

From Cybermen to the TARDIS: How the Robots of *Doctor Who* Portray a Nuanced View of Humans and Technology

GWENDELYN S. NISBETT AND NEWLY PAUL

Critics and fans have praised the 2000s reboot of the science fiction classic *Doctor Who* for its increasing use of social commentary and politically relevant narratives. The show features the adventures of the Doctor and his companions, who have historically been humans, other aliens, and occasionally robots. They travel through time and space on a spaceship called the TARDIS (which is shaped like a 1960s British police box). The show is meant for younger audiences, but the episodes involve political and social commentary on a range of issues, such as racism, sexism, war, degradation of the environment, and colonialism. The Doctor is an alien from Gallifrey and can (and does) regenerate into new versions of the Doctor. Scholars have commented extensively about the show in the context of gender and race, political messaging, transmedia storytelling, and fandom. In this project, we examine the portrayal of robots and labor, a topic that is underexplored in relation to this show.

Doctor Who makes for an interesting pop culture case study because, though the show has a huge global fan base, its heart remains in children's programming. The series originated in 1963 on the British Broadcasting Corporation (BBC) as a show for children that incorporates lessons related to courage, ingenuity, kindness, and other such qualities, which it continues to do to this day. *Doctor Who* is also interesting because the Doctor has a history of machines as companions: K-9 the

GWENDELYN S. NISBETT is an associate professor in the Mayborn School of Journalism at the University of North Texas. Dr. Nisbett's research examines the intersection of mediated social influence, political communication, and popular culture. Her research incorporates a multi-method approach to understanding the influence of fandom and celebrity in political and civic engagement. She can be reached at gwen.nisbett@unt.edu.

NEWLY PAUL is a media and politics researcher and assistant professor of journalism in the Mayborn School of Journalism at the University of North Texas. Her research areas include political communication, race and gender in politics, and media coverage of elections. She has taught principles of news, news reporting, copyediting, political reporting, and minorities in media.

Popular Culture Studies Journal
Vol. 9, No. 1, Copyright © 2021

robot dog, Nardole, with the twelfth Doctor; the alien race of Daleks; and perhaps the most constant companion, the TARDIS. This is in stark contrast to the robots and machines that the Doctor encounters during his endless adventures. Indeed, some of the scariest monsters in *Doctor Who* are the Cybermen, a troop of humans-turned-robots that function by having their humanity stripped away.

In this paper we interrogate how the depiction of robots in *Doctor Who* mirrors the dehumanization of people in modern industrialized societies. While the show and the transmedia universe of *Doctor Who* have existed since 1963, this project examines robot episodes from the “New Who” reboot of the show, which has been running since 2005. We analyze the robot episodes using qualitative content analysis. We pay particular attention to the dialogue, storylines, characterization, and physical appearance of the robot characters to determine larger themes about labor, automation, and the human condition.

We argue that, through viewership of *Doctor Who*, people can better negotiate the implications of social discourse surrounding labor issues and modern life. We find that the show primarily uses robots to emphasize the negative aspects of society, particularly the unethical facets of capitalism and technology. When robots are depicted as “good,” they are usually shown in subservient roles to humans.

Robots and Sci-Fi

While in the early years of the twenty-first century the average person might be familiar with robots in the form of vacuum cleaners, self-driving cars, and GPS technology, their interaction with humanoid robots — robots displaying human-like qualities — is limited to robots they encounter in special events such as science fairs or those they see in science fiction media (Bruckenberger et al. 301). Fictional narratives are known to bridge the gap between reality and imagination. As a result, narratives about technology and artificial intelligence can have an impact on people’s knowledge about current issues, attitudes, and understanding of science (Appel and Mara 472; Barnett et al. 180; Dahlstrom 304; Green and Brock 701). For example, recent narratives about climate change, genetically modified foods, and renewable energy have affected the discourse surrounding the adoption of these technologies (Cave et al. 12).

Science fiction stories based on robots are known to affect people’s expectations and perceptions about robotic technology (Bartneck and Forlizzi 3). As a genre, science fiction focuses on the unknown. In the absence of concrete,

real-life experiences involving robots, people rely on the depictions they see in media representations to draw assumptions about the unknown. Studies have found that science fiction has mixed effects on people's perception about robots. For example, a study conducted by Martina Mara and Markus Appel supports the theory that science fiction addresses information gaps and changes attitudes (161). The authors tested the power of fiction to bridge the "uncanny valley hypothesis" (Mori et al. 98), which suggests that robots that resemble human beings to a great extent, but not completely, are likely to be considered uncanny or creepy, and are unlikely to be accepted by humans. Mara and Appel found that people who read a fictional story before encountering a robot were less likely to term the meeting as eerie, compared to those who had read non-narrative informational texts and those who had not read any text prior to the interaction. Mara and Appel concluded that "readers can extend their existing meaning frameworks when they are transported into the fictional world of a story — and thereby prepare for otherwise potentially unsettling encounters with challenging technological innovations in robotics and beyond" (160). Similarly, viewers who watch more science fiction shows portraying robots are likely to have positive attitudes toward robots, regardless of the nature of the portrayal (Riek et al.). This can be explained by contact theory (Allport 48), which posits that people tend to have negative attitudes toward outgroups, i.e., those who are different from them (in this case, robots), and this can be changed by intergroup contact.

