

Sentience in Science Fiction 101

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OXFORD DICTIONARIES defines sentience as the ability to perceive or feel. Bortolotti and Harris emphasise the distinction between the capacity to have experiences and react appropriately to external stimuli (sentience) and the additional capacity to be aware of oneself as a distinct individual whose existence began sometime in the past and will extend into the future (self-consciousness). The authors contend that reactive behaviour without intentionality is not 'sentience' as it does not involve phenomenal consciousness and is merely the capacity to react to external stimuli. Plants and computers have this property without being aware of the qualitative aspects of the stimuli they react to. Having phenomenal conscious experiences requires the awareness of some qualitative aspects (or qualia) of the experiences, for instance the brightness of a colour one perceives visually (Dennett).

Another characterization of sentience is the capacity to feel emotions, such as pain or pleasure. While plants and computers react to external stimuli, they do not feel emotions. This concept is central to the philosophy of animal rights, since sentience is necessary for the ability to suffer, and is thus held to confer certain rights. Indeed, Ned Block asserts that 'fundamentally different physical realization from us *per se* is not a ground of rational belief in lack of consciousness' (Block 392). Furthermore, Marc Bekoff believes that humans are not exceptional or alone in the arena of sentience. He insists that we need to abandon the anthropocentric view that only big-brained animals such as ourselves, non-human great apes, elephants and cetaceans have sufficient mental capacity for complex forms of sentience and consciousness.

In science fiction, an alien, android, robot, hologram or computer described as 'sentient' is usually treated in the same way as a human being. Foremost among these properties is human level intelligence (sapience) but sentient characters also typically display desire, will, consciousness, ethic, personality, insight and humour. Sentience is used in this context to describe an essential human property that unites all of these other qualities. The words 'sapience', 'self-awareness' and 'consciousness' are used in similar ways and sometimes – and confusingly –

interchangeably in science fiction.

This genre has explored several other forms of consciousness besides that of humanity, along with the way in which such minds might perceive and function. In “The Pinocchio Syndrome and the Prosthetic Impulse in Science Fiction,” Grech (2012) opines that three components constitute the mental and psychological aspects that define man; ‘the desire to acquire ‘qualia’, the expression of intentionality; and an application of an Abraham Maslow-type motivational pyramid, with a desire for self-actualisation that embraces the desire to attain humanity.’ These three facets, Grech notes, are demonstrated through the character Data in *Star Trek*. Those who meet Commander Data are reasonably sure that he is conscious. However, finding out that he is not human does not cancel that ground for rational belief in his consciousness. Block argues that ‘the root of the epistemic problem is that the example of consciousness on which it is inevitably based is us. But how can science based on us generalize to creatures that do not share our physical properties?’ (Block 295).

Block furthermore claims that naturalism asserts that the default position is that Commander Data, being an artificial construct, is not conscious. On the other hand, disjunctivism allows that if Commander Data is conscious, shared phenomenality is constituted by the possibility of having Commander Data’s electronic or electro-chemical realization of our functional state.

Such debates can provide a basis and a framework for the issues of sentience and non-sentience that arise in science fiction narratives. The trope of sentience is mooted in *Frankenstein*, which is said to be the first Science Fiction novel (Aldiss). The monster’s sapience is raised throughout the book with several interjections by the monster himself with regard to feelings of rejection and loneliness. On the other hand, Frankenstein’s ambivalence toward his creation reinforces the frankly callous scepticism he held toward the monster as a sentient life form. Indeed, the monster remains unnamed and is instead referred to as ‘monster,’ ‘creature,’ ‘demon,’ ‘devil,’ ‘fiend,’ ‘witch’ and ‘it.’

Fast forward in time, readers of science fiction frequently encounter the same ambivalence in the treatment of sentience in science fiction narratives. The notion of advanced robots with human-type intelligence has been mooted for decades. Samuel Butler was the first to raise this issue, in a number

of articles contributed to a local periodical in New Zealand and later developed into the three chapters of his novel *Erewhon*. Various scenarios have been proposed for categorizing the general themes dealing with artificial intelligence in science fiction. The main approaches are AI dominance, human dominance and sentience. This paper aims to analyse how sentience is treated in Viehl’s *Star Doc* Series, particularly in the first book in the series, *Star Doc*, as well as in specific episodes in *Star Trek*.

