



Being Human: Androids, Humans, and Identity in “Red Dwarf”

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Abstract

One of the more popular transhumanist ideas is the belief that technology will allow for the transfer of human personality into a machine or cyborg body. Additionally, some transhumanists believe that this transfer could happen with few to no problems, and that such a transfer would result in a definite improvement of the human species. The episode “DNA” from the humorous British science-fiction television series *Red Dwarf* presents a story that challenges this idea of the easy transfer of personality. The story of the android who gets his wish to become human allows the writers to invert the common belief in Western thought that being human is inherently better than being an imitation of a human, and that technologically upgrading human bodies will produce “better” humans. By inversion, the program presents the idea that clearer and more ethical thinking is needed regarding technological enhancement, and not the utopian visions of many transhumanists.

Keywords

Transhumanism; Posthumanism; Science Fiction; Television; *Red Dwarf*; Androids; Artificial Life



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Быть человеком: андроиды, люди и проблема идентичности в «Красном карлике»

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Аннотация

Одна из наиболее популярных трансгуманистических идей есть убеждение в том, что технологии позволят перенести человеческую личность в машину или в тело киборга. Кроме того, некоторые трансгуманисты считают, что этот перенос мог бы произойти фактически без проблем, и что такой трансфер привел бы к определенному улучшению человеческого вида. Эпизод «ДНК» из юмористического британского научно-фантастического телесериала *Красный Карлик* представляет историю, которая ставит под сомнение идею простоты переноса личности. Рассказ об андроиде, который реализует свое желание стать человеком, позволяет авторам перевернуть распространенное в западной мысли мнение о том, что быть человеком по своей природе лучше, чем быть имитацией человека, и что технологическое совершенствование человеческих тел приведет к появлению «улучшенных» людей. Посредством инверсии телесериал представляет идею о том, что необходимо более ясное и этическое мышление в отношении технического прогресса, а не утопические видения, свойственные многим трансгуманистам.

Ключевые слова

трансгуманизм; постгуманизм; научная фантастика; телевидение; Красный карлик; андроиды; искусственная жизнь



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Introduction

The teleplay “DNA” is an episode of the British science-fiction satire television series *Red Dwarf* (1988–). It was broadcast in 1991, during the fourth season of the series. The series became known for its explorations of fundamental science fiction themes by taking them to absurd extremes. The episode “DNA” takes on a well-known science fiction concept used in stories such as Isaac Asimov’s “The Bicentennial Man” (1976) and media productions such as *Star Trek: The Next Generation* (1987–94), that of the robot or android who desires to be human. Such stories imply that the reader or viewer should think of the android’s desire as correct, since it is better to be a human than to be a machine. Often, this line of thought goes further. In cases such as Martin Caidin’s novel *Cyborg* (1967) and the television series *The Six Million Dollar Man* (1974–78) based on that novel, and in many papers written by transhumanist thinkers, it would be better to keep the human personality, the “essence,” and augment or replace the human body with machinery. In all these cases, the standard line of thought is that the human essence is in some way so special that it must be fostered and preserved. In this line of thinking, machines that become more human do so to their benefit, but surprisingly humans that take on machine parts become not more machine-like, but more advanced humans, and solely to their benefit. The episode “DNA” calls into question this particular perspective in transhumanist thinking and in much of science fiction by using the android’s experience after becoming human and his renunciation of his new human body to assert that a transfer of personality from one body to another does not necessarily equate to going beyond the perceived limitations of one’s existence, and that such a transfer is unlikely to produce a better life. By questioning the desirability of converting a robot into a human, which from the robot’s perspective is a supposed enhancement that will greatly improve its life, the episode reveals by inversion several problems in the transhumanist vision that people will receive better lives through technological enhancement.

Red Dwarf television series

The series *Red Dwarf* follows the adventures of a small set of characters lost in deep space three million light years from Earth. The crew includes Dave Lister, a Liverpudlian orphan who had been the lowest ranked crew member aboard the mining ship *Red Dwarf*, and is now the last surviving human being; Arnold Rimmer, a hologrammatic simulation of another crew member and a nitpicking coward with a Napoleon complex; Cat, a self-centered, fashion-absorbed humanoid housecat and the last surviving member of the species *homo felis*; Holly, a hologrammatic computer suffering from gradual memory degradation; and Kryten, an android service “mechanoid” whose life is dedicated to household chores and whose greatest dream is to become human. The world of *Red Dwarf* is a human



future resembling what Max Tegmark (2017) calls a “mixed zone” of biological, cybernetic, and wholly artificial intelligences living within the same society. In Tegmark's words, such a society is a “wild and idiosyncratic mix” (p. 164). As such, the milieu is an ideal stage for satirizing general politics, science, philosophy, and religion by shifting the perspectives from which these social elements are viewed. Through such a shift in perspective, the episode “DNA” prompts the viewer to rethink the relationships between different kinds of beings within a mixed technological/biological society. “DNA” tells what happens when the crew comes across the remains of a space station used as a biological research laboratory. The laboratory contains a machine that can splice and reproduce DNA, turning one kind of being into another. Kryten accidentally gets transformed into a human being, but finds that he cannot understand what being “human” actually means and so decides to return to his original android form.

The genres of *Red Dwarf*: science fiction, situation comedy, and satire

To understand how “DNA” encodes late twentieth-century and early twenty-first century concerns about human epistemology, teleology, and ontology through humor and satire, an understanding of the genres that *Red Dwarf* occupies is necessary. *Red Dwarf* is a rare phenomenon, a successful science-fiction situation comedy. Though several science-fiction television programs have humorous elements or occasional totally humorous episodes, only a few series have been made to be strictly humorous, and very few of those have lasted longer than two seasons. Most of the successful science-fiction situation comedies (sitcoms), defining “successful” as lasting three seasons or longer, are “fish out of water” conceptions in which an interplanetary alien generates humor by his (usually) misunderstanding of human social conventions. These types of programs include *My Favorite Martian* (1963-1966), *Mork and Mindy* (1978-1982), *ALF* (1986-1990), and *3rd Rock from the Sun* (1996-2001) in the US, while in Great Britain only *My Hero* (2000-2006) was a successful television science-fiction sitcom using this concept. A different sort of “fish out of water” concept is cartoon science-fiction sitcom *Futurama* (1999-2013) in which a contemporary “ordinary” human is placed in an alien environment of the future, with humor generated from his misunderstanding of the future's society. Of all these programs, *Red Dwarf* is closest to *Futurama* in tone and subject, being both a situation comedy and a social-philosophical satire in which the protagonist, David Lister in *Red Dwarf*, is flung into a future he barely comprehends. Both *Red Dwarf* and *Futurama* belong to a second television genre, science-fiction satire. Programs in this genre include *The Strangerers* (2000), *BrainDead* (2016), and *The Oorville* (2017-). Such programs have fared far worse on television than the sitcoms, and even the television version of the hugely successful multi-media phenomenon *The Hitchhiker's Guide to the Galaxy* lasted only one season (1981). Most television science-fiction satire has had a very specific



