

The character of Data and his humanity in *Star Trek: The Next Generation*

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Abstract

This study will aim to analyze the character Data, an android, in the television series *Star Trek: The Next Generation*. More specifically, this study will focus on Data's humanity and sentience in the episode "The Measure of a Man". Is Data sentient? Is he just a machine? Does he resemble humans based on his actions and interaction with the other characters? The methodology applied in this study is functional semiotic approach. I discovered that while Data is a machine and an artificial lifeform, he has many human-like characteristics and he learns them by observing humans and their actions, as well as manners and traditions.

Keywords: sentience, humanity, android, learning, artificial intelligence

1 Introduction

Star Trek has often dealt with complex themes and issues related to equality and future of mankind since *Star Trek: The Original Series* aired between 1966 and 1969. Often in science fiction, the future is depicted in a dystopian setting. This is especially common with characters or beings with artificial intelligence (AI), as they are often represented as dangerous or evil beings, for example the super computer HAL 9000 in Stanley Kubrick's *2001: A Space Odyssey* (1968) and the cyborg Terminator in *The Terminator* (1984). HAL 9000 turns on the human astronauts and tries to kill them in order to save himself and Terminator is sent from the future to 1984 to kill Sarah Connor to prevent the humans winning a war against evil machines.

In contrast to most science fiction franchises, Star Trek depicts the mankind's future in a utopian setting. Star Trek is set in our own future, so it does not take place in a fantasy setting like for example the Star Wars films. There are several characters in Star Trek with artificial intelligence. Some are good, and some are evil. One of the most notable AI characters in Star Trek is Data from the television series *Star Trek: The Next Generation* (TNG). Data is one of the main protagonists in the series. He is an artificial lifeform, an android who desires to be human. This study will analyze the character of Data, and the episode "The Measure of a Man" will be used as the primary research material. The focus of this study will more specifically be on Data's sentience and humanity by examining his actions, dialogue and behavior in the episode. The other characters' treatment of Data will also be observed and analyzed. Key topics include whether Data will be considered to be just a machine or a sentient being. Data is an interesting character to study, because artificial intelligence has become so popular with the development of technology, especially in the recent years; for example, nowadays many people have an AI-controlled assistant in their phones or computers, like Apple's Siri.

First, I will give some background information about the Star Trek franchise and TNG. I will also introduce Data and other characters in TNG who are relevant to this study, as well as a brief synopsis of the episode "The Measure of a Man". The characterization of Data will be analyzed more thoroughly in the Analysis section. In it, this study will demonstrate the human-like characteristics of Data by examining and analyzing his actions, dialogue and behavior in "The

Measure of a Man". The methodology this study uses is functional semiotic analysis, which will be explained in the Theoretical and methodological framework section.

2 Research material

In this section, I will provide some information about *Star Trek: The Next Generation*, its characters that are relevant to this study, and a brief synopsis of “The Measure of a Man”.

2.1 Star Trek: The Next Generation (TNG)

Star Trek: The Next Generation was created by Gene Roddenberry and the series has a total of seven seasons with 176 episodes that aired between 1987 and 1994. TNG is the second live action *Star Trek* television show and the third overall. *Star Trek: The Original Series*, the first *Star Trek* television show, aired between 1966 and 1969. The second series, *Star Trek: The Animated Series*, aired between 1973 and 1974. To date, there have been a total of seven different TV shows in the *Star Trek* franchise and thirteen films. Four of the films were based on TNG; *Star Trek: Generations* (1994), *Star Trek: First Contact* (1996), *Star Trek: Insurrection* (1998) and *Star Trek: Nemesis* (2002).

“Space... The final frontier. These are the voyages of the starship Enterprise. Its continuing mission, to explore strange new worlds. To seek out new life and new civilizations. To boldly go where no one has gone before” (Captain Picard, *Star Trek: The Next Generation*). These words are spoken by Patrick Stewart as Captain Jean-Luc Picard in the opening titles of every TNG episode and they give a good representation of what the series is about; exploring strange new worlds and seeking out new life and new civilizations.

TNG is set in the 24th century. The first episode takes place in 2364 and each season corresponds to one year in the series’ chronology, so the series happens over the course of seven years. TNG follows the voyages of the USS Enterprise NCC-1701-D (shortly the Enterprise). TNG’s Enterprise is a Galaxy-class starship, which means that it is very large and powerful. The Enterprise has a crew of approximately 1000 individuals and it is owned by the United Federation of Planets and operated by Starfleet, which is considered to be a pseudo-military organization; it has many aspects resembling military, such as an officer ranking system. The ships are also armed and capable of combat if necessary. However, Starfleet’s primary function is to explore, seek out and

contact new cultures and civilizations, and the weapons are primarily used only as last stand defense measures.

2.2 The characters of TNG

Lieutenant Commander Data is played by Brent Spiner. Data is a male android with a built-in artificial intelligence system. Data resembles humans by appearance, but his skin is white and pale, and he has yellow eyes. Data was built by Doctor Noonien Soong, who has seemingly been killed in an accident. However, in the later seasons of the series it is revealed that he had survived the accident and is still alive, but at the time of “The Measure of a Man”, Soong is believed to be dead. Soong created Data without implementing emotions to him. Later in the series, it is revealed that Soong has created an emotion chip that could be installed to Data’s complex positronic brain. Soong had previously tried to install a similar emotion chip to another android he had created, named Lore, who is considered to be Data’s brother. However, Lore became evil and malicious after the chip’s installation.

