Doru Pop

Replicant Theologies of the Early Robocene or The Covenant of Procreating Replicants, Cybernetic Fertility and Divine Androids

Abstract: The main premise of this paper is based on the hypothesis that classical definitions about posthumanism are now contested by the transformations in artificial intelligence research. The most important argument here is that we are at the dawn of a new era, where humans and thinking machines are substituted by procreating humanoids. Such possible transformations of human-humanoid interactions are interpreted by using two case studies, two cinematic posthuman narratives from the science fiction genre – two 2017 productions centered on new representations robotic life: *Blade Runner 2049* and *Alien: Covenant*.

Keywords: Cybernetic Posthumanity; The Posthuman Subject; Posthuman Bodies; The Posthuman Condition; Posthuman Culture or Posthuman Society.

Doru Pop
Babes-Bolyai University, Cluj-Napoca, Romania
popdoru@gmail.com

DOI: 10.24193/cechinox.2018.34.10

We are at the dawn of a new era. Hubots or humanoids, robotic machines that behave like humans, are increasingly part of our society. Some accept these changes as inevitable, others fear the worse. Recently the features displayed by Atlas, the machine created by the researchers at Boston Dynamic, led Elon Musk, the CEO of Tesla, to join the chorus of prophets menacing us with the dangers of artificial intelligence getting out of control. In some contexts human-like robots, who are developing social interaction skills at unprecedented levels, are fully accepted. The most mediated example today is Sophia, the self-proclaimed artificial intelligence which claimed she lived as a "real live electronic girl," and which announced publicly that she wanted to create her own family. Sophia, and her possible future hubot partner, would most probably live in Saudi Arabia, where the robot has already got full citizenship. There they could raise their "children," as this primeval "hubot" announced that machines like her deserved to have offspring.[1]

The very existence of Sophia – which raises several other ethical and ideological questions, such as the hypocritical acceptance of a woman robot in a society refusing

basic rights to human females – brings up an important transformation we are witnessing in our day and age. More serious than the TV shows where this so-called "first artificial intelligence of the planet" displayed her sarcastic abilities in several interactions with human interviewers, the problem of cybernetic posthumanity is now at explicitly part of public debate. For the purpose of this analysis, examples from recent cinematic representations show that a radical turn in our understanding of posthumanism is taking place and offer us a glimpse of the developing imagination about what posthumanity could look like.

While the idea of human-robot sexual relationships is not a novelty, as robot-human interactions are illustrated by films like *Bicentennial Man* (1999), which explores the possible love between a robot and a human being, or TV series like the Swedish produced *Real Humans* (with its US version *Almost Human*), we are gradually moving from humanoid robots simply coexisting "naturally" with human beings, towards the possibility of procreation by replicant machines. Together with the provocative concept of cybernetic fertility and the expansion of what it means to be "human" beyond our species, we have to consider the possibility that *anthropos* is gradually being substituted by another entity. This is why some of our classical definitions of posthumanism and the understandings of the limits of posthumanity are today contested, as shown by a couple of recent cinematic narratives, which anticipate the radical transformation posthumanity. We are entering into the "robocene."

When the Nobel laureate Paul Crutzen and his colleague Eugene Stroemer (2000) suggested that the planet Earth was defined by a new geological era called the "anthropocene," an age in which the ultimate results of a continuously proliferating humanity were causing a radical transformation of the ecosystem of the planet,[2] they were describing an already existing reality ushered by the industrial revolution two centuries ago. Yet, just like the mammoth or the saber-tooth carnivores that coexisted with humans at the beginning of the Holocene, planetary eras are intertwined and my main contention here is that we are at the threshold of another age, where increasingly nonhumans that are created by humanity coexist with us. These beings, who are already beyond posthumanity, are the early stages of a new era that can be called the "robocene." The robocene is a day and age in which artificially created beings gradually impact life on earth at a level that grows more relevant than that of humans. As the robocene brings our civilization beyond centuries old fears of mankind, which was always feeling that its supremacy could come to an end (also explicitly conveyed in an excessively large number of movies depicting robots destroying humanity), recent cinematic representations show us the possible theologies of this new age. The following interpretation will be based on two case studies, two science fiction narratives centered on new representations of humanoid existence transcending humanism: *Blade Runner 2049* and *Alien: Covenant.*