target for its humor. *BrainDead* satirizes US politics, while *The Oroville* satirizes *Star Trek*. It is probable that the success of *Red Dwarf*, *Futurama*, and *The Hitchhiker's Guide to the Galaxy* (across its many formats) is that the satire is not so specifically directed. These programs satirize just about any social phenomenon or philosophical concept that comes to hand: science, religion, ethics, politics in the broad sense, gender relations, and so on. Thus, the appeal of the satiric style is potentially broader than for a satire that relies upon a comparatively smaller audience that is “in the know” about the subject of the satire.

The combination of science fiction and broad satire found in *Red Dwarf* makes it a potentially effective way to dramatize contradictions and ambiguities in philosophical claims such as those of trans- and post-humanism, and in social trends such as the gradual merging of biological humans with their technologies. The science-fiction satire itself is a little-explored sub-genre of science fiction, generally passed over in the critical studies of science fiction, but continuous throughout the history of science fiction. One reason for the continued production of science-fiction satires is that both science-fiction and satire have similar structural properties. The function of satire is criticism, and thus satire is necessarily persuasive as a perlocutionary act. Park-Ozee (2019) notes that “Key characteristics of satire and indicators of its criticism are absurdity, inversion, distortion, and reduction—often, but not necessarily, found together” (p. 589). *Red Dwarf* fits the category of Menippean Satire, that is the target of the criticism is society in general rather than specific people or institutions. Frye (1957) notes that “The Menippean satire deals less with people as such than with mental attitudes” (p. 309). Frye describes the typical theme of satire as “a combination of fantasy and morality” (p. 310). The essential parts of satire are “wit or humor founded on fantasy or a sense of the grotesque or the absurd [and] an object of attack” (p. 224). Bakhtin's exposition of Menippean satire takes ideas similar to Frye's even further. Bakhtin (1963/1984) describes such satires as “dialogical,” a genre for “testing of a philosophical idea” through “extraordinary situations.” The rhetorical mode of Menippean satire is a pattern of “questions asked but not definitively answered” (p. 114-115). Satire, then, is both a literary and rhetorical genre, the use of literary means to achieve rhetorical ends. Science fiction is often described as a “literature of ideas.” As such, science fiction would appear to be almost an ideal vessel for satire. Science fiction stories work by isolating specific ideas for scrutiny, either ideas at the uncertain areas of scientific theory or ideas of social engineering; thus, science-fiction is an inherently critical genre. Additionally, science-fiction stories are built upon fantasy and fabulation, exaggeration and grotesquery. In creating a science-fiction satire, the writers of *Red Dwarf* have, through absurdity and ridicule, made a fit vehicle for a critique of transhumanist and posthumanist utopian ideals.



The idea of improving and transforming the human body in history and literature

The story of “DNA” taps into a long literary tradition of transforming artificial bodies into natural ones, stories that go as far back at least as the ancient Greek myth of Galatea through Jewish tales of the golem, Pinocchio, and up to the aforementioned works of science fiction. Different stories take the trope of the imitation human that becomes human to different limits. The statue Galatea becomes human because her creator wants her to. Pinocchio becomes human partly because he wants to and partly because his creator wants him to. “The Bicentennial Man” plays out this trope to a further extent. In Asimov’s story the machine that imitates a living being eventually becomes a living being mostly through the desire to become one and despite whatever its creators might have desired. At the heart of such stories is the assumption that the natural body is the more desirable state if one begins with an artificial body, as it brings with it a sort of human “essence” that transcends the artificial essence of the manufactured body.

The idea of a natural essence that is superior to an artificial essence has deep roots in Western thought. Ancient Greek philosophy such as that of the Cynics and Aristotle gave a pre-eminence to Nature. Philosophers thought that what was natural was right. Aristotle believed that each thing should operate according to its natural function. The concept *natural* was superior to the concept *artificial*, which denoted to many Greek philosophers things humans made from natural things. Thus, *law* was artificial, being what humans made from the natural functioning of human society. In the same way, a natural body would be thought of as superior to an artificial body. The concept of the superior natural body that contains an essence not found in artificial bodies also ties into traditional notions of the chain of being, which posits animal being as superior to stone being (the statue of Galatea), mineral being (a robot android), or vegetable being (a boy made of wood, such as Pinocchio, whose very name of “Pine Eyes” reinforces his vegetative being).

Additionally, these ideas of different kinds of substances and different kinds of life inform the pattern of Western thought commonly termed “The Great Chain of Being.” This chain of being was the notion that substances and forms of life have intrinsic values hierarchically arrangeable, from mere substance, such as earth, to the supernatural, such as divine beings. Wennemann (2016) has argued that the concept of the Great Chain of Being has informed Western science and philosophy into arranging “life” into continuities and gaps, providing a scheme for explanation of where to place beings in relationship to the human being. That which is “posthuman” can be conceived as an “ontological leap” representing an “ontological gap” (p. 21), or as a “progressive character of technology” that relates to advancement and improvement. Thus, by extending Wennemann’s Great Chain of Being conception of the technological development of the human, the question of whether to call the next development *post-human* or *trans-human* is explainable by whether one thinks of the development as a leap with a gap between biological



human and technological human, the post-human idea, or a continuity between biological human and technological human, the trans-human idea. The conception of the posthuman or transhuman development forms a conception crisis because it blurs the distinction between natural and artificial with the body being the locus of the crisis.