Data is in many ways used as a lens to examine humans and humanity in TNG. In many situations, he is somewhat of an outsider as a character; he has great knowledge of humans and human behavior, but he does not fully understand all the nuances of it. For example, judgment or evaluation of certain things by instinct can be difficult for Data, at least without prior experience of certain types of situations. Data is highly curious, honest and polite by nature. He also treats others with respect and constantly wants to improve his understanding of humans. Data’s willingness to understand and to learn is not restricted to humans, as it becomes clear through TNG that he is also interested in other lifeforms and phenomena. As an android, Data does not require food or sleep.



Figure 1. Data in *Star Trek: The Next Generation*

Played by Patrick Stewart, Captain Jean-Luc Picard is the commanding officer of the Enterprise in TNG. Picard is a life-long explorer and an experienced starship commander. Picard strongly believes in concepts like honor and duty. By nature, Picard is sophisticated and diplomatic. The safety of the Enterprise and its crew are also imperative to him. These are all reflected in “The Measure of a Man” as Picard fiercely defends Data’s rights as a sentient being.

Commander Bruce Maddox is played by Brian Brophy. Maddox is not part of the Enterprise’s crew. He appears in a handful of episodes in TNG, “The Measure of a Man” being his first appearance. He is an expert in cybernetics and wishes to continue Doctor Soong’s work on androids. In “The Measure of a Man”, Maddox wishes to replicate Data. In order to do this, he has to disassemble Data, so he can learn more about androids and their complex structure. Maddox is portrayed as the antagonist of the episode.

Commander William Riker is played by Jonathan Frakes. ‘Will’, as his friends call him, is the First Officer of Enterprise. Riker is very masculine, tall and physically strong. He is also an expert poker player. In “The Measure of a Man”, Riker is forced to prosecute against Data in the hearing about Data’s rights. He is a good friend of Data and does not want to prosecute him, but the court martial would have ruled the hearing in Maddox’s favor had Riker refused to prosecute Data as best as he could.

Played by Amanda McBroom, Captain Phillipa Louvois is also not part of the Enterprise crew. She acts as the head of a ruling for Data's rights in "The Measure of a Man". It is implied in the episode that Louvois and Picard had an affair some years prior to the events of the series.

Played by LeVar Burton, Lieutenant Geordi La Forge is the Engineering Officer of the Enterprise. He has been blind since he was born. However, he has implants in his eyes that use a technically advanced visor, which allows Geordi to see with an infra-red vision. His infra-red sight far superior to normal human vision. Data and Geordi are close friends and Data considers Geordi his best friend.

Lieutenant Natasha 'Tasha' Yar is played by Denise Crosby. She is the Enterprise's Security Chief in TNG's first season. Tasha is a tough and muscular female officer who is killed in the episode "The Skin of Evil". She was very close to Data and had an intimate relationship with him.

2.3 The Measure of a Man

"The Measure of a Man" was written by Melinda M. Snodgrass and directed by Robert Schneerer. It is the ninth episode of the second season of TNG and the 35th overall. The episode is centered around Data and it asks questions about his rights, sentience and humanity. Is he a piece of Starfleet equipment? Is he a sentient being? In the episode, a robotics specialist, commander Maddox, has received Starfleet's approval to disassemble Data, who is a unique android, as he is seemingly the only one of his kind. Maddox's goal is to create more androids like Data. It soon becomes clear that Maddox might not be able to put Data back together after the procedure, so Data refuses to submit to the experiment and he resigns his commission as a Starfleet officer. In response however, Starfleet proclaims that Data cannot resign, as he is Starfleet's property. This leads captain Picard to argue for Data's rights as a sentient being in a court of law.

3 Theory and methodology: functional semiotic approach

This study uses functional semiotic approach as the basis for the theory and the methodology. In functional semiotic approach, as Chiao-I Tseng writes, “characters’ faces, expressions, actions and all kinds of behaviours function as the main resources for the viewer to construct predictions and inferences about characters’ traits and emotions, and the entire narrative structures are substantially mediated by characters” (587). Characters’ actions and interactions also play a key role in visual cognition and narrative comprehension (Tseng, 587). In the functional semiotic approach, the viewer’s understanding of the characters is strongly determined and deciphered by following their behavior, actions and interactions (Tseng, 588).

A more delicate framework for analyzing characters’ relationship with other characters and the viewer can also be applied. As Tseng writes, “this framework offers a useful account of how viewers interact with film characters and how the interaction results in emotions and sympathy” (589). Sympathy can be seen on three main levels: recognition, alignment and allegiance (Tseng, 589). ‘Recognition’ deals with mechanisms about recognizing the characters’ identities during the film (Tseng, 589). As Tseng writes, “this level of description focuses on viewers’ perception of filmic elements and the way these elements are constructed coherently throughout a film into a recognizable form around individual agents (589). ‘Alignment’ goes beyond the formal cues viewer is given about the characters. Tseng suggests that ‘alignment’ aims to give a somewhat limited view on certain characters in how they are portrayed. This is a conscious and subjective way to mediate the viewers’ perception of these characters (589). Finally, ‘allegiance’ refers to how the viewers evaluate the characters on a moral level (Tseng, 589). Tseng suggests that allegiance has cognitive and affective dimensions, as the viewer could judge the character based on emotional arousal (589). Because of this “the viewer’s allegiance to characters is mediated by several factors such as information gathered through alignment, character actions and behaviours, etc.” (Tseng, 589).