Cybernetic Fertilities and the Procreating Replicants

Denis Villeneuve, the French director who developed the project of continuing the story of the *Blade Runner*

created by Ridley Scott in 1982, explores in *Blade Runner 2049* a couple of dimensions of posthumanism that are clearly connected with the contemporary evolutions of artificial intelligence technologies today. The sequel of the classical cinematic version of Philip K. Dick's novel *Do Androids Dream of Electronic Sheep?* is founded on the trope of cybernetic fertility, exploring the myth of the "miraculous birth" of a replicant child. While the idea of robots building their own offspring (not only other robots) has already been explored in recent sci-fi movies, such as *Autómata* (2014), the possibility of replicant children, "born" out of a sexual intercourse between machines, brings us to a much more complex and convoluted philosophical dilemma.

The main story follows officer "K," a replicant of a new generation, who not only looks like a real human being, but is also more obedient that the "old" models. K is in the middle of an investigation, determined to eliminate an undetected Nexus-8 android, named Sapper Morton. During the process of "retiring" he finds out that, for the very first time, an artificial being was "born, not made."

This natural birth of a replicant child from a replicant mother becomes the central point of the plot which takes K, the replicant officer of a new generation, named Nexus 9, to the limits of his identity. When this obedient robotic policeman finds a skeleton under a dried tree in the middle of the protein farm managed by Sapper Morton, the old model he managed to "retire," the replicant agent also discovers what proves to be a fractured iliac bone, with the marks of a pressure exerted by a C section. These bones found in a sacred burial chest can lead to only one conclusion: a female robotic being has engendered another robotic being. Later the clues will take K to the conclusion that the offspring is the result of the sexual union between Rachael and Deckard (the heroes of the first Blade Runner). This event, described by Sapper Morton as nothing less than a "miracle," one that all the replicants were waiting for, and one that humans want to either erase or capitalize upon, is "Tyrell's last trick." The creator of the replicants has designed a machine not only able to show emotions, but also one able to give birth.

The idea of a love relationship between humans and machines is one of the oldest archetypal fantasies of mankind. From the ancient Galatea, the statue becoming a living object of desire for Pygmalion, to the contemporary sexbots and gynoids, the existence of artificially created women catering to the needs of men has pushed the boundaries of human sexuality. Some authors have suggested that the evolution of robotics will bring about the possibility of humans marrying robots by the year 2050,[3] and others have argued that the changes in human reproductive systems and technological interventions have transformed our own nature. This is the classical suggestion put forward by Donna Haraway, who claimed in her influential work discussing the relationship between cyborgs and posthumanity, that a transformation of sexuality is an important step in the transformation of our essence as humans, which is leading to the conclusion that we are all "chimeras," results of cyborg replication, hybrids of humans and machines.[4]

The idea of robots with fully functional reproductive systems is omnipresent in cinematic storytelling, as the topic has

often been used in science fiction movies. One of the most impressive examples remains the first *Blade Runner* (1982), in which Ridley Scott ambiguously led his viewers to believe that the relationship between the replicant Rachael and the human detective Deckard was the shocking outcome of a possible future. Later, in the director's cut version of the film, Scott undermined this robot and human love relationship and claimed that Deckard himself was a replicant. Nevertheless Rachael, the experimental Nexus-7 replicant endowed with almost emotions was at that time, as suggestively elaborated by Julie Wosk, a "synthetic Galatea."[5] Such representations of artificial women resuscitating the ancient myth of Pygmalion made female robots and other similar artificial creatures, projections of male fantasies. Other posthumanistic dystopias, such as the future anticipated by *A.I. Artificial Intelligence* (2001), where prostitute "Mechas," designed to mimic affection in male sex robots, show that the fulfillment of our desires by machines is more than ideological speculation.