Conversely, other studies such as those conducted by Yuhua Liang and Seungcheol Austin Lee and Kevin Young and Charli Carpenter found that people who watched more science fiction were more likely to suffer from fear of autonomous robots and artificial intelligence. In fact, according to Liang and Lee, almost one out of four people in the US reported experiencing such fears (383). Their study indicated that older persons, women, and people with lower education and income levels are more likely to suffer from fear of robots (383). They theorized that this fear likely stemmed from job displacement resulting from the use of autonomous robots and artificial intelligence technology in the workplace (383). Young and Carpenter's study also found conditional effects of science fiction. Heavy watchers of sci-fi shows were influenced by these shows while making political decisions (383).

Robots and Labor

The wide-ranging emotions that people display in relation to automation and robots reflects the array of roles that robots have played in science fiction programs. The tropes of robots as servants, as destructive forces, and as dehumanized laborers appear in various science fiction novels and shows. Many scholars credit Czech intellectual Karel Čapek for establishing the word “robot” in his 1921 play *R.U.R. (Rossum’s Universal Robots)*. According to John Jordan, professor at Pennsylvania State University, the concept of slavery is central to the word robot, which is derived from the Czech word “robota,” meaning “forced labor.” Čapek’s play critiques utopian ideas of artificial intelligence, which prizes efficiency over human traits, and paints a dystopian portrait of a world where humans are slaves to machines. German Fritz Lang’s film *Metropolis* is another example of the earliest works that include the theme of robots and labor. The film depicts corrupt capitalists and their exploited workers who are influenced by an evil robot to revolt against their masters. The resulting chaos causes the workers to lose their homes and families, but order is restored when the robot’s creator is killed and his invention is burned at the stake. The themes surrounding the robot character in the film draw heavily from Biblical imagery and emphasize post-World War I issues such as fascism and industrialization. The expectations for interactions between humans and robots were set by the three tenets of Isaac Asimov’s Laws of Robotics first introduced in his short story, “Runaround.” The story proposed that a robot should not injure humans but rather obey them and protect its own existence (Asimov 37).

Audiovisual depictions of robots, however, do not necessarily follow these principles. Such depictions tend to focus on exaggerated expectations and fears related to AI, especially in the context of joblessness for humans (Cave et al. 14). The history of depiction of robots in fiction also highlights the tendency of showing robots taking on human forms. Stephen Cave et al. explain that this occurs in two main ways: first, humans believe that they are the most intelligent form of life, and second, as a result, are likely to use human figures when creating intelligent machines. Robots in the form of human figures are preferred for visual depictions because they are easier to identify with. Also, when humans create robots, they are likely to show them performing human labor (Cave et al. 8). Christoph Bartneck’s reflection on human-robot interactions in movies found three main themes: robots will take over the world, robots want to be like humans, and people want robots to be like humans (1). He attributed these depictions to the tendency to exploit the fear of the unknown for entertainment purposes and to people’s religious beliefs (for

example, Christianity believes that living objects have a soul and non-living objects do not, while the Shinto religion believes that everything has a soul).

When robots are depicted performing labor, they mainly perform tasks that benefit humans. According to Cave et al., this includes activities such as “solving ageing and disease so that humans might lead vastly longer lives; freeing humans from the burden of work; gratifying a wide range of desires, from entertainment to companionship; and contributing to powerful new means of defense and security” (9). The downsides of AI include the fear that humans will lose their humanity, become obsolete, and ultimately lead to the destruction of the human race. Thus, robot labor, as envisioned in the media, is framed as desirable when controlled by humans and for the benefit of humans, but undesirable when robot-laborers think and act independently.

Some authors such as Gregory Jerome Hampton and Jennifer Rhee have written about the overlap between humanoid robots of today and slaves who were used as domestic laborers. These authors argue that robots, like slaves, occupy a marginal status between a human being and a tool. Though fiction sometimes shows robots as characters with complex identities, depicts them as inhabiting human bodies, and shows humans harboring emotions toward their robot companions, robots in reality function as laborers without rights. In this sense, robot-laborers are akin to slaves who were treated as their master’s chattel, despite the acknowledgement that they were human. This line of thought argues that the humanoid robotic workforce will disrupt and displace human laborers, as well as contribute to the widening economic inequality in society. Human laborers will be required to learn new technological skills and increase their efficiency to match that of the robots. More industries will adopt robots, creating a “techno-slavery” movement that will depend increasingly on technology and less on human labor in order to expand profits (Hampton 81). This “will function as a wedge issue for labor movements” in the future (Hampton 81). Just as slavery necessitated the violent takeover of lands and humans, enslavement of technology that performs human labor is related to imperialism and colonization.