3.1 Artificial intelligence (AI)

Describing the concept of 'artificial intelligence', Catrin Misselhorn states that "artificial intelligence aims to model or simulate human cognitive abilities" (161). She states that the AI systems accomplish an increasing amount of tasks in industrial production. Machines are used to do tasks that are considered too difficult or dangerous for humans to do and sometimes, machines can do the required tasks much faster or better (Misselhorn, 161). She also brings up the term artificial morality, which refers to an emerging field in artificial intelligence that explores if artificial systems could be applied with moral capacities (Misselhorn, 161). Misselhorn suggests that as artificial systems keep developing to become more intelligent, they are faced with more situations requiring moral decisions (162). Simplistic AI systems like vacuum robots could also face rather small moral questions, for example if they should prevent killing an insect that gets in their way while cleaning (Misselhorn, 162). She questions whether the AI systems make the moral decisions themselves and suggests that the moral values of the devices or machines could be the designers' own implementations that they have programmed into the systems (Misselhorn, 162). As Misselhorn states, "Yet, the more artificial intelligence develops, the less clear this boundary becomes" (162).

Further expanding on the concept of AI morality, Misselhorn notes about the possible differences between human and AI behavior. It is common in philosophy that when humans do something, their reasoning consists of a combination of two attitudes: "... a belief and a pro-attitude (e.g. a desire): I am going to the library, because I want to borrow a book (pro-attitude), and believe that the library has it (belief)" (Misselhorn, 163). Misselhorn states that one idea in AI morality is to form certain moral principles that are used as rules. These rules are then implemented in a software program and then the AI system is supposed to decide, based on these rules, what to do in different, specific situations. However, she notes that another approach is that morality is not to be understood as rule-based. Instead, each case needs to be judged individually (165). Misselhorn notes that artificial morality is becoming more common with the development of technology, which is getting increasingly more intelligent (Misselhorn, 167). She also argues that "machines might be better moral agents than humans since they are not subject to irrationality, seduction or emotional turmoil. Moreover, they are incapable of dismissing morality for reasons of self-interest" (167). Misselhorn concludes her essay by stating that artificial morality can help humans

improve their moral capacities (Misselhorn, 167). According to her, “Human morality is often fragmented and inconsistent (167). She also argues that attempting to reproduce human morality can help humans have a better understanding of it (Misselhorn, 167).

3.2 Previous studies about Data

In her essay, Rebecca Gibson examines how in different science fiction stories humans can become sexually attracted to AI characters. She discovered that if the AI characters can mimic humans exceedingly well, it is enough for humans to be both sexually and romantically attracted to them. Her study includes androids known as Replicants in Philip K. Dick’s novel “Do Androids Dream of Electric Sheep?”. She notes that Replicants resemble humans much more than Data in their appearance and characteristics. She bases her analysis of Data on two episodes of TNG, one being “The Measure of a Man”. Gibson argues that Data’s humanity is reflected in his expression of longing and sense of rightness and wrongness, as well as his sentimentality (Gibson, 231).

Esther Rashkin conducted a study on Data based on the episode “Data’s Day”. In the episode, Data observes the everyday life of his human crewmembers. Data also takes dance lessons, so that he can learn how to dance, as dance is one of the most common human traditions. Rashkin argues that these dance lessons Data takes are used as a metaphor for human psychic development. Rashkin states that Data does not have a clear self-image. He concluded his essay by stating that Data needs to observe and learn from humans so that he can create his own sense of self. In his study, Rashkin states that one of the defining characteristics for humans is that humans seek relationships. Humans yearn to develop an inner continuity of being. Humans have a need to feel authentic and form genuine relationships with others. These begin at the moment of birth and continue through our whole life (Rashkin, 325).

4 Analysis

In this section, Data's actions and interaction with the other characters will be analyzed, as well as how he is perceived as a sentient being by himself and the other characters. The main focus will be on the episode "The Measure of a Man".

4.1 Data's curiosity and friends

The episode "The Measure of a Man" begins with Data playing poker with four of the ship's commanding officers who are also his good friends. Data mentions how the card game is simple due to the set number of 52 cards and the limited winning combinations they offer. Data deals the cards and at the end of the game, all the other players have folded the cards except Data and commander Riker, who is an expert poker player. Riker seemingly has a very strong hand and he stares at Data, to which Data replies "Is that what is known as a poker face?" (02:10). Riker retains his confident look, after which Data folds and Riker wins the game. However, it turns out that Riker was actually bluffing, and he would have lost the game had Data not folded. Data seems baffled by why Riker would bet when he could not win, to which Riker replies "But I did win. I was betting that you wouldn't call" (2:35). Data wonders how Riker was able to pull this off, to which doctor Pulaski says that it was because of instinct.

Data has knowledge of the game's rules, but he does not understand the bluffing element of the game, which requires intuition and instinct. Intuition and instinct are both usually seen as human characteristics, and these are some of the classic examples that separate humans from AI, even the more advanced AI systems. This scene also focused on Data's limited view on the poker rules. At first, he only thinks that the game has different outcomes based on the mathematical possibilities that the cards offer, but he realizes that there are other alternative ways to win.