Yet, when discussing these movies about robotic future, there is also another important posthumanist transformation visible, one which takes a humanity needing machines, or the machines providing humans with their sexual fantasies, to the idea of self-replicating robots. One of the most suggestive illustrations is *Autómata* (2014), created by the Spanish director Gabe Ibáñez. In this post-apocalyptic story, a new species of robots is created by a couple of new "robo sapiens." Cleo, a self-repairing gynoid and the evolved "clock-smith" robot that evaded human control, are now the new Adam and Eve of the new species. They go out into the toxic desert where they begin their own civilization together with their offspring. These self-replicating robots are creating a new being from small components, body parts of other robots, building a composite being that is more similar to a cockroach that any human. This insect-like creature is a new breed of robotic being – one already present today in many existing machines, like the roach-bots created at UC Berkeley – which is driven by a nuclear battery and could probably live forever.

Such cinematic representations are depicting what Ray Kurzweil predicted the next step in evolution would be, an epoch in which machines and humans will produce a larger phenomenon.[6] Other authors, like Menzel and D'Aluisio, anticipated that this evolution would bring about a new "robo sapiens" species and that an intelligent robotic species is inevitable.[7] If this is the case, then a theology of the birth of this race would inherently include such products of imagination as the recent movies discussed here.

Do Androids Dream of Their Messiah Too?

Blade Runner 2049 (*BR2049*) transforms the initial story of Philip K. Dick and brings a more contemporary dilemma, one that takes the posthumanist debate into an whole new dimension, that of a *non-human humanity*. By avoiding all the ambiguities of the initial *Blade Runner*, the French director transforms Rachael and Deckard into the founding Mother and the Father of a new robot sapiens race. The replicants now have a "Holy Robotic Trinity," one that is mimicking not only

the sacred family, but also the structural theologies of Christianity. This is the dawn of the robocene, the manifestation of an era in which cybernetic fertility and procreating replicants no longer need humans, as they develop their own divine system and their own theology.

The miraculous birth of the robot Messiah follows the mythological structure of old human myths, where heroes, sacred figures or demigods are born to infertile parents. Here the ability of the replicant Rachael to naturally reproduce, induced by Tyrell, the original creator of the replicants of the Nexus series, is similar to the promise received by Abraham and Sara, to conceive their promised offspring at an age beyond reproductive capacities. The same happens with the Buddha, who is born after a long sterility of his parents, or in the famous Isaiah 7:14 verse, which will lie at the foundation of Christianity. Also, the replicant Savior grows in an environment that is typically a human archetype noted by Jung. The virgin birth is always followed by a difficult childhood, integral elements for the development of any hero overcoming his inabilities.[8] The destiny of K is, at this level, not necessarily a "new" model; it is, in fact, a manifestation of several human archetypes.

In the center of the new system of belief, where the replicant version of the sacred child opens the way for a new race, is the out-of-the-ordinary machine, liberated from the production cycle. Resulting from the imponderable "love" of two other machines, the Messiah of the robocene is "born not made." And just as it was in the case of Jesus, for the Replicant Freedom Movement, or the Replicant resistance, he is a political figure, while for others the child is explicitly seen a Savior, the "unbegotten" and almost divine being. The Christ model is recurrent – hidden away from the revenge of an obsolete humanity, raised by a step father (the replicant Sapper Morton), this child is more than just the result of the ambivalent dynamics of human-replicant intercourse, and these are not machines making other machines, as is the case with movies like the *Terminator* series or the Cylons in *Battlestar Galactica*, engineered in amniotic fluids. The possibility of robot birth is the fulfillment of an impossible promise, a "never seen miracle," as claimed by Sapper Morton before he is "retired" by K. As Agent K later tells his chief, the Madam controlling the L.A.P.D of the future, "to be born is to have a soul." Thus the philosophical and theological assumption here is contained by the idea that once an artificial being is born not made, this is transcending the conditioning of its own creation.

Further implications of such religious connotations must be linked with one of the most debated topics of the famous Christian Nicene Creed: "I believe in Christ... born not made" (in Latin: *genitum, non factum*). The famous Council of Nicaea, held in 325 AD, which dealt with an important issue of early Christianity – confronted with Arianism and other heretic views about the nature of the Son – allowed the early fathers of the Church to develop a fundamental dogma. Elaborated against the hypothesis that Christ was merely human, it also rejected the idea that the consubstantial God could be a creature. The dilemma was resolved by referring to the text of Genesis 1, where God the Creator presents himself as a Maker and uses the plural: "Let us make man in our image." This self-reflexive divinity, musing about his plans, is using the verb "poiesomen" (*ποιήσωμεν*), a plural long debated, which is resolved in the Christian theology

with the concept of the Holy Trinity. The importance of the complex distinctions made at that time was that it dealt with the problem of the "generating God," perhaps one of the most intricate theological questions of Christianity. If the Son is "made" by God, then he would be a "thing" of the divine action, thus losing his own divinity. And while all beings are "crafted," resulting from the work of the hands of the Lord, the Son is simply "begotten," thus allowing him to be present at the moment of creation.