Sentience in Viehl’s *Star Doc*

Doctor Cherijo Grey Veil is a doctor and surgeon who accepts a position as a physician at Kevarzanga-2’s Free Clinic. Her surgical expertise is desperately needed on this frontier world with over two hundred sentient species, and her understanding of alien physiology is a consequence of a keen intelligence and an eidetic memory. But there is a hidden truth behind her expertise. Dr Cherijo is a genetically enhanced clone, an experiment conducted by her father who is the archetypal cold, calculating and ruthless scientist-physician. It transpires that Dr. Cherijo was the first successful outcome after ten unsuccessful attempts. She is superhuman with a superior capacity for learning and an enhanced immune system which transcends that of mundane humanity.

The denial of this individual’s sentience reaches its denouement with a rigorous four day trial, and the decision for subsequent deportment of the protagonist to Earth because it has been proven that her existence, the result of Joseph Grey Veil’s experimentation and his violation of the “Genetic Exclusivity Act” breaks ‘Section nine, paragraphs two through four’ of the League’s Treatise which prohibits such experiments.

Her only minimal chance for an appeal, as suggested by Dr Mayer, chief medical officer, is to petition to the ruling council with an emergency request to be declared a sentient being. The protagonist is ‘a clone-created, modified, trained being observed during an extended experiment. You are not classified as human or sentient. You are Joseph Grey Veil’s property.’ Being genetically enhanced during embryonic development, she is deemed unclassifiable as the “Genetic Exclusivity Act” has been breached.

The best reason for Cherijo to be declared sentient is given by nurse Ecla. She claims that non-sentient life forms do not have the ability to understand the meaning of death. Nonetheless, during an epidemic,

Dr Grey was seen many times 'holding a dead child in her arms, and praying to her God for that lost little soul'. What is even more bigoted in Dr Grey Veil's trial is the criteria for which she did not meet and thus denied sentient status: she had not been conceived, gestated or delivered by natural or legally sanctioned methods; was in possession of 'enhancement deliberately bred by experimentation'; and never been allowed to live freely. These three main criteria move away from the epistemology of consciousness *per se*. However, Block debates the role of functional similarity in providing evidence that others are like us in intrinsic physical respects, and that is the ground for our belief in other minds.

Throughout the *Star Doc* series we encounter other life forms with similar issues related to sentience. The sentience status of a Chakacat called Alunthri, a human sized cat with human-equivalent intellectual abilities and language skills is raised and debated in *Star Doc*. Chakacats 'once captured and trained' are sold as domesticates [...] there is some controversy about their classification. Effort by Council petition to have them recognized as sentient life forms have been consistently denied' (Viehl 80).

The deliberate stance taken by Dr Grey Veil is 'Alunthri, I couldn't treat you like a domesticated companion. In my eyes you are sentient' (Viehl 185), which parallels Block's arguments in favour of sentience. This occurs when Alunthri seeks her assistance to transfer him under her ownership. Without deed, under the terms of the current colonial charter, he would be shipped back to his home world and resold. He specifically asked for Veil's ownership because he knew that Veil would give him this freedom. The working definition of sentience comes into full force here where the ability to feel, perceive or to experience subjectivity is most palpable.

Sentience in *Star Trek*

Similar issues about sentience also arise in *Star Trek*. In 2365, Phillipa Louvois of the Judge Advocate General's Office held a hearing in which she decided that Data was not the property of Starfleet. During the hearing the question of an android's sentience came up but there was no formal, legal resolution on the matter (TNG: "The Measure of Man," Scheerer). Despite a lack of official acknowledgement, Data thought himself to be sentient and many others agreed. (TNG, "The Offspring," Frakes; "The Most Toys," Bond) so much so that as of 2371, Data was

considered the only sentient artificial lifeform in Federation Society (VOY, "Prototype," Frakes).

From time to time other non-android life forms or artificial intelligences have also been considered sentient. In the episode "Warhead" (Kretchmer), a weapon was so sophisticated that it was considered sentient. Holograms have also been referred to as both artificial lifeforms and 'sentient.' One such sentient hologram was created on the USS Enterprise – D in 2365, when Lieutenant Commander Geordie La Forge requested that the holodeck create an opponent worthy of Data in a Sherlock Holmes style mystery. The ship's computer produced a sentient version of James Moriarty, Holmes' nemesis.