It is also established in this scene that Data has friends, which is common for humans and sentient beings. If Data was only a machine that is used as a tool, for example to perform certain tasks in the ship, he would not spend time doing 'unnecessary' activities such as playing cards with other crew members. Data is depicted to have a highly curious personality, so one could argue that he is

simply studying or collecting information about different human traits. However, it would be unlikely that if Data was just a machine, he would be interested in activities like poker that would not serve to be useful for his core functionality or tasks he is supposed to do as an android officer. In this opening scene, Data's many human-like features such as sentience and intelligence are also demonstrated. However, it is also made clear that he is still an artificial lifeform with an AI system built in, albeit a highly advanced AI. It is also shown that he learns human features and manners through observation and experiences. With Data in this scene, the poker game becomes an examination of different human manners such as bluffing or instinct, as Data is depicted asking different questions about the other characters' behavior, actions and reasonings behind them.

4.2 How Data is treated by other characters

Later, some Starfleet officers arrive on board the USS Enterprise. One of them is commander Bruce Maddox. Captain Picard, the captain and commanding officer of the USS Enterprise, shows the ship to the officers. When they arrive to the command bridge, Data's facial expression reveals that he is clearly concerned and unsettled by Maddox's presence, who stares at Data with an uncomfortable look. This is an example of Data expressing emotions, a humane feature. It is mentioned several times in TNG that Data is unable to have emotions, yet this scene is a clear indicator that he does indeed have some form of emotions based on his concerned look when he notices Maddox. If he had no emotions, his expression would not have changed in this scene.

Maddox's superior officer explains that Maddox has come to the ship "to work on your android" (07:59). Maddox has studied the research of doctor Noonien Soong, Data's creator, and he wants to continue his work on androids and artificial intelligence. Maddox claims that he is very close to a breakthrough in his work and he could soon be able to "replicate *this*" (09:02) pointing to Data. In order to do this however, he has to disassemble Data and study him. Maddox shows great interest in Data: "Ever since I first saw Data at the entrance evaluation at the Starfleet Academy, I've wanted to understand it" (Maddox, 8:41).

Maddox considers Data to be a machine, as he refers to Data as 'it', not 'him'. Maddox's pronoun usage highlights the fact that Data is indeed, not a biological lifeform, but a machine and more

specifically, an android. However, this may also affect the viewer's perception of Data on an affective level, as Maddox's actions and behavior simultaneously underline Data's humanity, as he is not considered to be a sentient being by Maddox. This is likely to create sympathy towards Data in the viewer's mind. Maddox also partly speaks indirectly to Data, as Data is sitting at the same table during the conversation they are having and instead of talking directly to Data, he uses the phrase 'replicate *this*' while pointing to Data. The other characters at the table seem to be uncomfortable about this based on their facial expressions. Maddox claims that he has been able to construct a positronic brain similar to Data, but he does not have the full details to make it function. Data, Riker and Picard question the safety of this procedure and Picard notes that Data is a valued and respected member of the crew and denies Data's participation in the procedure. Maddox was prepared for this, however, and he has gained permission from Starfleet to transfer Data under his command to the space station Starbase 173, where he would disassemble him. It is evident that Picard and Riker care about Data, as they refer to him as a member of the crew and they strongly oppose to Maddox's procedure. In her essay, Gibson states that Data's friends are afraid that Data would be destroyed by Maddox's procedure. More specifically, she states "they are not talking about Data's physical body, but of the essence of him. His 'himness,' where embodiment meets humanity (230).

Rashkin makes an interesting note about Maddox's name: Maddox resembles the words 'mad docs', which is abbreviation from 'mad doctors'. Furthermore, Rashkin says that it is a common fear for some patients that mad doctors would take them apart but would not be able to put them back together (Rashkin, 342). Maddox's name is used as a simple narrative way to tell the viewer something about his plans to open and disassemble Data.

Later, Picard calls Data to his ready room. Data tells him that he will not submit to the procedure. However, Picard points out that he has to consider Starfleet's interests, because if Maddox succeeds, many advanced beings like Data could be constructed. Data points out that Geordi, who is blind, has artificial eye implants that are superior when compared to regular human eyes. Data questions why other humans are not required to have similar implants to improve their eyesight. Picard does not have an answer for this, to which Data replies that the reason Picard is considering submitting Data to the procedure is because Data is not human. After this, Data leaves the room.

Picard's expression gives the impression that he is both unsettled and confused by his discussion with Data. This could mean several things. Picard persuades Data to at least consider submitting to Maddox's procedure. After Data's abrupt determination not to do it, Picard might be disappointed in himself. He considered that Data should accept Maddox's proposal and by doing so, Picard might feel that he let Data down as a friend. Picard could also be confused because he does not have a right solution to this, as there are benefits to both outcomes with Data's decision.

4.3 Data's memories and perception of himself

Later in the episode, as Data has decided to resign from Starfleet in order to prevent Maddox's procedure, Data is packing his belongings in his quarters. He takes a small glass-like object that has a holographic message from Tasha Yar, who was one of the main characters of the series. Tasha was killed in "Skin of Evil", the 23rd episode of the first season. She and Data were very close to each other and Tasha left the holographic message to Data in case she was ever killed on duty. Data seems moved by the hologram as he remembers Tasha. Other belongings that Data seems to pack are medals and a book. Data's belongings are an indicator that he is a sentient being with appreciation and an emotional attachment to his accomplishments, friends and memories. If he was simply an insentient machine, he would not have belongings like the holographic memory of Tasha, a poetry book nor medals. None of these items are useful to his physical functioning and if he was insentient, it is likely that he would only have, for example maintenance items that are used to maintain his core functionality.

