. *The World of Science Fiction: 1926-1976—The History of a Subculture* (New York: Garland, 1980), p. 87.

4. *Watch the North Wind Rise* (New York: Creative Age Press, 1949); the novel was originally published in England as *Seven Days in New Crete*. *Brave New World* (New York: Harper & Row, 1968) was first published in 1932.

little fear of technology. Rather it was the common belief of this genre that technology and science, or at least the practitioners thereof, had the capacity to solve our—then—current problems, cope with future ones, and thus ultimately usher in some form of Golden Age.⁵ There is no single theme that encompasses all of science fiction, of course, but this confidence that humans could cope with the problems posed by science and technology was certainly pervasive in the literature, and so was an awareness of what I have called the neo-Faustian question. In the last of his robot stories, Isaac Asimov—one of the most well-known and influential writers of science fiction—has a character say,

The Machine is only a tool after all, which can help humanity progress faster by taking some of the burdens . . . off its back. The task of the human brain remains what it has always been; that of discovering new data to be analyzed, and of devising new concepts to be tested These reactionaries . . . claim the Machine robs man of his soul. I notice that capable men are still at a premium in our society; we still need the man who is intelligent enough to think of the proper questions to ask.⁶

5. In his study of an early and influential science fiction organization, Damon Knight, a leading science fiction writer and editor, quotes Donald A. Wollheim, another well-known editor, on the views of some of the science fiction aficionados of the mid-1930s: “[Will] Sykora believed that science-fiction was going to lead somehow-or-other to some great-I-don’t-know-what. And he had a good precedent for it, because [Hugo] Gernsback [the first science fiction editor] was writing the same kind of thing—how science could save the world, and so on. And I remember the time [Forest J.] Ackerman coined a slogan, ‘Save Humanity with Science and Sanity.’” Knight, *The Futurians* (New York: John Day, 1977), pp. 13-14.

6. From a story first published in 1950, reprinted in *I, Robot* (New York: Fawcett Crest Books, 1970), pp. 187-88.

Indeed this entire series of stories by Asimov, originally published between 1940 and 1950, may in part be interpreted as a conscious and direct confrontation with the dilemma underlying the neo-Faustian question, Will the robot—the sentient universal machine—ultimately destroy us, or destroy everything that makes life worth living? Or will we be able to remain in control, keeping the robot forever in subjection, as our servant? Asimov, like many other science fiction writers of the period, was obviously aware of the supposed threat that was, or would be, posed by the appearance of robots among us, but in his work he argued that humans would find a way to retain their dominance over the machine. The symbol of his solution, and of his confidence in continuing human hegemony, was his set of laws, the “Three Laws of Robotics” to be implanted in every robot at the time of manufacture:

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.⁷

THE ROBOT AS SERVANT

The robot, in other words, must become and must remain the servant of the human. This theme—the robot as permanent and perpetual servant of humans, despite all improvements in the manufacture of robots and all declines in human capacities—is expressed again and again in the science fiction of the

7. Ibid, p. 6.

middle of the century. In Clifford Simak's celebrated *City* series (1952),⁸ one robot servant, a sort of mechanical Jeeves, serves humans for thousands of years, at times humbly, and at times as nurse, teacher, or even keeper, but always intrinsically as a servant. In other words, one response to the neo-Faustian dilemma that could be found in many science fiction works at mid-century was, in effect, "Yes, the robot is a potential threat, and a serious one, but humans are masters of their fate and will engineer the robot so that it will never get out of control. The human will remain the robot's master forever, and the robot will remain the eternal servant."⁹

Some might argue that this is in its way as theological a position as the neo-Faustian question that provoked it. Theological issues to one side, there is of course a fundamental problem here, carefully avoided by Asimov but expressed by a character in a recent novel by another major writer of science fiction, Robert A. Heinlein:

When I was a student, I read some classic stories about humanoid robots. They were charming stories and many of them hinged on something called the laws of robotics, the key notion of which was that the robots had built into them an operational rule that kept them from harming human beings either directly or through inaction. It was a wonderful basis for fiction . . . but in practice, how could you do it? What can make a self-aware, nonhuman, intelligent organism—

electronic or organic—loyal to human beings?¹⁰

Has the wheel then come full circle in 50 years? Are we not hearing in Heinlein echoes of Čapek? The robot is, or can be, the servant of the human, but if we once suspend as irrelevant our pious assumption of eternal human hegemony do we not see a danger lurking beneath the metal surface of our servant? Suppose one day it becomes abruptly no longer "loyal to human beings." After all, as Heinlein says, why should it be?

One reason for its loyalty, perhaps, is that we humans seem to have developed an affection for the robot. It is the affection of a superordinate for a permanent underling, perhaps, or the affection we would show to a pet. Indeed the roles permitted the robot in science fiction are remarkably restricted: the robot may be a servant, as we have seen, but apparently never an employee. And, although we see in the robot a potential threat to our well-being, that threat is almost never a sexual one, despite the fact that sexual threat does customarily characterize the alien in Europe-derived societies.

I suggest, in fact, that this last omission—the absence of any perception of the robot as a sexual threat—played an important part in the transformation of the robot in literature from an infernal danger into something to which we respond with pleasure and even affection.

ROBOT VERSUS ALIEN

Is the issue a ludicrous one? After all, one might argue, a machine—however

8. *City* (New York: Gnome Press, 1952), a collection of stories first published from 1944 through 1951.

9. Harry Bates examined some implications of this curious assumption in his classic "Farewell to the Master," *Astounding Science Fiction*, Oct. 1940.

10. *Friday* (New York: Holt, Rinehart and Winston, 1982), p. 96.

sentient—normally lacks the fundamental equipment for the sexual encounter. It cannot rape or be raped, it cannot even entice or beguile. While this is true, and of course contributes to the view of the robot as asexual or even nonsexual, it is also true that such deficiencies do not in other cases necessarily impede the ascription of sexual threat to aliens in Western, or Europe-derived, societies, particularly in popular legend and literature.

The dragon St. George slew wanted only virgin and nubile females, so its appetite could not have been solely gustatory, and the same thing must be said of the sea monster encountered by Perseus when he rescued Andromeda. If we cannot know for certain what King Kong intended to do with Fay Wray when he had a moment free from the attentions of giant snakes and biplanes, still we are in no doubt that his intentions were as dishonorable as those of the bull that kidnapped Europé.

The alien male may be a monster, but that does not prevent him from wanting to rape our women—it merely makes his desires more awful. Still “our” males are supposed to be sexually attracted to alien females. So, anyway, argues Herodotus, variously considered the Father of History, of Anthropology, and of Lies. He opens his history of the Persian Wars with the suggestion that the continual conflicts between the Greeks and the peoples of Asia Minor could be attributed to the kidnapping and raping of each other’s women: “According to the Persians . . . the Phoenicians began the quarrel,” he notes,¹¹ but

he goes on to record that men of both sides joined in the game enthusiastically.

This Herodotean conviction—most particularly that aliens will find our women sexually attractive and will attempt to carry them off—apparently remains very much with us; it is certainly to be found in science fiction, at least on the more lurid magazine covers of mid-century. Again and again we are given a representation of a tentacled bug-eyed monster carrying off a struggling, half-naked, human female, while Perseus-of-the-future, raygun in hand, comes dauntlessly to her rescue. There were indeed covers on which rogue robots engaged in the same practice—for which, after all, they were at least as well equipped as the typical bug-eyed monster—but it would seem that such covers were much rarer. It is possible they simply did not sell as well. What I am proposing is that the robot—though often perceived as alien and dangerous—was nevertheless rarely perceived as constituting a sexual threat. This is significant, I would argue, because in Western society the alien is commonly seen as a source of both sexual threat and its converse, sexual attraction.