Given the complex history of the use and portrayal of robots in fiction, we explore how robots are portrayed in *Doctor Who*. Our interpretation of robots includes “true” robots such as Droids as well as cyborgs such as the Cybermen and the Daleks. Cyborgs or robotic humans are considered part of the larger category of robotic beings (Søraa 2), and existing research often tends to examine robots and

cyborgs together (see for example Hasse; Søråa). We believe this approach allows for a more comprehensive picture of the media's depiction of machines.

Robot Themes in Doctor Who

Research on entertainment-education focuses on the ability of pop culture narratives to influence our thinking and behaviors concerning social, political, and health issues (Singhal and Rogers 117). Watching television shows that negotiate hard to talk about social issues like labor and class can help viewers work through their own feelings on those issues (Tisdell and Thompson 671). In addition, great characters aid in transportation into a narrative and emotional interaction with a show (Murphy et al. 424). This all contributes to audiences learning from the narrative themes. We argue that *Doctor Who* helps us think about and share our feelings of alienation at the increases in technology and automation in the workplace. Moreover, as the show endures in popularity year after year, the representation of robots and technology have evolved alongside societal changes.

Entertainment media can also help viewers overcome feelings of stress and powerlessness. Abby Prestin and Robin Nabi found that an underdog storyline can help viewers feel more hopeful when confronting stress in their own lives (161). Moreover, Erica Bailey and Bartosz W. Wojdyski found that moral narratives inspire altruistic attitudes (614). The Doctor embodies fighting for the underdog and finding moral clarity while advocating for a better world.

Our analysis of *Doctor Who* revealed five main themes in relation to the depiction of robots and labor: robots as henchmen, dehumanized humans, tools of capitalism, malfunctioning machines, and companions for humans. We argue that the narratives employed by *Doctor Who* have become progressively more steeped in political and social commentary. The show began as a children's program, and the classic robots of the early era reflected the notion that we fear what is foreign to us. The Daleks and Cybermen, examples featured in the early era of *Doctor Who*, epitomize robots that prey upon our fear of the strange and unknown. In the more recent era of the show, however, robots are regarded as commonplace and banal, shifting the critical focus to the societal forces driving the presence of robots, technology, and automation.

Robots as Henchman and Dehumanized Humans

A major theme to emerge across the seasons of the 2000s reboot of *Doctor Who* is the presence of robots functioning as henchmen for villainous masterminds. The Doctor often encounters robots in the form of killer guards, such as in the episode “The Ghost Monument” (11.2), who cannot be reasoned with but can be shut down. These robots are perhaps the most classic in that they are devoid of human characteristics. In the narrative, they become part of the infrastructure that presents an obstacle and moves the story forward.

The first episode of the *Doctor Who* reboot, “Rose” (1.1), focuses on the classic monster known as the Autons. These are animated, plastic, robot-like creatures that are controlled by a hive being called the Nestene Consciousness. The Autons resemble shop mannequins that come to life to attack humans and appear in Old Who and New Who and various other parts of the Who transmedia universe. All the Autons featured in this episode are homogenous in form. They all have plastic, white bodies, with neutral expressions on their faces, and their physical proportions meet the measurements for ideal bodies as set by the fashion industry. The bodies appear to have been mass-produced. In using mannequins to depict killer robots, the series comments on automation, mass production, and industrialization, all of which have thwarted creativity and individuality and created a labor force trained to follow instructions without questioning. As Francesco Spampinato describes, mannequins are representations of human bodies and are used purely for functional purposes. They perform tasks that humans do not want to carry out — such as acting as models for demonstrating medical procedures, acting as models for testing car safety, or as objects for displaying clothes in shop windows. In their physical uniformity and facelessness, mannequins act as a “symbol of conformity” and “mass culture” and embody “those values of efficiency that put the human body on the same level as machines” (Spampinato 1).

In the episode “Voyage of the Damned” (4.0), the Doctor (David Tennant) encounters a homicidal corporate owner, Max Capricorn (George Costigan), who uses robots resembling angels as henchmen to exact revenge against his company’s board members who had voted him out. The episode is set during Christmas, in a spaceship known as the Titanic. The robot angels resemble mannequins, with uniform, metallic faces, palms joined as if in prayer, and wings that enable them to fly. They are designed to provide information to the tourists in the spaceship. The robots lack autonomy and are bound to obey Capricorn’s orders to kill the

passengers onboard. Interestingly, we see that Capricorn's destructive plans are foiled when another robot — a cyborg — sacrifices himself out of his own free will.