Maddox soon enters the room, picks up one of Data's books and reads a poem from it: "When in disgrace with fortune and men's eyes, I all alone beweep my outcast state" (16:15). He asks Data if they are just words to him, or do they have a deeper meaning to him. Data ignores the question and points out to Maddox that it is customary to ask permission before entering someone's private quarters. This poem has the word 'outcast'. Data is an outcast among the humans on the Enterprise, as he is the only android there, so from a narrative standpoint, the poem fits the scene, as Data is not happy about him having to resign and move away from the Enterprise. Maddox's question is also interesting, because even though he stated earlier in the episode that Data is not sentient, this is the first time he sees Data's quarters. Maddox may begin to question his own view

on Data, because he realizes Data actually has a personality based on his different belongings and he has an own apartment with furniture like humans. Maddox's question is also evidence of himself questioning Data's sentience. If Maddox was sure that Data was not sentient, he would not have asked about the poem.

Maddox tries to persuade Data in participating in the procedure and points out that Data's memories and knowledge would remain intact. Data says that they would be reduced to facts of events, and the substance surrounding them could be lost. Data brings the poker game as an example; he had read a great deal about the game and its rules, but the actual game had much more to it than just the rules. The point in this example is that Data believes that even though Maddox may have the skills to download information into positronic brains, he believes that Maddox does not have the ability to preserve the essence of those experiences. Maddox's stance towards Data here implies that he sees Data as a machine whose memories are files of information about Data's experiences. They could be stored away and later downloaded back to Data's AI system and nothing would change. Data's own opinion about the memories instead implies that Data considers them to be memories instead of just a list of sequences that have happened to him, as he mentions the words 'substance' and 'essence'. In Data's view, he would still have records of his experiences, but they would not mean anything to him anymore, if he did not have substance or essence surrounding them. These can be compared to emotional attachment that humans have for memories. It could also be seen that Data is worried in this scene about losing his memories and personality. This is another situation of Data demonstrating humane characteristics.

"I am the culmination of one man's dream. This is not ego, or vanity. But when doctor Soong created me, he added to the substance of the Universe. If by your experiments I am destroyed, something unique, something wonderful will be lost. I cannot permit that. I must protect his dream" (Data, 17:55).

This is a clear indication of Data thinking of himself as a unique, sentient being. He knows that Maddox's experiments would not physically destroy him, but they could harm or even erase his memories and experiences. Maddox could be able to replicate Data's design, but Data would be turned into just an android among others and his uniqueness would be lost. It is also evident that

Data values himself a lot, as he uses terms like 'wonderful' to describe himself. It could also be interpreted that Data sees himself as Soong's offspring or descendant, as Data sees that Soong 'added to the substance of the Universe' when creating Data. This phrase could mean that Data sees Soong creating a child that is also a new lifeform. Data also refers to him being the culmination of Soong's dream, which could implicate that when creating Data, Soong had injected his own desired human features, morals and worldview into Data's AI system. Data has been active or 'alive' for at least some years prior to the events of TNG, so it is likely that he has developed Soong's possible morals and worldview further and created his own set of morals and 'rules' on the basis of Soong's possible implementations.

4.4 Data's appearance

Later, as Picard opposes to Maddox's plans for Data, Maddox points out that Picard is endowing Data with human characteristics based on Data's appearance. "If it were a box on wheels I would not be facing this opposition" (Maddox, 0:19). In the episode "The Quality of Life", doctor Farallon, a robotics expert, had designed small robots called exocomps to perform dangerous tasks. Unaware to her, the exocomps had regained consciousness. Farallon and Data send an exocomp to repair a plasma conduit, but it returns without repairing it. They try sending it back, but it ignores the commands and shuts itself down. Farallon thinks the exocomp malfunctioned. The conduit explodes after this. Data and Geordi run a diagnostic on the exocomp. Geordi mentions that it almost appears as if the exocomp knew when to leave. Data asks if Geordi is implying that the exocomp exhibited self-preservation. Geordi replies "Of course not" (16:52) with a faint laugh. Data does more tests with the exocomps and discovers that they are indeed sentient. Farallon finds this claim ridiculous, but the other characters take the matter seriously. However, they are not sure about it, as the tests are based on a simulation. Later, Picard and Geordi's lives are in danger, and the other characters plan to save them by forcing the exocomps to sacrifice themselves. Data prevents this and instead offers the exocomps a chance to save Picard and Geordi, and they comply. One of them gets killed in the procedure, but Picard and Geordi are saved. The other characters now realize that the exocomps are sentient, but Data knew it much earlier. The episode proves that Data's friends consider him sentient and alive partly because of his appearance.

Furthermore, Jacob Barber argues in his essay that the characters in Star Trek and the viewer treat Star Trek's characters' humanity based on the look of the characters. The viewer also partially treats the characters based on how they are inspired by or connected to real world nations or factions (Barber, 43). "Aliens and technology are both used as points of difference, divergences from an idealized human norm that are used to illustrate what does and does not constitute a bound subject that we might call 'the human' (Barber, 41). He also states that in Star Trek, the concept of human is "... not a coherent entity but something rather more fluid: an ideology that works to preserve itself by identifying 'human' traits in aliens and technologies and subsuming them under a banner of humanity" (41).