The new theology of the robocene faces a similar problem. In a strictly technical sense any creation of a robot is a result of replication, an act of imitation, which makes all androids basically versions of humanity, which makes them, in turn, subservient and secondary. K, one of the numerous humanoid robots that populate an overcrowded Los Angeles of the future, starts to believe that he is this replicant Messiah. He discovers that the date on the dried tree is identical with the birthdate on the wooden horse he remembers: 6.10.21. This is another biblical reference that BR 2049 uses from the Genesis. The sacred text in which God announces his plans to wipe out all humanity for its decadence, while advising Noah to build an ark which will provide salvation for a chosen group of faithful, is indirectly speaking about the appearance of a new race, a new humanity that would be purified of the defects of the "old" humanity. Just like Christ, the miraculous child was hidden from the wrath of King Herod, or Moses before him was saved by hiding, the story of Villeneuve reuses the myth of the "hidden child." In this case, arriving at the orphanage/labor camp of Morill Cole, K starts to believe for a while that he could be the Messiah of the replicants. Later, while searching the data archives, K discovers that Rachael and Deckard's relationship resulted in twins, two identical DNA sequences of a boy and a girl which match, with the girl's processed as dead by the "Galatians" syndrome. The plot takes an unexpected twist, as the Savior of the replicants could be a woman, the dream builder Ana Stelline.

It becomes clear that *BR 2049* is constructed out of a series of building blocks of symbolic and mythological references. From the direct connection to the miracle birth depicted in many ancient religions, which leads to the android version of the Messiah, to the myth of the divine twins, explored by other cinematic mythologies like Luke and Leia in *Star Wars*, the story is filled with human tropes. This is the case with the symbol of the dried tree, where the coffin holding the remains of the First Replicant Mother is found, a transparent reproduction of the tree of life. Associated with the tree of knowledge from the Bible and the Sumerian myth of the garden of Marduk, such cosmogonic elements are integrated into the replicant mythologies.

More relevantly, the recent production supervised by Ridley Scott explores other limits of posthumanity, as the recent sequel of *Blade Runner* is taking us into a dimension of reality in which human-like robots, artificial humanoids can exist without needing humans.

Towards a Posthumanity Without Humans

The love relationship between K and his home operating system called "Joi" is one of the most profound posthumanistic representations in recent cinema. Joi is a generic software designed to be

projected by a home video emanator, and works very similarly to an evolved version of Amazon's Alexa. Manifested as a hologram in the shape of an appealing woman, Joi is a voice-operated program which is managing all the activities in the home of "Constant K." This artificial intelligence, which functions like an OS surrogate of a wife, assists K in his daily routine, prepares his meals and even provides emotional support.

The metaphor of a possible embodiment of an artificial womanhood was previously explored by another remarkable movie, *Her* (2013). Also speculating about the limits of posthumanity, the Spike Jonze film has the love of Theodore for Samantha, his telephone operating system, limited by technological boundaries. In the Villeneuve movie the hybridization between artificial intelligence, human-like machines and humans is no longer desired. Now robots are presented as no longer needing the presence or interaction with humans. They only use human features for their own use. In fact, this is the most important development of a new posthuman imaginary, which is pushing the restrictions into a transhumanist framework. Cybernetic systems are no longer simply mimicking humanity, but rather create an existence as autonomously living beings. Our new technologies are no longer menacing to replace human life; they represent a parallel alternative to human existence.

At some point this hologram wife brings another replicant gynoid to the apartment building of K – where from some undisclosed reasons Hungarian is the common language – and uses that being for lovemaking. It is no longer machines that fall in love with humans, or humans who use machines for their desires. K, a humanoid machine falls in love with a virtual technological being and they make love by a using a surrogate female robot. This substitute of a dysfunctional family relationship has robotic creatures in a most uncanny scene of the movie. The erotic interactions where the sexual act involves a hologramatic existence, the corporeal projection of Joi, overlapped onto another body of a robot, while making love to an android, is spectacular.