The Doctor has several long-term enemies that have been part of the *Doctor Who* transmedia universe since 1963. The Daleks are humanoid beings inserted into a robot body resembling a "pepper pot." The Cybermen are humans placed into a robot shell equipped with an emotion inhibitor. Both represent the theme of the dehumanization of society resulting in the rise of humans-turned-robots. The Daleks are a race of humanoids-turned-robots that the Doctor considers his mortal enemies. Daleks are not often portrayed as labor, aside from a few instances. In the episode "Victory of the Daleks" (5.3), the Doctor (Matt Smith) finds a Dalek working in Churchill's War Room during World War II. The humans regard the Dalek as a supercomputer, but the Doctor knows it is a trap and sets out to destroy the robot.

In the episodes titled "The Rise of the Cybermen" (2.5) and "The Age of Steel" (2.6), "Cybermen" are used as tools of a big corporation. Cybermen were created from living, breathing humans who were "upgraded" to form human-robot hybrids. The robots had human brains, but cybernetic bodies and hearts of steel, thus making them devoid of emotions. Their sole purpose was to carry out the desires of their creator, John Lumic (Roger Lloyd-Pack), wheelchair-bound CEO of Cybus Industries, who suffered from a fatal disease. Lumic desired to conquer his illness by creating immortal Cybermen. This episode has strong undercurrents of technological dystopia — Lumic's company used EarPods, a device resembling headphones, to provide daily updates for news, sports, jokes, and other information directly into users' brains. This device was later used to control people's minds. In this sense, the device signals an attempt to control human imagination and ensure conformity.

The episode also comments on the inherent superiority of humans over machines. Interestingly, it does this by emphasizing the role played by emotions, which helps humans introspect about their actions. Lumic's utilitarian view of humans — he used homeless men to run tests for his project, claiming that by turning them into robots he had saved them and given them eternal life — is contrasted with the views held by the Doctor (David Tennant) and his companions, who plan to restore the emotional inhibitors on the Cybermen so they can think for themselves. Lumic wishes to bring peace and unity through uniformity, and his Cybermen are designed to root out humans who do not conform. Yet his worldview is depicted as flawed when the Cybermen forcibly "upgrade" him to cyber-

controller. The trope of dehumanized humans is especially strong in these two episodes. We see this literally when we find that underneath the metal exterior of Cybermen is human flesh and skin. We see it metaphorically in the episodes' juxtaposition of machines as uniform and unemotional with humans as emotional. In making these comparisons, the episodes question human dependence on technology as well as express fear of technology taking over humanity and the resulting loss of creativity.

Further Cybermen episodes through the seasons echo this theme. In the episode "Closing Time" (6.12), we see the bumbling and loveable Craig (James Corden) get turned into a cyberman; he fights back by calling on his emotions and love for his son. The dark and apocalyptic episodes "World Enough and Time" and "The Doctor Falls" (10.11-12) mark the return of the classic *Who* villain — the Mondasian Cybermen — who are even closer in visual appearance to humans. The Doctor (Peter Capaldi) describes the Cybermen as lacking humanity because they are born out of the wreckage of human industrialization.

In terms of representing robot labor, these two narrative themes harken back to the 1960s roots of the show and the society it represented. While the classic henchman and villain robots are staples of the *Doctor Who* universe, further themes illuminate the evolving representation of the intricate robot/human relationship.

Robots as Tools of Capitalism and Malfunction of Design

As the show has progressed, so have the representations of human interactions with robots and the wider societal forces driving automation. A common theme accompanying these robot forces is the presence of a capitalistic force that uses machines to make a profit. The episode "Oxygen" (10.5) presents a particularly brutal representation of capitalism and the expendability of workers. While visiting an industrial space station, the Doctor (Peter Capaldi) and his companions find space suits, but no people. The space suits are actually simplistic robots (or so the Doctor thinks); however, the robots are set up to sell oxygen to users and expunge air from the space station to protect market value. As it turns out, the space suit robots kill the members of the space station crew, and the Doctor suspects it is part of the business model. The Doctor surmises that the suits are doing what they were designed to do. "Save the oxygen that you are wasting, you've become inefficient," he explains to a crew member (00:37:45-00:37:49). The rescue ship they are awaiting is nothing more than a corporate ship bringing new workers. The Doctor

says, “They’re not your rescuers, they’re your replacements. The end point of capitalism — the bottom line where human life has no value at all. We’re fighting an algorithm, a spreadsheet, like every worker everywhere” (00:38:18-00:38:34). He then says that in such a system, “dying well” (00:38:50) is the ultimate revenge, as destroying human laborers ensures the destruction of the means of production (the space station) because it would be “expensive” (00:39:26).