By around the middle of the twentieth century, though, this whole notion of the superiority of the natural body that contains a natural being gets upturned in some quarters of advanced Western thought, to radiate into the rest of the world by the late twentieth century. The idea that the human body is limited, that human existence may have reached its natural peak, and that technology offers a means to transition from human to something more than human, to be *transhuman*, comes increasingly to the fore. An example is Poul Anderson's story "Call Me Joe" (1946), in which a crippled man gains his full human potential as he sees it when his consciousness is transferred into a fully functional body manufactured for living on the surface of Jupiter. Philosophical speculations proposing similar views on the transition from human to transhuman began taking shape at roughly the same time. By the late twentieth and early twenty-first centuries, advocacy for moving toward a new stage of human development with the aid of technology had become more thoughtfully formulated and more widespread in the popular culture. Among the strongest advocates of this view is Ray Kurzweil (2009), who argues that humanity has entered an epoch in which human technology will merge with human intelligence, which will enable the current "human-machine civilization to transcend the human brain's limitations" and "allow us to overcome age-old human problems" (pp. 211-212). A constant theme running through these stories and philosophical speculations, whether it be the artificial being that becomes a natural being, or a human being augmented by technology, is that transformation leads to transcendence.

Not everyone, however, has accepted the central ideas of these stories or philosophies. Some writers and philosophers question the idea inherent in the older stories and in many more recent ones that humanity or human essence has a special place in the cosmos. Some also question the idea that augmenting, changing, or replacing the human body will lead to a transcendent new humanity. The "DNA" episode of *Red Dwarf* works from the idea that questioning the primacy of "humanity" is an effective way to critique the more recent idea that mechanical transformation will lead to human transcendence. The writers use the classic transformation of artificial life into natural life to critique the notion that transcendence is a necessary result of transformation, basically the idea that the transformation is all that is needed to produce the "better" human.

"DNA": transhumanism and posthumanism

At the heart of "DNA" is a technological device that would accomplish much of what the advocates for transhumanism both desire and see as inevitable: transfor-



mation of the human body into a “better” form. This device performs genetic “transmogrification” that rewrites the entire genetic code of a being. Theoretically, with the right inputs, the machine could eliminate every flaw or error in one’s genetic code, and “revise” the code in the sense that a writer revises a book. The cloning machine in “DNA” is an attempted solution to the problem of creating artificial life by speeding up natural processes of change and adding purpose for making the changes. In conceiving the situation in this way, as a transformation, the script of “DNA” favors the continuity-based idea of *trans*-human over the “next leap” idea of *post*-human. Basically, the transhumanist dreams rest upon the concept of evolution as progressive. Steve Fuller (2014), for instance, states that transhumanism “supposes that life is purposeful not simply at any given moment for a given organism but in its entirety – it has an overall direction” (p. 202). According to this idea, evolution does not merely create adaptations for survival, it *improves*. Thus, a better human produced by natural evolution, perhaps even a new species of human, is on the way to becoming. Yet, natural evolution is extremely slow and inexact in these improvements. According to some theorists of transhumanism, science and technology now give humans the means to increase the improvement rate and to avoid the mistakes of evolution’s hit-or-miss approach to improvement. Jeffrey Satinover (2001), for instance, argues that research into artificial intelligence is reproducing the evolutionary processes that led to the human brain, and that once scientists have created an artificial brain, it will be both *like* the human brain and *better than* the human brain (pp. 97-98). Kurzweil is more certain than is Satinover that science and engineering will push humanity into a new phase of existence by outperforming natural evolution. Kurzweil argues that “biological bodies ... are frail and subject to a myriad of failure modes”, but that the exponential curve of technological advancement will allow humanity to “fully understand human thinking” and to “vastly extend and expand its reach” (p. 203). Another proponent of transhumanism, Nick Bostrom (2005), contends that nature is full of horrors as well as marvels, and he implies that it is a moral duty to use humanity’s gift of technological achievement to quell nature’s horrors (pp. 203-204). Science and technology can now put a mind behind evolutionary processes. In the language of science surrounding artificial life, any solution to the problem of creating artificial life involves some combination of three classes of technology: *wetware* (biochemical technology), *hardware* (electromechanical technology), and *software* (computer programming technology). In “DNA” the transmogrifier uses hardware and software to create a wetware to wetware form of artificial life. The accident with Kryten involves the transformation of hardware and software into wetware. In all cases, as far as the show is concerned, the machine does not correctly work. Even with a mind behind it and sophisticated artificial intelligence programming running it, the technology fails to produce the transhumanist ideal. Interestingly, the episode portrays the transformation of Kryten as a “mistake,” both in the sense of being an accident and being the wrong thing to do.



The plot details of “DNA,” particularly in the first two thirds of the episode, draw attention to the human-machine relationship, particularly the ontology and epistemology of that relationship. The description of this relationship from Patricia Warrick (1977) provides a useful way to think about how the issues of human-machine identity play out in “DNA.” Warrick, drawing on insights from Sigmund Freud and Bruce Mazelish, identifies the ways that the continuum of being as conceived in pre-industrial times has been disrupted by reconceptions of how humanity relates to nature. The Cosmological Revolution (the space continuum) displaces humans from the center of the universe, the Evolutionary Revolution (the time continuum) places humanity as among the animals and not above the animals, the Psychological Revolution (the mind continuum) portrays humans as having little control over their minds and behaviors, and the Technological Revolution (the material continuum) tends toward thinking of humanity as being very like machines, i.e. as more similar to inanimate substance than had previously been thought. As Warrick sees it, science fiction has come to terms with the first three of these discontinuities, but not between the human and machine discontinuity. The curiosity is that in science fiction “Man sees himself as separate from his machines” (Warrick, 1977, pp. 185-187). One way to look at it is that humans and machines are of different substances, along the lines of classical Greek thinking differentiating natural from artificial. The Great Chain of Being no longer holds imaginative sway, the major links being now broken, but the hierarchical separation between “human” and “machine” in many ways persists. At first glance, *Red Dwarf* in general and “2DNA” in particular display the persistence of this separation. Kryten is an artificial being longing to be a natural one. The transmogrifier uses an artificial process. The application of the artificial to the natural produces monsters such as the three-headed hybrid body that Kryten and Rimmer find when exploring the space lab. Along this line of thinking, mixing human (natural) and machine (artificial) can never work.

It may be argued that for the cloning machine in “DNA” to work, it must create the “idea” of the new form of life within its programming before executing the program. N. Katherine Hayles (1999) argued that this programming of the idea of life, of a virtual form of life, uses a kind of thinking that imagines life as having two parts: *form* and *material*. Furthermore, the creation of virtual life through computer programming, an artificial life similar to artificial intelligence, rests upon notions similar to Plato’s ideal forms. The thinking is that the *form* both precedes the life and is the actual living part, while the material is just substance to be molded to fit the form (Hayles, 2009, p. 231). Irrespective of whether transhumanism is the latest form of metaphysical dualism, there still remains the merely practical matter of transformation itself. Can mind be separated from body? If not, can mind be made to adapt to a new kind of body?