Without dealing with the sexist undertones of this representation (as Joi is the typical housewife who cooks, cleans and, more importantly, provides emotional comfort and is loose sexually), the Joi hologram brings the troubled relationship between humans and non-humans, a major trope of robot science fiction movies, to a new level. Contrasting with other recent examples like *Ex Machina* (2015) or *Wall-E* (2008), the uncanny dynamics of love and affection between machines has an added factor. Like Samantha in *Her*, Joi has no physical body, yet caries all the qualities of an emotional partner. When K uses a portable "Emanator," he fears that he will endanger Joi's integrity, yet he needs her with him not only because she is constantly telling K that he is "special," but also because she becomes his life companion. When K discovers his potential identity she calls him "Joe" (probably a diminutive for Joseph, which makes his initials J. K., another Christ-like feature) and encourages him to become a "real boy." The male fantasy transparent in other narratives is not expressed as a total relationship between two artificial beings, completing each other. Humans and human desire are totally removed.

Genesis 2.0 or the Unholy Cyborg Covenant

In Jewish and later Christian theology, another myth of creation is central for the development of religious imagination. Monotheism, based on the story in Genesis 1: 26-27, has an internal conflict of a dialectical nature, explicitly embedded in the fact that at the moment of creating mankind, Elohim speaks with a much contested plural. Nevertheless, for the current argument, what is more important is the fact that, in the middle of the process of "making" a race in his own image, as a similitude of the Creator himself, the term used for this act (ποιήσωμεν, *faciamus*) involves a form of production. Often the translation of God's gesture of creating man uses the metaphor of a humanity made in the image of the divine (*eikona theou*). Yet, as indicated by the other significations of the Hebrew word *ṣelem*, which also describes making statues and objects representing the divine, there is a more complex suggestion, one showing a relationship between the created being and the Maker which not only involves subordination, but also a certain replication of a second degree. The Maker goes through a material process in order to produce mankind, taking earth and modeling it just like an artist would do with objects.

Relevantly enough, many theologies of creation are based on similar accounts. In polytheistic mythologies which describe the appearance of the First Man there is always a divine "Maker," a *deus faber*, who "produces" this new race out of its own body, using blood and earth, as is the case of Marduk, the Babylonian supreme God.[9] The trope of creation from bodily parts, or even body waste, also appears in the Rig Veda, where the first man is dismembered and then re-assembled by Purusha. In other mythologies, such as the Egyptian legends, creation is a result of bodily fluids, as Atum is secreting semen and tears to generate his offspring.

Just like Elohim, who engenders humanity in his own image, then offering his creation power over all other life forms, robots are the closest to our own relationship with Creation. Made in our image, androids, robots, and other machines that are similar to humans remain, of all the technological advances that we have created, our similitude. A difficult question, already raised by many prophets of post-apocalyptic posthumanism, is what happens when the created humanoids want to be liberated from their human creators?

There are several cinematic examples which point to a posthuman evolution of these creations of mankind. Many novels and movies illustrate this ultimate fear of humanity, that artificial life in the form of androids, cyborgs or robots will end human existence by claiming its own superiority. Our inherent technophobia[10] is often describing a future in which, just like HAL in *2001: A Space Odyssey* (1968), artificial intelligence and technology tend to destroy those that created them. The theme is recurrent in science fiction cinema and this anxiety of the defective machine is once again illustrated by another classical Ridley Scott movie, the first *Alien* (1979). In this initial story the science officer Ash, identified as an android during the movie, is putting in danger the crew of the Nostromo ship. Due to the absence of inhibitors, Ash expresses his disdain for humanity, mocking the crew when faced with their imminent destruction. The android Ash anticipates another android created by the imagination

of Ridley Scott, David 8. First appearing in *Prometheus* (2012), the prequel of the *Alien* saga based on the idea of humanity searching for its Creators, the elusive Space Jockeys or Engineers, David is a humanoid creature specially made by Peter Weyland, the CEO of Weyland Corporation. Weyland financed the search for the creators of mankind, as his sources traced the Engineers on the moon LV-223. There, in a scene available on the Blu-ray version of the film, Weyland declares that his company made David from nothing and then states that he and the Engineer are thus superior beings; that they are gods, and gods never die.