In a two-part episode, “The Rebel Flesh/The Almost People” (6.5-6), the Doctor (Matt Smith) visits a twenty-second century factory staffed by human contractors and artificial intelligence called The Flesh. When the Doctor warns them about a solar storm coming, the workers insist that they have work to do and keep the acid factory running. The Flesh, which the workers call Gangers and the Doctor calls “almost people,” become independently sentient and violent. The Doctor has ulterior motives in visiting the factory because he knows that his companion Amy (Karen Gillan) is also a Ganger. While the episode is important in pushing the overall season narrative arc along, it also presents an interesting subtext on how we feel about humanoid artificial intelligence. When confronted by their doppelgangers, the workers are angry, violent, and mistrustful of the Flesh. However, the Flesh want equal rights as sentient beings. At one point the companion character Rory (Arthur Darvill) finds a pile of discarded Flesh Gangers writhing in agony in a store room. He asks how the company could do this, to which the Flesh (Sarah Smart) replies, “Who are the real monsters?” (00:24:14-00:24:17)

“Kerblam” (11.7) presents an interesting take on robots and capitalism. This episode on automation and workers’ rights is set in a large warehouse where goods are packaged and shipped to buyers. Robots and humans are shown working together, assembling and shipping packages, with robots supervising human laborers. Every small detail, such as the number and duration of breaks and productivity of workers, is noted by the robot supervisors, which creates an overall atmosphere of desperation and unhappiness for the human workers. However, due to the lack of jobs, the humans are reluctant to quit. The villain in this episode turns out to be a dissatisfied laborer, while the “system” is shown to have a conscience. Thus, on one hand the show highlights workers’ issues such as low pay, unemployment, impersonal work environment, and the mundaneness of repetitive work, but avoids suggesting radical solutions and puts some of the blame on the workers themselves.

Another major theme that re-emerges throughout the seasons is the notion of robots that are malfunctioning and have strayed from their original programmed

intentions. The malfunction is generally demonstrated by the robots doing harm to the humans whom they were intended to help. In many ways, the “malfunctioning tech” is a manifestation of our deep-seated mistrust and fear of robots.

In the episode “The Girl in the Fireplace” (2.4), the tenth Doctor (David Tennant) confronts a crew of malfunctioning repair robots aiming to abduct eighteenth century French aristocrat Madame du Pompadour (Sophia Myles). When the tenth Doctor first sees the robots, called Clockwork Droids, he is a bit enamored. He exclaims, “Oh you are beautiful...no, really you are. You’re gorgeous.” (00:08:29-00:08:36) He discovers that robots have slaughtered the crew in search of “parts” to repair the ship. The robots never display sentient decision making, they just follow their programming.

Other episodes using malfunctioning artificial intelligence include “The Curse of the Black Spot” (6.3), “The Lodger” (5.11), “The Girl Who Waited” (6.10), and “Mummy on the Orient Express” (8.8). All these episodes are similar in that they prey upon our fear of robots lacking human morality and the ability to tell right from wrong. Technologies designed to provide medical care, repair a ship, or aid soldiers are all unable to shake their programming, and they end up killing people. A good example that combines malfunctioning technology with labor issues is conveyed in the episode “Smile” (10.2). The Doctor (Peter Capaldi) finds himself in a new human colony built by micro robots called the Vardy. He mentions that they are like “slaves” because they were designed to create a settlement for and in service of humans (00:37:27). The clever trick of the episode is that the micro robots have larger robot interfaces that only “speak” in emojis. The malfunction occurs when the Vardy start killing humans because they find grief and unhappiness a threat. The Doctor explains that the robots neither think like humans nor understand that making sure the humans are happy does not mean purging unhappy people. This narrative presents a stark representation of the dehumanization of automated labor. The episode resolves when the Doctor recognizes the Vardy as a new life form and urges the humans to interact with them diplomatically.

The realities and consequences of labor automation are increasing in the lives of audiences in industrialized western democracies. Within this context, we examined how pop culture is reflecting the alienating impact of these economic trends. We argue that viewers of *Doctor Who* can identify with characters and storylines, as well as find solace in storylines that explore the dystopian human condition and the increasing automation of the labor force. In a sense, *Doctor Who* is a narrative representation for modern industrialized society.

Since the late 1980s, the job market in developed countries has experienced a shrinking of jobs in routine employment (i.e., jobs that can be completed by following a set of well-defined directions) (Acemoglu and Autor 1045). As a result, the labor market has become polarized, with employment shares shifting to the bottom or top halves of occupational wage distribution (Jaimovich and Siu 9). Many of the robot characters and storylines in *Doctor Who* tap into the anxieties that accompany these shifts in our personal and professional lives.