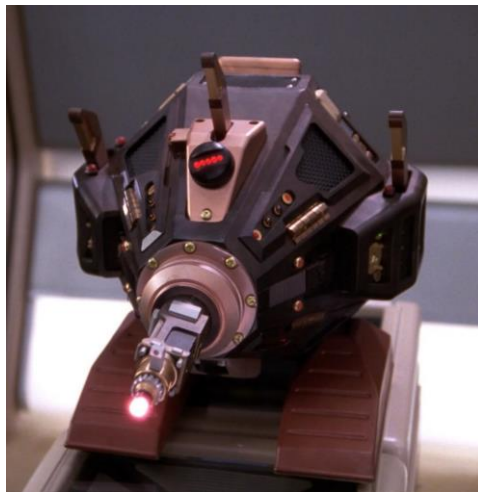


Figure 2. Exocomp in "The Quality of Life"

4.5 How Data's friends perceive him

Later in "The Measure of a Man", Data's friends know that he is leaving the Enterprise, so they have brought some wrapped gifts for him. Data opens one of the presents very carefully. Wesley Crusher, one of Data's friends, asks why Data did not rip the paper. Data replies that the paper can be reused by opening it carefully. Wesley says that it is a custom to rip the papers of the present boxes. After Data has carefully opened the present, he rips the paper anyway. Geordi seems to be sad that Data is leaving, to which Data replies that he will miss Geordi. This scene is another example of Data not understanding all the human traditions. The scene is also an example of him learning when he rips the paper. Also, to miss someone indicates caring about them. Insentient

beings would not be capable of missing anyone, so this scene is another demonstration of Data's sentience when he and Geordi show that they care about each other.

Captain Phillipa Louvois, a court martial officer, has done some research on Data. She says to Picard that Data is, in fact, considered to be property of Starfleet and therefore he cannot resign from Starfleet, nor can he refuse to cooperate with Maddox. Picard wishes to challenge this ruling and arranges a hearing to determine Data's status. To do this, she has to use serving officers as legal counsel. Picard is chosen to defend Data as a senior officer. As the next most senior officer, commander Riker is chosen to be the prosecutor in this hearing, much to his discomfort: "I can't. I won't. Data's my comrade. We have served together. I not only respect him. I consider him my friend" (Riker, 22:23). Later, Picard asks Data if he wants to choose another representative for him in the hearing, but Data states that "Captain, I have complete confidence in your ability to represent my interests" (20:26). In this scene, it is further established that the other crew members not only consider Data to be their friend, but they also respect him. Riker is very passionate about Data, as he states his opinions about Data in a strict and emotional tone. It is also shown that Data trusts Picard, as he immediately states that he has complete confidence in Picard.

4.6 Data's mechanical structure

In the beginning of the hearing, Data's identification is verified by a voice message that goes through his many accomplishments as a Starfleet officer, such as honorary medals. Riker, acting as a prosecutor, asks Data what he is, to which Data replies that he is an android. More specifically, he states that an android is defined in a dictionary as "an automaton made to resemble a human being" (27:52). Riker asks, "Who built you, Commander?" (27:58), to which Data replies "Doctor Noonien Soong" (28:02). Riker asks what Soong was and Data's answer is that he was a human. Riker also demonstrates that Data's information processing is much faster than that of humans and he is physically much stronger. Riker proceeds to ask for a permission to remove one of Data's arms away from his body to show his machine-like structure. Before doing so, he says to Data that "I'm sorry" (29:51). Riker shows Data's arm to Louvois and a lot of electrical wires are clearly visible inside the arm. Describing Data, Riker states that "Its responses dictated by an elaborate

software written by a man. Its hardware built by a man. And now... And now a man will shut it off" (30:42). Riker had studied Data's structure before the hearing and he proceeds to shut Data off by pressing an emergency shut-down switch that is located in the back of Data's body. This is followed by very dramatic music, which is used to add shock value to Data being shut off. Picard and Louvois look shocked after Data is shut off. Riker, even though he gave a very convincing performance, is visibly shocked by his own speech and actions as well.

Data's accomplishments are used to show that he has, so far, been treated equal to humans and other sentient beings in Starfleet, because otherwise he would not have honorary medals if he were treated as an insentient machine. Data's description of the term android is the first time in the episode where it is explained what it is. It is perhaps a conscious choice, because this is in the final act of the episode, so the viewer has likely built his or her own perception of what an android is. Noonien Soong has been mentioned several times in the episode before, but here Riker's questions about him highlight that Soong was a human and Data is not; Data is a machine built by a human. When Riker proceeds to remove one of Data's arms away from his body and later to shut him down, these are used to further show that Data is a machine; previously in the episode, Data's inside parts or mechanisms have not been shown. Riker is also visibly shaken after he shuts Data off and he apologizes to Data before removing Data's arm from his body. This is used to show that even though Riker is forced to act as a prosecutor, he is doing it against his own will, because he thinks of Data as a friend and a comrade. However, it could also be possible that Riker is shocked that it is possible to shut data off with a simple press of a button. This could shake Riker's own view on Data; maybe he is just a machine after all, because he can be switched off so easily.