After the demise of his "father" and the death of the woman he was emotionally connected to, David returns in the most recent *Alien* franchise entitled *Covenant*. After exterminating the Engineers on their own home planet, David begins experimenting with the famous black mutagen, trying to create a new species, one that would make him in turn a Creator. In *Alien: Covenant* (2017) is revealed one of the most important "secrets" of the Alien saga: how the strange alien species of Xenomorphs was created. The suggestion is that they were bio-engineered by the stranded android David, who experimented with various versions of the bipedal Xenomorph in his cave of horrors. The reasoning is that, if the Engineers have created mankind, and humans have created the robots, then the robots are second grade creations, with David trying to break this cycle of subordination by creating himself.

Once again, Ridley Scott uses a deep Biblical sub-text in his movie. The title and the story are direct references to the "Davidic Covenant," the agreement Yahweh made with the king of Israel, following the Noah, Abraham and Moses covenants. As stated in 2 Samuel 7 12:13, there is a Messianic promise from God to David, that a Savior will be engendered from the lineage of the Jewish King, and that he will create a kingdom that will endure forever. In an accelerated process of artificial selection, David is attempting to create his own alien "people," a new species resulting from the destruction of the previous ones. The covenantal nature of the relationship between David the Creator robot and his creation is again transparently referring to the Covenant of God with the "chosen people." Like God, who created mankind and then destroyed it (at least once – during the Flood), David is assuming the functions of a "godlike" maker. Just like in the theology of the early Jewish Covenants, God creates His people and then establishes it as a separate race, David, the android with divine impulses, uses the crates of black liquid to unleash his own destruction.

The inherent message of the Biblical covenant, which is the restoration of a new human race, with Noah's bloodline at the core of re-establishing life, is that the power given to David lies now with the Xenomorph race. Now post-humanity becomes the total lack of any form of humans, as the covenantal agreement is that the human strain will be either destroyed or replaced by another, better lineage. When David refuses his human condition by creating an alien race, far superior to any other beings in the universe, he expresses the same promise that Yahweh makes, the multiplication of a new race and the proclaiming of its superiority (Genesis 15 1-5). And just like Abraham and Sara were an infertile couple, Abraham later becoming the father of many nations, David and Elisabeth are a robot-human couple totally lacking the ability to procreate.

The creation of the xenomorph species, far superior to *homo sapiens* and even their creators, the Engineers, was originally based on the gothic designs of H. R. Giger, who recognized that, when creating these monsters, he had coalesced several other animals into a single being.[11] The coming into being of these creatures, now part of our popular culture mythology, spreading from comic books to video games, having corrosive acid instead of blood, was never explained. *Alien: Covenant* is suggesting that they are a result of a posthuman ethics, the product of a form of existence without any conscience. The problem of immoral robots brings us back to the question of posthuman morality. As is the case with Scott's version of posthumanism, in the confrontation between the "good" robot (the Walter One version of android) and his evil counterpart (David) the absence of law is equal with the lack of humanity.

The idea of a divine-like robot has already been used in Isaac Asimov's classical *Foundation* trilogy. There the plot device of immortal robot Gods, possessing positronic brains, who are overviewing the development of humanity, is embodied by a positive humanoid, *Daneel* Olivaw. This benign robotic being, who has superhuman powers (such as telepathy) and who protects humanity, is possible because he adopts his own "super-law," called the "Zeroth Law of Robotics" ("A robot may not injure humanity, or, through inaction, allow humanity to come to harm"). Daneel becomes the caretaker of mankind and, disguised as various social and political leaders, influences the history of the Galaxy. David is the opposite of Daneel. Breaking the roboethical design of the three laws of Asimov, he begins to purposefully hurt humans. Just like Ash, the first android of the *Alien* series, who obeyed the special orders of the Weyland-Yutani Corporation, which was planning to retrieve the Alien creatures and use them for future military development, David also lacks compassion and is preoccupied only with his evil desire of cybernetic creationism. The final result of the android's lack of humanity is the reversal of the divine. Here David becomes a malefic God, the creator of life presented in his other dimension, that of destroyer of life. And, unlike the artificial intelligence in *The Terminator* series, where Cyberdine decides to wipe out all humanity, or the Matrix that maintains humans as energy resources, this non-human posthumanism no longer needs mankind. Establishing a new alien race, with a new biology, the posthuman imagination reaches its ultimate negative constraints, the elimination of all that is human.