The robot as a sex object does occur in science fiction, but only rarely. An example of such an occurrence is Lester del Rey’s story, “Helen O’Loy” (1938).¹² This is the story of a man who falls deeply in love with a female robot—that is, a sentient machine cunningly covered on the outside with plastic and rubber to convey the appearance of a female human. Though often referred to as a classic of science fiction, “Helen O’Loy”

11. *The History of Herodotus*, trans. George Rawlinson (New York: Lincoln MacVeagh/Dial Press, 1928), p. 1.

12. “Helen O’Loy,” *Astounding Science Fiction*, Dec. 1938.

gave rise to no subgenre; it spawned no imitators.

Indeed even Mary Shelley's creature, lonely as it was, did not seek the arms of humans, and Čapek's robots may have killed humans and sought to replace them, but they never violated humans sexually, nor did they seek to make love to them. Perhaps then we may interpret del Rey's Helen O'Loy as still another robot servant, but one that provided a rather special service, one not of a kind that most people, or at least most writers, expect from robots.

It is perhaps worth observing, however, that Helen O'Loy, machine though she is, clearly reciprocates the love of her human husband.¹³ From the time of Mary Shelley herself, writers have found themselves drawn to the minds and feelings of human-equivalents. Is such a creature lonely? Frightened? Resentful? Does it feel the alienation of being in a world it never made, but which made it? William Tenn, in a poignant story, "Down among the Dead Men" (1955),¹⁴

13. Though del Rey called her a robot, Helen O'Loy might well be termed an android, of course—a constructed creature that can pass as a human unless one accidentally peels back the rubber mask and reveals the gears and bolts beneath. Such a creature is indeed a fictional object of human sexual fears and desires. This theme is explored extensively in Heinlein's novel *Friday* (see note 10); and in a very different way in William Tenn's "Down among the Dead Men," *Galaxy Science Fiction*, June 1954, rpt. in *Of All Possible Worlds* (New York: Ballantine Books, 1955); and indeed in many other works. In a way then we might say that Čapek's robot had two offspring: the one we call robot and view as both servant and possible economic threat, and the one that came to be called android. Since the latter can pass as human and therefore move unnoticed among us, it can indeed easily become a sexual threat.

14. See note 13.

explores in depth the feelings of bitterness such creations might be expected to harbor; he even suggests some of the contemptuous terms—"uties," "wombats"—they might use to express their resentment of those born in normal biological fashion. And if Asimov's "Laws of Robotics" reflect an effort to program human morality and ethics into the machines, some writers—such as Eando Binder in the tale of Adam Link (1939)¹⁵—suggest that if a machine were to be intelligent and self-aware, would it not also of itself be concerned with right and wrong?

CONCLUSION

The robot in science fiction then was portrayed at first as an alien and as a threat, but the danger was perceived as primarily an economic one—apart, that is, from the theological danger. The robot may drive us from our jobs and otherwise destroy our economic well-being, it was felt; it may even threaten to destroy the world as we know it; it may endanger our collective soul. But we have never believed it would dishonor or corrupt us, something we have always assumed that other aliens wanted most of all to do. Perhaps not surprisingly then we seem to be able to live with whatever threat, economic or theological, the robots represent; we do not exhibit horror or revulsion, or even very much trepidation.

Perhaps this is because science fiction writers and readers began to feel that, despite the potential dangers, robots actually held out a promise: not simply—if we are lucky and smart and

15. "I, Robot," *Amazing Stories*, Jan. 1939.

careful—to serve us all its days, but to be a companion to us in the universe, one more meaningful than any animal companion, someone to share and even assume our ethical burdens. The robot, I have noted, is never portrayed as an employee but rather as a servant—if we are fortunate, as a faithful servant. Perhaps such a companionship is particu-

larly acceptable or desirable precisely because the sexual element is missing.

In any case, there is something that draws us to the robot, despite all our fears. We would like to embrace it—I say “it” advisedly—even though we do worry occasionally whether it will be necessary in the end to destroy it before it destroys us.