Part of the reason for this shift is the growth of automation, which acts as a substitute for human labor (Autor et al. 1313). Other reasons include shifts in government policies and the increase of globalization. The demographic that has been the hardest hit with the disappearance of routine jobs is young men with low levels of education and young women with intermediate levels of education. The result is that these demographics are increasingly forced into unemployment or low-wage occupations (Cortes et al. 70). In the show, robots are often portrayed as nefarious or tools of evil people. Friendly robots tend to be viewed as secondary companions or as merely there to help humans. Robots are never really portrayed as fully sentient and equal to humans. This can be seen as emblematic of the labor hierarchy.

Robots as Companions

Doctor Who has wide-ranging portrayals of what “labor” means. There are certainly portrayals of robots doing physical labor, but more interestingly, robots are often used as manifestations of human emotions. In robot form, the human characters must face their deepest inner emotions come to life. The Daleks are pure hate, the Cybermen are emptiness, the TARDIS is loyalty.

From the show’s inception, the Doctor has always traveled with a companion. The purpose of the companion in the narrative arc of the show is to act as a proxy for the viewer. The companion represents us: they ask the questions we would ask, get in trouble like we would, and generally act as a foil for the Doctor. Many of the Doctor’s companions have been robots, including K9 the robot dog, Nardole, and Handles the Cyberman head.

In Season 10, a robot called Nardole (Matt Lucas) serves as one of the primary companions. The relationship between the Doctor (Peter Capaldi) and Nardole is friendly, but follows a strict hierarchy whereby Nardole serves the Doctor and the Doctor depends on Nardole while only grudgingly liking him. Even though Nardole

is a main character, he is a secondary friend to the Doctor. This fits with the trend of robot companions as secondary to human companions. The Doctor relies upon these robot friends, but he is never really as attached to them as human friends.

Perhaps the only robot-like being that the Doctor adores is the omni-present sentient machine the TARDIS. Though the TARDIS is not a robot in the traditional sense, we include it in our list of the Doctor's robotic companions because the machine is featured in almost every episode of the series and is central to the Doctor's time-traveling abilities. The TARDIS is robot-like in that it is a sentient being (as shown in "The Doctor's Wife" [6.4]) and a machine.

While the Doctor's companions change over the various seasons of the show, the TARDIS remains constantly by his side. It is a complex machine that is capable of acting on its own and is capable of speech and regeneration. TARDISEs are shown to share a bond with the Time Lords who pilot them — when their pilots die, TARDISEs mourn or kill themselves. Intruders who try to take control are rendered powerless by the machine. Though the series shows the Doctor as attached to his TARDIS (in one episode he is shown sacrificing a decade of his life to revive the damaged machine), the TARDIS's ultimate destiny is to serve as a tool for the Doctor.

We see some of the connection between the Doctor (Matt Smith) and the TARDIS (Suranne Jones) in the episode "The Doctor's Wife" (6.4), which is a fanciful story that finds the Doctor in a world outside the universe where the "soul" of the TARDIS has been transplanted into a human. The Doctor is alarmed to find that his best friend and longest-term companion, the TARDIS, is now embodied in a "bitey mad lady" (00:16:40). The episode solidifies the Doctor's reliance on the TARDIS (eventually returned to machine form) as a constant companion who, as the TARDIS explains to the Doctor, "always took you where you needed to go" (00:25:05-00:25:07).

Conclusion

Entertainment narratives can be a great source for learning about and negotiating a world that is constantly changing (Singhal and Rogers 117). Fans of pop culture media often benefit from viewing portrayals of difficult-to-talk-about issues in their favorite programs (Tisdell and Thompson 671).

Portrayals of robots and robot labor in *Doctor Who* craft a complex narrative of the relationship between humans and technology. The classic aspects of the show

present a rather unidimensional representation of the robot as the *other*. In these narratives, the othering of the robot represents human detachment from the automation of labor. Beyond this, however, the show presents a quite modern take on the invasiveness of new technology and the ever-present profit motives of a capitalist society. On a positive note, *Doctor Who* robots are not always bathed in a pejorative gloss. Indeed, some of the Doctor's dearest companions are robots. In this, the show presents a rather balanced and nuanced view of what robot labor can mean.

Perhaps most importantly, *Doctor Who* has progressed from humble roots as a children's program into a global transmedia juggernaut. With this larger platform, the show has expanded its representation and commentary on capitalism, automation, and technology in every aspect of our lives. It is through this that, we argue, people can process the ever-increasing alienation of our automated world.