A first answer to these questions involves understanding the question of “essence.” A principal theme in “DNA” involves the question of what existence



in a certain type of body essentially means. A human being is born to be a human being, and has both a body and knowledge suited to being human. An android with artificial intelligence has been built to work as an android. Its knowledge and physique are suited to operating as an android. A better way to think about this, though, is that the concept of human or android derives from the physical properties the relevant being has, and that many people mistakenly reverse this process, assuming that the concept comes before the thing. Thus, whatever one “is,” one is limited by the conditions of one’s origins. Human pride characteristically gives priority to being human. Humans place themselves atop the chain of biological beings and continuously justify the notion that being human is just about the best thing there is to be. An android has been made in the mold of the human type, and an android that has also been programmed with artificial intelligence limited by circuitry that makes servitude a priority could very well conclude that being human is an altogether more wonderful thing than being an android.

In “DNA” Kryten the android gets his wish fulfilled; he becomes human. Naturally overwhelmed with joy at having his wish fulfilled, in just a matter of days, however, Kryten renounces this wish and sets out to be an android again. Several revelations lead Kryten to changing his mind. The first is that in many ways, humans are deficient compared to androids. For example, Kryten learns that humans do not have a zoom function in their eyes, that their nipples neither regulate body functions nor receive FM radio, and that they do not conveniently recharge with a cord, but do so by the complex and inconvenient methods of eating and sleeping. Additionally, Kryten’s reactions and emotions do not conform to human standards. Kryten believes the anus to be the recharge socket. He dresses in wildly mismatched and colorful clothes. He fails to understand how humor works, thinking that it merely involves calling someone “stupid.” He can no longer talk to or treat other androids as equals. In the most humorous of his inappropriate reactions, Kryten gets erotic thoughts while perusing a household appliance catalog. In the end, being cruel to androids, his “own kind” as he calls them, leads Kryten to conclude that he has had his “head up [his] recharge socket” and that he was never meant to be a human and could not adapt to becoming one (“DNA” 20:24–22:27).

Kryten’s transformation and his rejection of it support one of the program’s central themes. This theme is presented as running joke, with characters arguing that either Descartes or Popeye said “I am what I am.” The expression of this theme runs counter to the transhumanist belief that correctly used technology will make a person more than what he or she is, and much of science fiction’s worldview of a continuously progressing humanity. In “DNA,” for instance, Lister “confesses” to Kryten that he was once a class traitor when he went into a wine bar, a temptation that could have led him to leading a middle class life. Lister calls his rejection of this potential improvement of his social standing “a lucky escape” (“DNA” 21:05–22:27). This conversation leads directly to Kryten’s conclusion that he no longer wants to be a human and would rather return to being a mechanoid. Thus, “DNA,”



and *Red Dwarf* in general, takes the position that a person, even a mechanical person, is formed by biological and social circumstances that determine to a great degree that person's self-definition, worldview, and behavior. Trying to break away from such circumstances and become something else that is supposedly radically better than what one currently is produces irrational behavior and emotional distress, and will probably not deliver the better life that one expects.

"DNA" and post-humanity

One perspective displayed in "DNA" runs up against another common science fiction theme, that of an ever-improving humanity. The theme has several different varieties. For instance, the *Star Trek* franchise, especially *Star Trek: The Next Generation*, presents a future in which humanity will be morally improved and generally more civilized. H.G. Wells' *The Shape of Things to Come* (1933) portrays the culmination of human development as politically and intellectually superior to humanity in the present. Olaf Stapledon's *Last and First Men* (1930) portrays future humanity as culturally advanced. Multiple works of science fiction portray improved humanity through various technological means, such as immortality, cybernetic conversion, genetic modification, and transcendence into virtual reality. Francis Bacon in *The New Atlantis* (1627) imagines the production of a new food that will toughen human skin and make people stronger. John Varley's "Lollipop and the Tar Baby" (1977) portrays a future in which space pilots will be clones genetically engineered to thrive in weightlessness. Kage Baker's *In the Garden of Iden* (1997) portrays future technocrats who create immortality and give it people who act as conservationists of Earth's biological and cultural diversity. In science fiction, most often technological improvement of humanity makes humans better than ordinary humans, though not in any way perfect. In these stories the technological changes to human bodies produce beings that are functionally better than humans, more suited to harsh environments than humans, and more ethically mature than humans.

The program "DNA," and *Red Dwarf* in general, repeatedly challenge this notion of enhanced humanity. Lister, for example, questions the conventional notion that "human" is the best thing to be: "What's so big about being human?" He admits that he once thought that his life would be better off had he been a squirrel, who liked his job, had no woman troubles, and never felt miserable. Rimmer is the voice of transhumanism in "DNA." He clearly believes in the evolution-as-advancement theory, saying that being human is the "pinnacle of the evolutionary ladder," implying that the only place for improvement is in improving the human species. He responds to Lister's concerns about Kryten's transmogrification by calling them a "typical, knee-jerk, technofear reaction." He calls the DNA cloning machine, "the greatest single technological advancement mankind has ever made" ("DNA" 15:31–18:30). Thus, in abbreviated and simplified form, Rimmer states the position of such advocates for transhumanism as Nick Bostrom, who defines transhumanism as the belief that, "current human nature is improvable through