4.7 Data's sentimentality

Later in the hearing, Picard does not deny that Data is a machine: "We too are machines, just machines of a different type" (33:41). He also points out the fact that Data was created by a human and compares this to human reproduction: "Children are created from the building blocks of their parents' DNA. Are they property? (34:09). Picard's lines here are interesting, because they stimulate both the viewer's and the characters' thinking on what it means to be sentient or human; the biological features and how we are built do not define our sentience or humanity.

Picard has brought some of Data's belongings to the hearing and he points out to Data's medals and asks him why he keeps them packed in a display case. Picard also questions what logical purpose they serve, to which Data replies "I do not know sir. I suppose none" (34:40). Data also has a book that he got as a gift from Picard. Picard asks if Data values it and Data replies "Yes, sir. It is a reminder of friendship and service" (34:46). Picard also shows Data's glass-like object that has Tasha Yar's holographic message that she left for Data before she died. Picard asks why Data has it, as it is the only portrait of a fellow crewmember that he has. At first, Data is hesitant to answer, but after Picard encourages him to do so, Data states that "She was special to me, sir. We were... intimate" (35:32). Louvois seems a bit affected by this on an emotional level, as her expression changes. Riker smiles faintly, as he knows that Picard and Data just gave really strong proof about Data's humanity.

Data's belongings were already shown earlier in the episode. However, it was not made clear why he has them. This could have been done to show Data's personality, but it was also left for the viewer to speculate why an android would have all kinds of different memorabilia. In this scene, an explanation is given to them, as Data states that the items remind him of his friendship with Picard and the other members. This means that Data has an emotional connection to them. Tasha's holographic message is also used to show that Data is capable of deeper affection, possibly even love. Data's possession of the message is not the only indication of this, but also the manner in which he talks about Tasha; there is quite a long pause before he reveals that the two were intimate. Data's intonation also changes before he says the term 'intimate'. In her essay, Gibson makes an interesting observation about the other characters in the hearing: "In their eyes, two things that confirm Data's humanity are his sentimentality and his sexuality" (231).

4.8 Data's sentience

Later in the hearing, Picard asks Maddox the meaning of the term sentience. Maddox states that the required traits for a sentient being are "Intelligence, self-awareness, consciousness" (38:48). Maddox repeats that Data is not sentient. Picard asks Maddox if Picard is sentient and Maddox responds positively. Picard asks what the difference between his and Data's sentience is. Picard asks Maddox if Data is intelligent, to which Maddox replies: "Yes. It has the ability to learn and

understand and to cope with new situations” (37:20). Data’s intelligence is already shown earlier, as he was playing poker and he had books in his belongings. However, here intelligence is established as one of the three criteria required for sentience.

Later, Picard asks Maddox what self-awareness means and why Picard himself is considered self-aware, to which Maddox replies that “Because you are conscious of your existence and actions. You are aware of yourself and your own ego” (37:40). Picard follows this by asking Data what he is doing right now, to which Data replies “I am taking part in a legal hearing to determine my rights and status – am I a person or property” (37:49)? Picard asks what is at stake. Data replies, “My right to choose. Perhaps my very life” (37:58). Picard repeats the words “My rights. My status. My right to choose” (38:01) and after a long pause, “My life” (38:10). Picard repeats the words ‘my life’ with a dramatic tone, which emphasizes the powerful meaning of the word ‘life’ and this underlines the fact that Data considers himself to be alive. Picard points out to Maddox that Data seems self-aware to him based on Data’s answers; Data is as self-aware as a person could be, because he knows where he is and why, and what the consequences in this situation are. Picard asks for Maddox’s opinion about this, but he seems troubled and even a bit confused. Maddox does not have an answer right away and he states that “This is exceedingly difficult” (38:24).

Here Maddox begins to question his own views, as he admits the difficulty of this dilemma about Data. It is possible that here he begins to think of Data as something more than a machine, as Data and Picard’s demonstration of Data’s sentience have been so convincing so far, and Data has already met two of Maddox’s criteria for sentience. Picard asks if Maddox likes Data and he does not have a clear answer. He states that he does not know Data well enough to like or dislike ‘it’. However, Maddox admits that he admires Data as an extraordinary piece of technology. Maddox reiterates that he wants to manufacture hundreds or even thousands of androids like Data if necessary. Picard states that a single Data is a unique being, but thousands of Datas would become a race and the people in that courtroom would be judged by how that race would be treated. Maddox’s dialogue demonstrates his change of attitude towards Data, even though he still considers Data to be an insentient being. Maddox possibly does not recognize it himself, but the fact that he answers Picard question about whether Maddox likes Data proves that Maddox is starting to treat Data as a person more than a machine. Maddox also uses the term ‘know’, which indicates that he thinks Data has a personality.

Picard asks Maddox what Data is, to which he replies that Data is a machine. Picard states that Data has met two of Maddox's criteria for sentience, intelligence and self-awareness and follows that "... what if he meets the third, consciousness, in even the smallest degree? What is he then? I don't know. Do you?" (39:40). Picard repeats the last question to all four members in the hearing in a deeply passionate voice and no one can answer it. Picard states that the ramifications of this hearing will expand outside of the courtroom and determine how a race of Datas would be perceived and treated. He also says that a race of Datas would be slaves if they were made to simply serve some function. Picard states that "Starfleet was founded to seek out new life. Well there it sits" (40:47). Picard's speech is very emotional, passionate and convincing. Because of the latter, Riker looks pleased again, even though he is acting as a prosecutor. Picard's passion and Riker's satisfied look further show their attachment to Data on an emotional level. The difficulty of determining what Data is, is shown in Picard's speech and his own answer to his question about Data, as well as the others' inability to answer it.