Works Cited

- Acemoglu, Daron, and David Autor. "Skills, Tasks and Technologies: Implications for Employment and Earnings." *Handbook of Labor Economics*, vol. 4, edited by Orley Ashenfelter and David Card, Elsevier, 2011, pp. 1043-171.
- "Age of Steel," *Doctor Who*, written by Tom MacRae and Kit Pedler, directed by Graeme Harper, BBC Studios, 2006.
- Allport, Gordon Willard, et al. *The Nature of Prejudice*. Addison-Wesley, 1954.
- "Almost People," *Doctor Who*, written by Matthew Graham, directed by Julian Simpson, BBC Studios, 2011.
- Appel, Markus, and Martina Mara. "The Persuasive Influence of a Fictional Character's Trustworthiness." *Journal of Communication*, vol. 63, no. 5, 2013, pp. 912-32.
- Asimov, Isaac. "Runaround." *Astounding Science Fiction*, Mar. 1942, pp. 94-103.
- Autor, David H., et al. "The Skill Content of Recent Technological Change: An Empirical Exploration." *The Quarterly Journal of Economics*, vol. 118, no. 4, 2003, pp. 1279-333.
- Bailey, Erica, and Bartosz W. Wojdyski. "Effects of 'Meaningful' Entertainment on Altruistic Behavior: Investigating Potential Mediators." *Journal of Broadcasting and Electronic Media*, vol. 59, no. 4, 2015, pp. 603-19.

- Barnett, Michael, et al. "The Impact of Science Fiction Film on Student Understanding of Science." *Journal of Science Education and Technology*, vol. 15, no. 2, 2006, pp. 179-91.
- Bartneck, Christoph. "From Fiction to Science: A Cultural Reflection on Social Robots." Proceedings of the CHI2004 Workshop on Shaping Human-Robot Interaction, 20-21 Jan. 2004, Vienna.
- Bruckenberg, Ulrike, et al. "The Good, The Bad, The Weird: Audience Evaluation of a 'Real' Robot in Relation to Science Fiction and Mass Media." Proceedings of the International Conference on Social Robotics, 27-29 October, 2013, Bristol, UK. Edited by Guido Herrmann, et al., Springer.
- Cave, Stephen, et al. "Portrayals and Perceptions of AI and Why They Matter." *The Royal Society*, London, 2018, [royalsociety.org/~/media/policy/projects/ai-narratives/AI-narratives-work-shop-findings.pdf](https://royalsocietypublishing.org/~/media/policy/projects/ai-narratives/AI-narratives-work-shop-findings.pdf).
- "Closing Time," *Doctor Who*, written by Gareth Roberts and Kit Pedler, directed by Steve Hughes, BBC Studios, 2011.
- Cortes, Guido Matias, et al. "Disappearing Routine Jobs: Who, How, And Why?" *Journal of Monetary Economics*, vol. 91, 2017, pp. 69-87.
- "Curse of the Black Spot," *Doctor Who*, written by Steve Thompson, directed by Jeremy Webb, BBC Studios, 2011.
- Dahlstrom, Michael F. "The Persuasive Influence of Narrative Causality: Psychological Mechanism, Strength in Overcoming Resistance, And Persistence Over Time." *Media Psychology*, vol. 15, no. 3, 2012, pp. 303-26.
- "Doctor Falls," *Doctor Who*, written by Steven Moffat and Kit Pedler, directed by Rachel Talalay, BBC Studios, 2017.
- "Doctor's Wife," *Doctor Who*, written by Neil Gaiman and Russell T. Davies, directed by Richard Clark, BBC Studios, 2011.
- "Ghost Monument," *Doctor Who*, written by Chris Chibnall, directed by Mark Tonderai, BBC Studios, 2018.
- "Girl in the Fireplace," *Doctor Who*, written by Steven Moffat, directed by Euros Lyn, BBC Studios, 2006.
- "Girl Who Waited," *Doctor Who*, written by Tom MacRae, directed by Nick Hurran, BBC Studios, 2011.
- Green, Melanie C., and Timothy C. Brock. "The Role of Transportation in The Persuasiveness of Public Narratives." *Journal of Personality and Social Psychology*, vol. 79, no. 5, 2000, pp. 701-21.