the use of applied science and other rational methods, which may make it possible to increase human health-span, extend our and physical capacities, and give us increased control over our own mental states and moods.” Bostrom further states that transhumanists consequentially believe that “human enhancement technologies should be made widely available, and that individuals should have broad discretion over which of these technologies to apply to themselves” (pp. 202-203). This debate can also be described in the contrasting terms *posthumanism* and *posthumanity* that Simon (2019) uses to describe the two primary ways of thinking about the future human-technology conjunction. *Posthumanism* is the assumption of a historical trajectory toward an inevitable, technologically enhanced, improved humanity; while *posthumanity* is critical opposition to philosophical *humanism*, basically removing the term “human” from primary philosophical and social concern to thereby produce an ethically improved humanity. Rimmer's position in “DNA” is that of posthumanism, while Lister's is that of posthumanity. The episode's plot supports Lister's side of the argument over Rimmer's. For example, late in the episode, Lister must try to become “man plus” so he can destroy a monstrous hybrid “curry man” that the Red Dwarf crew created while testing the DNA transmogrifier, but ends up being a distorted human-machine hybrid parody of Robocop barely a foot tall. The DNA transmogrifier, a technology that should be able to produce “man plus” utterly fails. It produces gross distortions of humanity, such as a three-headed mutant, the curry man, and the diminutive Lister Robocop parody. While this technology has legitimate uses, such as “curing diseases,” it gets abused because such technology as Lister says, “always does.” Thus, the writers of *Red Dwarf* have not fully taken the position that Bostrom describes as “bioconservative”, which would argue against any and all technological enhancements of the human body (p. 203). Indeed, the writers gently parody the bioconservative ideas through constant reminders that the world of *Red Dwarf* is technologically advanced and that all the characters seek technological solutions for many of their problems. Thus, the program acknowledges the inevitability of technology that enhances humans and even that some of these technologies do improve the overall quality of human life, while providing a message of caution about heedless application of such technologies. Using the humor of exaggeration and frustration, *Red Dwarf* consistently reminds the viewer not just how inconvenient much technology is, but also that heedless application of technology can be dangerous. One example is the device “Talkie Toaster,” a toaster with artificial intelligence that makes it obsessed with providing toast to the point that Lister destroys it with a hammer. Another example involves vending machines with artificial intelligence that organize into a rebellion against the ship's crew, creating a need for an election to find the “machine president.” These and other examples show that unlike the bioconservatives, who argue for an inherent “dignity” of humanity that would be violated by technological improvements, *Red Dwarf* presents a message of caution about enhancement technology *because* the idealized notion of human dignity is



largely a fiction. Throughout the episode, and in fact the whole series of *Red Dwarf*, the definition of “human” gets challenged, as in most science fiction, but the challenge is to the notion that “human” has a priority in science, philosophy, and ethics, and that there is a clear idea of what a “better” human might be.

The function of humor in “DNA” as critique of posthumanist idealism

At this point, it is valuable to look specifically at how humor functions in “DNA” to orient the audience on the various positions on the subject of transhumanism that the story presents. A useful way of parsing how verbal humor functions in the story is through application of the General Theory of Verbal Humor (GTVH) as formulated by Victor Raskin and Salvatore Attardo, and subsequently refined by other researchers. Attardo (2001) notes that all jokes, even one-line jokes, involve a “narrative strategy,” and that broadly these fall into three classifications: jokes, or statements similar to jokes, which end in a punchline; non-humorous narratives that include humorous content; and humorous plots. An additional consideration deriving from the GTVH is that of “stance,” the ideational orientation of the speaker and/or the audience toward the subject of the humorous statement. Alba-Juez (2017) links stance to what was traditionally considered the “evaluative function” of humor, the speaker’s attitude that is necessarily part of the formulation of the humorous statement, involving the speaker’s viewpoint and feelings about the entities or propositions that form the subject of the humorous statement, and which also necessarily involves the response of the audience, which is likewise partly conditioned on the audience’s stance toward the same entities or subjects. There are further refinements to the theory, but clearly “DNA” contains all three kinds of humorous narrative with the bridging narrative being the humorous plot. The theory has more terminology and is far more structurally detailed than what is herein described, but the most relevant concerns for thinking about how “DNA” in particular and *Red Dwarf* in general use humor as a perlocutionary act is to concentrate on narrative strategy and stance.

The primary narrative strategy of “DNA” is situational irony, in which the outcome of a sequence of events is not the one that an audience is likely to expect, or not the one that the telling of the sequence logically leads to. Examples of situational irony from “DNA” include when the *Red Dwarf* crew use Lister’s curry lunch as a sample to test whether the transmogrifier works by turning a chicken curry into a lamb curry, and instead the transmogrifier produces the Mutton Vindaloo Beast, “half man, half extra-hot Indian curry.” Another is when Lister undergoes the transmogrification process to make himself “Man Plus,” only to end up as Man Minus, diminutive, weak, and misshapen. The plot of “DNA” also rests on dramatic irony, when one character knows more about a situation or has greater insight than another. This form of irony occurs, for example, whenever Lister states how disappointed Kryten will be about his human transformation. Plus, the dialogue



contains many examples of verbal irony, or double intention, when a character states something in a way that denotes one meaning, but connotes a much different meaning. The primary irony of the story as a whole is the transformation of a mechanical person into a biological person, which draws audience attention to, or connotes, the idea of a biological person transforming into a mechanical person. The ironic tenor that pervades every scene of “DNA” places the audience in a complex interpretive position. The irony works by purely pragmatic (in the linguistic sense) means rather than by semantic means (Attardo, 2001). Thus, irony depends upon the context, which includes the speaker's or writer's stance toward the subject and intended goal of the statement. Verbal irony always includes an evaluative component (Attardo, 2001; Alba-Juez, 2017), and often has a rhetorical function (Attardo, 2001). In “DNA,” the rhetorical stance is satiric, and the rhetorical mode ironic. That is, the script insistently uses irony to make fun of idealistic, utopian, and grand propositions, and to demonstrate very swiftly rather than argue that such propositions are unreasonable, unrealistic, or even barbaric. The more “ideal” something sounds, the more likely it is to be ironically undercut (the evaluative function of the irony). The undercutting irony is then intended as the more reasonable or realistic stance to take. Thus, Kryten's idealization of “human” is ironically undercut, as is Rimmer's idealistic belief that technology will solve all of humanity's greatest problems, and the two undercut propositions combined undercut the notion proposed by many scientists and philosophers that one can keep “human” by transferring human to machine form.