In the end of the hearing, Louvois begins her conclusion by saying that she does not know what Data is; Data is a machine, yes, but he is not the property of Starfleet. Louvois asks, "Does Data have a soul? I don't know that he has. I don't know that I have. But I have got to give him the freedom to explore that question himself" (42:09). Louvois concludes the hearing by saying that Data has a right to choose what he will do. Louvois's dialogue about Data confirms that it very difficult to determine who or what is considered to be alive or sentient. She uses the term 'soul', which is a metaphor for sentience and to being alive. The fact that she compares herself to Data is also proof that she does not know what it means to be alive and what exactly separates her, and other humans, from Data.

After the hearing, Data announces to Maddox that he refuses to undergo his procedure. However, Data politely encourages Maddox to continue his work on androids. Data admits that he found some of Maddox's proposals to be intriguing. Maddox does not look disappointed after the hearing. In fact, he looks quite emotional and clearly has built admiration towards Data. Louvois confronts Maddox, and he says about Data that "He's remarkable" (43:05). Louvois points out that Maddox did not call Data 'it'. Earlier in the episode, Maddox was antagonized in several ways. He constantly remained adamant about Data's sentience and status. He was also strict about his opinions and did not respect Data as a person, but only as a piece of technology. He was also

willing to risk Data's 'soul' in the procedure he wanted to perform, as it would have been likely that Data would have lost the essence and substance of his memories. However, this scene demonstrates that Maddox is not a bad person in the end. His goals are good, but the methods he is willing to do are not ethical. During the episode, Maddox starts to learn small bits about Data's personality and sentience, which is why Maddox's reaction to losing the case was understandable; he has grown fond of Data and starts to refer to Data as 'him', which proves that he does not consider Data to be an insentient machine anymore.

In the final scene of the episode, Riker is alone in a room, as he feels guilty for almost winning the hearing as a prosecutor. Data confronts him and says that Riker did the only thing he could do to save Data and that Data will not forget this. Riker smiles and says that "You're a wise man, my friend" (44:22), to which Data replies that "Not yet, sir, but with your help, I am learning" (44:31). The ending scene further demonstrates Data's friendship with Riker. Earlier in the episode, it was made clear that Data can process information much faster than humans. However, based on Data's final line in the episode, he values his experiences and observation with humans and considers them to be a part of him growing up and evolving. It is also shown that Data is quite humble, as he does not consider himself to be wise, at least not yet.

5 Conclusion and discussion

“The Measure of a Man” is a complex episode that raises interesting, topical questions about sentience, humanity and AI. Data is, of course, much more advanced than even the most advanced AI systems today, but as technology advances, AI is becoming more sophisticated and advanced. Data is not only used to represent artificial lifeforms, but different and new lifeforms in general. The name of the episode could have a double meaning. It may refer to both Data and Picard, as Data’s humanity and sentience are measured in the hearing. However, the episode also measures Picard’s willingness and passion to fight for Data’s rights.

In the episode, Data’s interaction with the other characters reveals that while he is a machine, he is much more than just a machine. He is a unique lifeform who resembles humans in many ways. Data’s friendship to other characters is brought up in the episode many times. In fact, the episode both begins and ends with Data interacting with his friend(s). Data is valuable to the Enterprise, as it is brought up that he is physically stronger and capable of faster information processing, but these are not the things his friends are afraid of losing, had Data been destroyed by Maddox’s procedure, but rather the essence of Data as an individual. It is also established that Data has some form of emotions, as his facial expression changes sometimes based on his interaction with different characters, for example when he first encountered Maddox in the beginning of “The Measure of a Man”. While Data has many humane characteristics, such as the need to feel authentic and form relationships with others, he also lacks some humane features like instinct and intuition. However, it is established in the episode that Data learns these, among other human elements, through observation and experience.

Other characters’ actions and dialogue reveal how they treat Data. Maddox calls Data ‘it’ for the entire episode, but in the end, he starts calling Data ‘him’, which is used as a simple way of showing Maddox’s stance towards Data changing. Other characters’ treatment of Data is also used to affect the viewer’s perception on an affective level, mostly to create sympathy towards Data. Even though Maddox was antagonized in the episode, in the end, it turns out he was not evil. He had good intentions, as an ‘army of Datas’ would have been very useful to Starfleet, as Data is established to be extremely capable as an officer, for example because he does not require sleep.

The concept of sentience and humanity are very complex, and the episode does not give a straight answer to whether Data is fully sentient. However, “The Measure of a Man” and the character of Data’s are not black and white. The purpose of Data’s character in TNG and in “The Measure of a Man” is not to give a straightforward solution to AI, or whether Data is humane or sentient. Instead, the character of Data and “The Measure of a Man” are used to construct and discuss the dilemma of humanity, sentience and AI and the ethical questions regarding them. Data is also used as a story-telling tool to highlight and point out certain human elements, as he constantly questions the actions and behavior of human characters.

For further studies, it would be interesting to analyze Data’s evolution and development as a character through the course of the whole *Star Trek: The Next Generation* series and its four films. It would also be interesting to compare Data and his behavior and actions to other fictional AI characters or real-life AI systems or individuals. The latter could prove to be difficult since most AI systems are not complex or advanced as Data is, at least not yet.

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