- Hampton, Gregory Jerome. *Imagining Slaves and Robots in Literature, Film, and Popular Culture: Reinventing Yesterday's Slave with Tomorrow's Robot*. Lexington Books, 2015.
- Hasse, Cathrine. *Posthumanist Learning: What Robots and Cyborgs Teach Us about Being Ultra-Social*. Routledge, 2020.
- Jaimovich, Nir, and Henry E. Siu. "Job Polarization and Jobless Recoveries." *Review of Economics and Statistics*, vol. 102, no. 1, 2020, pp. 129-47.
- Jordan, John. "The Czech Play That Gave Us The Word 'Robot.'" *The MIT Press Reader*, 29 July 2019, thereader.mitpress.mit.edu/origin-word-robot-rur.
- "Kerblam!," *Doctor Who*, written by Pete McTighe, directed by Jennifer Perrott, BBC Studios, 2018.
- Liang, Yuhua, and Seungcheol Austin Lee. "Fear of Autonomous Robots and Artificial Intelligence: Evidence from National Representative Data With Probability Sampling." *International Journal of Social Robotics*, vol. 9, no. 3, 2017, pp. 379-84.
- "Lodger," *Doctor Who*, written by Gareth Roberts, directed by Catherine Morshead, BBC Studios, 2010.
- Mara, Martina, and Markus Appel. "Science Fiction Reduces the Eeriness of Android Robots: A Field Experiment." *Computers in Human Behavior*, vol. 48, 2015, pp. 156-62.
- Mori, Masahiro. "Bukimi no tani [The Uncanny Valley]." *Energy*, vol. 7, 1970, pp. 33-5.
- Mori, Masahiro, Karl. F. MacDorman, and Norri Kageki. "The Uncanny Valley [from the Field]." *IEEE Robotics and Automation Magazine*, vol. 19, no. 2, 2012, pp. 98-100.
- "Mummy on the Orient Express," *Doctor Who*, written by Jamie Mathieson, directed by Paul Wilmshurst, BBC Studios, 2014.
- Murphy, Sheila.T., et al. "Involved, Transported, or Emotional? Exploring the Determinants of Change in Knowledge, Attitudes, and Behavior in Entertainment-Education." *Journal of Communication*, vol. 61, 2011, pp. 407-31.
- Nowell, Lorelli. S., et al. "Thematic Analysis: Striving to Meet the Trustworthiness Criteria." *International Journal of Qualitative Methods*, vol. 16, no. 1, 2017, pp. 1-13.
- "Oxygen," *Doctor Who*, written by Jamie Mathieson, directed by Charles Palmer, BBC Studios, 2017.

- Prestin, Abby, and Robin Nabi. "Media Prescriptions: Exploring the Therapeutic Effects of Entertainment Media on Stress Relief, Illness Symptoms, and Goal Attainment." *Journal of Communication*, vol. 70 no. 2, 2020, pp. 145-70.
- "Rebel Flesh," *Doctor Who*, written by Matthew Graham, directed by Julian Simpson, BBC Studios, 2011.
- Rhee, Jennifer. *The Robotic Imaginary: The Human and The Price of Dehumanized Labor*. U of Minnesota P, 2018.
- Riek, Laurel D., et al. "Exposure to Cinematic Depictions of Robots and Attitudes Towards Them." Proceedings of International Conference on Human-Robot Interaction, Workshop on Expectations and Intuitive Human-Robot Interaction, 6 Mar. 2011, Lausanne, Switzerland.
- "Rise of the Cybermen," *Doctor Who*, written by Tom MacRae and Kit Pedler, directed by Graeme Harper, BBC Studios, 2006.
- "Rose," *Doctor Who*, written by Russell T. Davies and Robert Holmes, directed by Keith Boak, BBC Studios, 17 March 2006.
- Singhal, Arvind, and Everett M. Rogers. "A Theoretical Agenda for Entertainment-Education." *Communication Theory*, vol. 12, no. 2, 2002, pp. 117-35.
- "Smile," *Doctor Who*, written by Frank Cottrell Boyce, directed by Lawrence Gough, BBC Studios, 2017.
- Søraa, Roger Andre. "Mecha-Media: How Are Androids, Cyborgs, and Robots Presented and Received Through the Media?" *Rapid Automation: Concepts, Methodologies, Tools, and Applications*, edited by Information Resources Management Association. IGI Global, 2019, pp.12-30.
- Spampinato, Francesco. "Body Surrogates: Mannequins, Life-Size Dolls, and Avatars." *PAJ: A Journal of Performance and Art*, vol. 38, no. 2, 2016, pp. 1-20.
- Tisdell, Elizabeth J., and Patricia M. Thompson. "'Seeing from a Different Angle': The Role of Pop Culture in Teaching for Diversity and Critical Media Literacy in Adult Education." *International Journal of Lifelong Education*, vol. 26, no. 6, pp. 651-73.
- "Victory of the Daleks," *Doctor Who*, written by Mark Gattis and Terry Nation, directed by Andrew Gunn, BBC Studios, 2010.
- "Voyage of the Damned," *Doctor Who*, written by Russell T. Davies, directed by James Strong, BBC Wales, 2008.

“World Enough and Time,” *Doctor Who*, written by Steven Moffat and Gerry Davis, directed by Rachel Talalay, BBC Studios, 2017.

Young, Kevin L., and Charli Carpenter. “Does Science Fiction Affect Political Fact? Yes and No: A Survey Experiment on ‘Killer Robots.’” *International Studies Quarterly*, vol. 62, no. 3, 2018, pp. 562-76.