“DNA” and the critique of transhumanist utopian idealism

In a way, “DNA” takes up many ideas that have led scientists, particularly those in genetics, computer programming, and robotics, to consider the possibility of “postbiological man”, as science writer Ed Regis (1990) calls it, the basic concept of the “transhuman.” Regis cites people as diverse as the founder of cryonics Robert Ettinger, the Enlightenment philosopher David Hume, the physicist Freeman Dyson, systems researcher Doyne Farmer, and ethics professor Robert Nozick as all having contemplated or concluded that humans are poorly designed and that it is possible to design a better human (Regis, 1990, pp. 144-148). At the same time, others have noted that machines do many tasks much better than humans do. This observation has led some, such as the noted roboticist Hans Moravec, to conclude that robots are the means by which to create the better human. While the usual contemplation of the mechanically enhanced body would be what Martin Gardner calls the “Tin Woodman” scenario, by which people would do what L. Frank Baum's Tin Woodman did and gradually replace organic parts with mechanical ones, Moravec thinks that the process would start by dispensing with the organic part and simply beginning with a fully mechanical body. One could build a superior robot body, and then somehow upload or read out a human consciousness into that body. However, the episode “DNA” takes a different tack on this subject by portraying



a robot that has its robot personality uploaded in a way into a human body. This twist allows viewers to rethink the ontological implications of mechanical transhumanism, such as that the new body will be superior to the old body and that a person can obtain a substantially upgraded life once freed from the problems of the old body.

In “DNA” Kryten’s desire to be human inversely reflects the utopian and spiritualist ideals central to the thinking of many of the strongest advocates of transhumanism. The utopian thinking includes the idea that in gaining the body one desires, one will gain all the advantages the new body seemingly has, and one will, therefore, relinquish all the difficulties of one’s current body. Max Tegmark (2017) noted this idealist, one might even say transcendent, mode of thinking in much of the writing about the human future as being either cyborgs or uploads. In Kryten’s terms, after he becomes human he will no longer be like those “sad-sack mechanoids.” This is the inverted version of Rimmer’s techno-utopian belief that the DNA transmogrifier is the greatest invention ever, which will cure all disease and perfect the body. Elaine L. Graham (2002) has noted that in this kind of transcendent thinking about the advantages that mechanizing the body will accomplish is a vision in which humanity will be “released” from the “chains” of all social evils, most likely in preparation for the “successor species”. The result is an enthusiastic dream of postbiological humanity in a similar form to Kryten’s enthusiastic dream for a postmechanoid android, a message of “salvation through technology” (Graham, 2002, pp. 156-159). Kryten’s experience after his transformation, therefore, critiques the transhumanist message of technological salvation. When Kryten learns that his new biological body is not wholly superior to his mechanical one, and when he learns that his new body has problems and deficiencies for which his mechanical existence had not prepared him, viewers are led to conclude that similar problems would arise in the case of a transformation from a biological body to a mechanical one. The inversion of mechanical to biological transformation, rather than biological to mechanical transformation, suggests that the transcendent salvation that transhumanists often imagine turns out to be a fantasy.

One issue of transhumanism brought up in “DNA” is the question of what might be called “natural destiny.” As it occurs in the episode, this is the idea that a human is born to be a human by biological destiny, and a mechanoid is made to be a mechanoid by mechanical destiny. Natural destiny is the idea alluded to in the running joke regarding the provenance of the statement “I am what I am.” The episode “DNA” raises two points that Michael Tennison (2012), citing the both the President’s Council on Bioethics from 2003 and Leon Kass’s writings, also raises. One is that “forms of life evolve unique goals and capacities for self-direction and that they develop this way because they should; thus, disrupting the duty of something to attain its natural ends has moral significance” (Tennison, 2012, p. 408). The episode “DNA” does not show that forms of life “should” develop a certain way, but only that they do. When the form changes, the goals may change as well. Kryten the human cannot function in the same way that Kryten the mechanoid could.



So, Kryten is compelled to figure out what his new goals in life ought to be. One may say that he has the freedom to determine those goals for himself now that he is not a servant bonded by his programming. However, he clearly lacks the upbringing and education that would make him able to see and use this freedom. The second point regarding natural destiny is that “This potential for the disruption of the natural process of achievement also threatens our individuality and authentic identities” (Tennison, 2012, p. 408). A result of enhancement could be psychological alienation from one’s sense of self. Kryten definitely loses this firm sense of self when, even while insisting that everything is “great” about his transformation, he becomes low-spirited and depressed. He loses touch with his mechanoid self, but cannot find his human self.

Additionally, one of the challenges to the idea of cybernetic “man plus” is that of consciousness, specifically whether consciousness depends upon the body and external conditions in which it developed, or whether consciousness will fit comfortably in whatever container one puts it in. A person’s personality is a product of the development of an individual consciousness in a particular habitat occupying a particular kind of body. Put another way, no matter how closely the outward appearance of the robot android mimics human appearance, the android will be operating according to its particular “physiological imperatives” (Brooks, 2002, p. 155). The interests, desires, and problems a personality manifests are all contingent upon how these imperatives operate on an individual consciousness. Dave Lister for a moment imagines himself in a different sort of body when he would have given anything to trade places with a squirrel. Lister’s point in mentioning his one-time desire to trade places with a squirrel is to show that often a life other than the one a person has seems tremendously desirable, but ultimately it only seems so. Philosophically, Lister’s fantasy raises the phenomenological problem of placing a mind from one body into another body. As Thomas Nagel (1974) argues, consciousness has a phenomenological component that is shaped by subjective experience that cannot be removed. In the case of Lister’s squirrel mind-swapping fantasy, Lister’s consciousness would not be able to live life as a squirrel even while occupying the squirrel’s body because Lister’s consciousness has been formed by his experience as a human and by his own personal experiences and how these have been processed by his human brain. It appears, then, that the consciousness swap would fail, for to be a squirrel is to have such a fundamentally different experience of the world as to make a human sort of personality in that body impossible.

These matters of consciousness pertain to the central debate regarding transhumanism, namely whether transforming the human body will create something *more* than human or *less* than human. Much of this debate centers on the question of *human nature*, in particular whether there is an essential human nature, either universal or individual. A question in this regard is whether a person has an essential personality that could be contained and identified, and in this way turned into code



or copied somehow. Ed Regis points out that Robert Ettinger saw such problems in Hans Moravec's idea that computers could copy and download human consciousness into a nonhuman body. In such fantasies, one imagines that one's personality is a permanently fixed thing easily transportable to different containers. Yet, the copy personality is not really the *same* personality, in the way that a copy of a book is not exactly the same as either its original or another copy of the same book. Once made real, the copy personality would become a new personality because it would go on to have new experiences in a new life (Regis, 1990). To the extent that both Moravec and the writers of *Red Dwarf* treat personality or consciousness as entities that can be preserved and transported by technical means, they use what Wilson and Haslam (2009) identify as "folk psychology", an inexact and sometimes inaccurate view of personality and consciousness that creeps into all sides of the transhumanist debate (p. 248). However, *Red Dwarf* overcomes this limitation to some degree by showing that, as Regis says, the movement itself from one "container" to another will affect the individual's personality, even to the extent that the person may no longer *be* what he or she once *was*, even beyond the normal changes to personality that occur by individual experience over time.