A legal case related to holographic sentience arose with the *Voyager* Doctor when he attempted to publish a holonovel entitled "Photons Be Free," but it was appropriated and released without his permission by his publisher. The legal issue revolved around whether the doctor was an 'artist' within the meaning of the laws that granted rights to control the dissemination of intellectual property. The ruling was narrow in that the definition of artist in that single law was extended to a hologram, but it was an important step on the path toward granting full legal status to a hologram as a sentient entity (VOY, "Author, Author," Livingstone).

Non-humanoid non-carbon based life forms are also accorded this courtesy. In "The Devil in the Dark" (Pevney), Captain Kirk senses a Horta's intelligence – a silicon-based life form who backs off when Kirk raises his phaser while displaying a wound from an earlier encounter. Consequently, Spock initiates a Vulcan mind meld to communicate with the creature. He learns that it is a sentient creature and is in extreme pain. The Horta learns enough to etch the ambiguous 'NO KILL I' into the floor. Another mind meld reveals that the Horta is preparing for the extinction of its race. It directed the humans to "the Chamber of the Ages." Kirk tells Mr Spock to communicate to the creature that they are trying to help. He goes to the Chamber and finds a million silicon spheres, which Kirk and Spock now understand are eggs ready to hatch.

The extended respect for the silicon based life form shown by both Captain Kirk and Mr Spock is a philosophical concept espoused by the modern philosopher Tom Regan. Regan argues that life matters to the individual, whether human or otherwise, and for the sake of consistency, respect for non-human

life should always be endorsed. Regan (2004) opines that rational and non-rational beings, earthly or alien, must be treated with Regan's 'respect principle' or 'subjects-of-a-life' and should never be merely treated as means to the ends of others (Regan).

Discussion

The treatment of sentience in science fiction narratives has been a cause of ambivalence toward acceptance of sentient non-human life forms and their quest for human rights, with both the legal and ethical implications that this may bring.

In *Star Doc* and *Star Trek*, the same hesitancy to accept sentient life forms is encountered. Both Doctor Cherijo and Data are artificial life forms. Doctor Cherijo is the result of a successful laboratory experiment carried out by her father, while Commander Data is an android possessing excessive rationalism and incapable of conveying emotions. The notion of being regarded as the 'Other' is explicit throughout various incidents culminating in the trials they both had to undergo. These implications seem to suggest that while science fiction narratives acknowledge sapience and sentience in other life forms, these same narratives resist giving the prescribed rights, both ethical and legal, which are automatically attributed to human beings.

The recent film *Ex Machina* written and directed by Alex Garland implies the same resistance in elevating man-made life forms to human levels of regard. *Ex Machina* takes us into the not too distant future where a genius billionaire has created the world's first fully sentient artificial intelligence, in the beguiling female form of Ava. He invites a low level employee Caleb to his remote laboratory home to apply the Turing Test to his creation. The film tries to marry the juxtaposition inherent in the central idea that the machine is man-made, but that Caleb is there to wonder if intelligence is necessarily human, and whether she has human-type intelligence. Ava is not fully robotic nor fully skinned or human, thus the viewers are constantly reminded that she is still a machine.

Issues on sentience in these narratives lend themselves to contemporary debates such as stem cell research, personhood and sentience. In their paper 'Stem Cell Research, Personhood and Sentience,' Bartolotti and Harris claim that in ordinary language we identify persons with human beings but the notion of a person is not co-extensive with the

notion of a human being. More specifically, whereas an individual counts as a human being if it belongs to the species *Homo Sapiens*, it counts as a person not by virtue of species membership, but of the capacities it possesses. Bartolotti and Harris contend that empirical studies rule out that human embryos and fetuses are persons, as they do not satisfy the requirements for personhood i.e. rationality and self-consciousness. The conclusion is that it is immoral to prevent the development of an embryo because the embryo has the potential to become a person. This relies on the assumption that one should treat a potential person as one treats a person. However, there are direct moral obligations toward persons by virtue of their interests in their own well-being. Is it justified to grant the same moral status to early embryos that have no interests in their own well-being?

On the other hand, according to the principle of human dignity, in a formulation that can be found in Kant (1785), human life should never be thought of merely as a means but always also as an end. Inspired by Kant's formulations, some might argue that human embryos cannot be treated just as a means to further research as this would violate the principle of human dignity. Steinbock (1997) and Roberston (1995) shed light on another important viewpoint. They claim that human embryos occupy that space in between fully-fledged persons with rights and interests and insentient beings with no symbolic value. Personhood and sentience are often argued for their moral significance. In both science fiction narratives and in real life, what defines life forms as sentient falls in a grey area lending itself to the numerous debates on the issues of sentience.

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