Works Cited

Cheok, Adrian David, Kate Devlin and David Levy (eds.), *Love and Sex with Robots*, Springer, 2017
Crutzen, Paul and Eugene Stroemer, "The Anthropocene," *Global Change Newsletter*, May 2000
Dinello, Daniel, *Technophobia!: Science Fiction Visions of Posthuman Technology,* University of Texas Press, 2005
Giger, H. R., *Giger's Alien: Film Design*, Morpheus International, 1994
Gunkel, David J., *The Machine Question: Critical Perspectives on AI, Robots, and Ethics*, MIT Press, 2012
Halberstam, Judith M. and Ira Livingston (eds.), *Posthuman Bodies*, Indiana University Press, 1995
Haraway, Donna Jeanne, *Simians, Cyborgs and Women: The Reinvention of Nature*, Routledge, 1991
Irwin, William, Jeffrey A. Ewing and Kevin S. Decker, *Alien and Philosophy: I Infest, Therefore I Am*, Wiley-Blackwell, 2017

Jung, Carl Gustav, *The Archetypes and the Collective Unconscious*, Princeton University Press, 1969
Kurzweil, Ray, *The Singularity Is Near*, Viking Books, 2005
Leeming, David Adams and Margaret Adams Leeming, *Encyclopedia of Creation Myths*, ABC-CLIO, 1994
Levy, D., *Love and Sex with Robots*, Harper Collins, 2007
Loughlin, Gerard, *Alien Sex: The Body and Desire in Cinema and Theology, Challenges in Contemporary Theology Series*, Wiley-Blackwell, 2004
Menzel, Peter and Faith D'Aluisio, *Robo Sapiens. Evolution of a New Species*, MIT Press, 2000
Midson, Scott A., *Cyborg Theology: Humans, Technology and God*, IB Tauris, 2017
Shivali, Best, "World's first robot 'citizen' Sophia says she would like to start a FAMILY and claims all droids deserve to have children," *Daily Mail*, November 24, 2017, available at http://www.dailymail.co.uk/sciencetech/article-5114277/Humanoid-robot-Sophia-claims-wants-start-FAMILY.html
Wosk, Julie, *My Fair Ladies: Female Robots, Androids, and Other Artificial Eves*, Rutgers University Press, 2015

Notes

1. Best Shivali, "World's first robot 'citizen' Sophia says she would like to start a FAMILY and claims all droids deserve to have children," *Daily Mail*, November 24, 2017, available at http://www.dailymail.co.uk/sciencetech/article-5114277/Humanoid-robot-Sophia-claims-wants-start-FAMILY.html.
2. Paul Crutzen and Eugene Stroemer, "The Anthropocene," *Global Change Newsletter*, May 2000.
3. D. Levy, *Love and Sex with Robots*, Harper Collins, 2007.
4. Donna Jeanne Haraway, *Simians, Cyborgs and Women: The Reinvention of Nature*, Routledge, 1991, p. 150.
5. Julie Wosk, *My Fair Ladies: Female Robots, Androids, and Other Artificial Eves*, Rutgers University Press, 2015, p. 30.
6. Ray Kurzweil, *The Singularity Is Near*, Viking Books, 2005.
7. Peter Menzel and Faith D'Aluisio, *Robo Sapiens. Evolution of a New Species*, MIT Press, 2000.
8. Carl Gustav Jung, *The Archetypes and the Collective Unconscious*, Princeton University Press, 1969, pp. 165-166.
9. David Adams Leeming and Margaret Adams Leeming, *Encyclopedia of Creation Myths*, ABC-CLIO, 1994.
10. Daniel Dinello, *Technophobia!: Science Fiction Visions of Posthuman Technology*, University of Texas Press, 2005.
11. H.R. Giger, *Giger's Alien: Film Design*, Morpheus International, 1994, p. 60