Additionally, few of the standard imaginings about cybernetic transhumans take into account the effect of the container itself upon the personality. Essentially, the transferred personality would be different not merely because a copy is not exactly its original, but also because its new container would give it an entirely new experience. The transhumanists would like to imagine that escaping the body would thereby mean escaping all the problems of the body, and that human personalities, even copied human personalities, would easily accommodate to their new mechanical existence. Yet, it is difficult to imagine that a personality shaped by evolution for one type of existence would rapidly change to suit a new kind of existence. In the same way that human consciousness would not work in the squirrel body, human consciousness just might not be compatible with the mechanical body.

If one could move personality or consciousness from one container to another, the problems of adapting to new physiological imperatives may be, therefore, further exacerbated by inherent problems in intelligence itself. If intelligence is at least in a large portion as much a matter of context as it is of logical problem solving, then shifting contexts may pose a major barrier against the success of downloadable personality. Computer scientist William Clocksin (2003) calls this line of thinking a "constructionist" model of intelligence (p. 274). Clocksin argues that intelligence depends to a large degree upon a 'framework' for it to make sense or to work. This framework comes from social interaction and uses narrative as its principle means of making sense. As Clocksin describes it, intelligence is "a set of context-bound, situated, socially and historically contingent and provisional performances" (p. 274). Cognitive scientist Andy Clark (2003) calls context-bound intelligence the "narrative self," the "rational or intellectual presence" that most people imagine when they think of "self." Clark argues that the self is thought of "in terms of



a certain set of ongoing goals, projects, and commitments” that are “not static.” This is the self “identified by a story told both to ourselves and others, and told by both ourselves and others” (p. 132). Patrick D. Hopkins (2008), another critic of transhumanism, describes the problem as a matter of socialization. In “DNA” the difficulty Kryten has in transferring his cybernetic intelligence from one container to another partly rests on the fact that each container itself exists in a certain set of social relations that define the personality inhabiting it. When Kryten visits his spare heads to tell them the great news that he is no longer a mechanoid and thus no longer “second class,” instead of joy he receives resentment. Spare Head 3 tells him, “You came into this world a mechanoid, and a mechanoid you’ll always be.” Kryten’s inability to manage either human emotions or humor demonstrates this inability to reorient his mind to his new social circumstance. The inability to manage humor is especially revealing, since humor is both a strong indicator of intelligence and strongly dependent in expression upon social context. Spare Head 3’s comment is not a statement of destiny, but one of narrative. If these understandings of socially contingent intelligence and personality are true, then they strike against transhumanist dreams of getting a “better” human simply by changing one’s existential state.

“DNA” presents another challenge to much of transhumanist thinking. Kryten the robot gets transferred, or transformed, into a human body. Yet, he cannot “get the hang of these human emotions.” There is something to this emotional problem. Computer scientist Rodney Brooks (2002) notes that the android with artificial intelligence is most likely to have simulated emotions if it were to be built to have emotions at all. Kryten, for instance, can “engage” a “panic chip.” There is little reason to make simulated emotions exactly like the real ones. Thus, Kryten’s emotional life has been through emotions of one type, but the human types are not the same. Meanwhile, the conditions of his prior robot existence persist in the personality that occupies the human body. These conditions – what he values and desires, how he relates to his society, the degree and type of his unconscious programming – persist. One example is the sexual urge. As a robot, Kryten did not have sexual urges. They were not part of his programming and there was no capacity for their expression in his mechanical body. Humans, however, are biologically predisposed for sex and have the capacity for sexual expression. Because of this basic incompatibility, Kryten as a human comes out sexually miswired, and it seems unlikely that he will ever adjust to a proper human-to-human sexual orientation. By inverting Kryten’s transformation from a mechanical body to a biological body and regarding what might occur in a transformation from a biological body to a mechanical body, one can see the implications for mechanical transhumans in the transfer of a human mind to a non-human body.



“DNA” and the ethics of transhumanism

As the discussion above demonstrates, “DNA” portrays most of the types of ethical concerns often associated with transhumanism. There are several types of ethical concerns in this area, and Tennison provides a useful summary of the ethical concerns associated with transhumanism. These are the safety concerns of the individual being transformed, concerns about social inequality resulting from transformations, theological concerns that in trying to enhance humanity one is corrupting the divine creation or aspiring to godhood, and concerns about disrupting natural processes (Tennison, 2012). “DNA” takes up all but the theological concerns. The *Red Dwarf* episode “The Last Day” (1989) portrays the theological concerns that Tennison raises when Kryten receives a recall notice and so prepares himself to shut down so he can go to “Silicon Heaven.” In “DNA,” safety issues arise in two cases. The first is when shortly after Kryten has been transformed he misunderstands his new body and how it works, leaving plenty of room for dangerous mistakes. The other happens when Lister has himself transformed into “man plus” to combat the curry monster, only to be turned into a minute, weakling cyborg. The issue of social inequality arises in Kryten’s attitude toward his fellow mechanoids. He makes obnoxious jokes about “stupid” mechanoids, ignores his spare heads, and when visiting them is condescending, asserting his right to order them about since he is now a human and thus in a position of social superiority. The issue of disrupting natural processes receives the most attention in the story, centered on the idea that “you are what you are.” The dangers of altering nature appear early when Rimmer and Kryten encounter the corpse of a mutilated, three-headed man changed by the DNA transmogrifier. As the episode plays out this matter, *nature* is treated as something like a barrier between the zones of ‘right’ and ‘terrible’, but only if one is not careful about just where to make the crossing from human to transhuman. So, generally the program acts out the concerns that Tennison (2012) raises at the end of his ethical summary, that one should “step back and examine what is meant by ‘progress’, ‘enhancement’, and ‘making things better’” (p. 408). One could easily suppose, therefore, that the basic problem is not merely the desire to build a better human, but rather the heedless (and headless) rush to do so.

Taking the matter deeper, Tennison shows that attitudes about the value of technological transhumanism rest upon two presuppositions that one can take about these changes. One presumption, implied in Rimmer’s dialogue in the show, is that humans have always improved themselves through technology (glasses, hearing aids, wheels, etc.), and the difference with transhumanism is merely a matter of the degree to which one will take these transformations. The other presumption, implied in Lister’s dialogue, is that technological transhumanism is different in *kind* from prior technological enhancements, requiring a separate moral evaluation, mostly because the speed of transformation poses greater risks than prior enhancement technologies and systems did. The bridge between these two



presumptions may be that there ought to be an accompanying moral enhancement project to go along with the technological enhancement project (Tennison, 2012). The script of “DNA” definitely implies this view of a necessary moral or ethical consideration that would mitigate the dangers of unrestricted technological advancements. Even here, though, the episode is somewhat tentative. In a fashion typical of satire, the characters of the drama lack the ethical maturity needed to mitigate the dangers of the technology, and so by implication it may be that humanity itself currently lacks this ethical maturity. Thus, the episode humorously makes a point similar to Michael Hauskeller’s argument that the transhumanist vision of a better form of humanity produced through technology amounts to “a radical transformation of the human condition ... fraught with dangers and uncertainty” (2012, p. 43). As Hauskeller states it and “DNA” shows, “we actually have no idea whether the suggested transformations of the human body and mind would really work out as suggested” (p. 43). In essence, the presumption that transhumanism is just the latest phase of technological advancement ignores too many ethical problems.

Clearly, to some degree the episode “DNA” treats the matter of going beyond the physical limitations imposed by biological or mechanical form as an ethical concern. The program skips over the conservative and religious concerns about transhumanism, that somehow the “soul” or “essence” of humanity will be lost through technological enhancement. Instead, the program takes up the ethical concerns regarding social status of enhanced beings during the transition period when society would have a mixture of enhanced and “normal” beings. The question pertains to fairness and egalitarianism. Given a loosely hierarchical society, would that hierarchy change? Would it produce greater egalitarianism or a new elitism? Tennison in his summary of the ethical implications for transhumanism notes that while enhancement may rectify the problems of the “biological roulette” that evolution creates, thus potentially leading to greater egalitarianism, “The positional advantages conferred to the enhanced may provide a source of leverage for claiming additional rights or powers” (407). At one extreme end, one could imagine a society such as that in the film *Gattaca* (1997) in which the biologically enhanced are an absolute social elite, while those born unenhanced must occupy demeaning positions in society. These concerns surface in “DNA” when the human Kryten visits his spare parts for a conversation. Kryten gloats that he is not “second class” anymore and expects that the spare parts will be happy for him. Instead, they resent his new status because among other things neither of the operative spare heads can get a chance to be “main head” anymore. In the argument that ensues, Kryten uses his new status as a human who can boss mechanoids around, saying “I don’t have to listen to you anymore”. The encounter ultimately leaves Kryten feeling remorseful that he has hurt his “own kind.” In this area, the writers of “DNA” take a position similar to Bostrom’s, that some social inequality may occur as a consequence of a mixed society of beings with different degrees of enhancement, but that it is unlikely to be severely oppressive simply because mostly egali-



tarian human societies already exist in which people of differing abilities get along relatively harmoniously (Bostrom, 2005). Kryten's remorse for his bullying behavior shows how an egalitarian morality already exists and is unlikely to disappear. Though tremendous social inequalities and oppressions do exist in much of the human world, in mostly egalitarian societies such as the one that the characters of *Red Dwarf* live in (presumably, a modified British society), the egalitarian ethos within the society is strong enough to forestall or neutralize extreme forms of inequality. Enough people within such a society will act upon the egalitarian ethos, as Kryten and Lister do, so that, as Bostrom argues, runaway inequities would be unlikely to take hold should a society have both augmented and unaugmented humans.

The encounter between Kryten and his spare parts illustrates the realistic rather than utopian position the program takes regarding social hierarchies and class distinctions. In general, *Red Dwarf* shows that such distinctions are not likely to go away, even hundreds of years in the future. This is the reason that Lister is proud of his working class background and resists being a "class traitor." Lister has a place in society through which he has managed to make his social arrangements. All the characters live in the social system rather than *against* it. The program takes the position that an egalitarian utopia, be it Marxist or any other kind, is a pipe dream. In such circumstances, an enhanced being will inevitably shift in social status, and will then try to compensate for the shift. In this way, "DNA" portrays bodily enhancement as socially and psychologically disruptive, not the equalizing force that transhumanist proponents argue for. Indeed, it seems unlikely that a society of technologically enhanced humans will be able to eliminate the structural differences that exist in human societies, or produce the ideal conditions for social and personal happiness. In this regard, Hauskeller and Tennison are more correct than Bostrom and Kurzweil about the likely effects, both short term and long term, of a full out transhumanist social program.

All of this is not to say that "DNA" would lead one to conclude that trying to improve humanity should never be done or is impossible to accomplish. The program does, however, lead to the conclusion that people ought to think very clearly and very carefully about the ontological and ethical problems that will arise in attempts to make a "better" human by technological means. One reason for this caution is that there is no such thing as a fully reliable technology. The DNA transmogrifier works, but does not reliably produce what one wants. For instance, late in the show, a test run of the transmogrifier creates a monster, "half man, half extra-hot Indian curry." Another reason is that one cannot count on the good motivations of everyone who uses the technology. As the program shows, someone will always be there to abuse it. A third reason is that too often proceeding along the mechanical transhumanist path happens without considering the limitations of the original human material. If one could transfer a personality from one body to another, one may still find like Kryten that the new ideal body and the old personality just do not



work together. For all of these reasons, we should perhaps slow down and not try to sprint into the transhumanist future just yet. Instead, we should probably work on getting the ethics of our current technological situation right before moving ahead to any other improvements.

Conclusion

To conclude, the “DNA” episode of *Red Dwarf* fits the science fiction genre, but satirically twists common science fiction themes to undercut some of the more grandiose ideas in the genre. In this case, those ideas center on transhumanist dreams of creating a better human. The writers of the show do not advocate full opposition to technological modification of human beings, but they do take a cautious stand on the matter. The view of “humanity” that emerges in the show is primarily essentialist, but not entirely so. In the show, human nature (and mechanoid nature, as well) does exist, but is neither absolute nor unmalleable. Using the android Kryten’s transformation into a human, Lister’s pride in his social class, and an easily abused technology, the writers have fashioned a story that insists that human future aspirations should start with first principles of dealing with things as they are. The program also insists that ethical technology will start from these first principles. The strongest idea presented by the episode is that before people start thinking about how to make a better human, they should learn better ways to be human.

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