ON THE EDGE OF ARTIFICIAL LIFE AND EXISTENTIALISM: LEGITIMIZING 'ROBO-CULTURE' THROUGH ANARCHY, ORDER AND MANUFACTURE*

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Abstract

Human beings desire immortality as well as they desire the role of God. Having power and using this power over weak people is one of the oldest behaviors of humankind. One of the most important psychological causes of slave trade, almost as old as human history, is undoubtedly the desire of the human to play the immortal God role. We can see this demand in The Epic of Gilgamesh, Beowulf and The Iliad, which are the earliest written works. We witness the search for the immortality and domination of heroes and anti-heroes in works such as Frankenstein or the Modern Prometheus, I, Robot and The Robots of Dawn in contemporary literary period. In many of these quests, the man's desire for absolute domination and for immortality cause him to confront God with the desire to produce (or create) something. On the other hand, in contemporary films such as Batman vs Superman: Dawn of Justice, which is adapted to the motion picture screen, it seems that when the man tries to go beyond himself due to his limitless desire of mastership, he confronts a god, Superman. In the science fiction works of our era, the tendency of man to dominate has begun to turn into chaotic robot-human relationship from old slavery-master relationship like in Asimov's works. The Terminator or The Matrix series are the best examples for this. Therefore, the article will try to establish the theory of confusion and chaos that people encounter while playing the role of God. In doing so, this theory will be tried to be supported by Asimov's I, Robot, The Robots of Dawn, and Robot Visions novels in the light of some quotations. This article, of course, will also examine the tendency to claim everything in what man thinks he can benefit, rather than simply centering Asimov's works. Are these robots equipped with advanced artificial intelligence going to revolt against the people who produce themselves as Cain rebels against God? Consequently, this work will discuss the point where the relentless search for power and immortality of human beings can reach in view of Asimov's selected novels and definitions.

Keywords: Cyborgs, Robo-Culture, Asimov, order, chaos.

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YAPAY HAYAT VE VAROLUŞÇULUĞUN KIYISINDA: 'ROBO-KÜLTÜRÜ' ANARŞI, DÜZEN VE ÜRETİM YOLUYLA MEŞRU KILMAK

Öz

İnsan yaratılışı itibariyle ölümsüzlüğü istediği kadar Tanrı rolünü de üstlenmeyi istemektedir. Güce sahip olmak ve bu gücü zayıf insanlar üzerinde kullanmak insanlığın en eski davranış biçimlerinden biridir. Neredeyse insanlık tarihi kadar eski olan köle ticaretinin en önemli psikolojik sebeplerinden birisi de şu halde şüphesiz insanın hükmeden ölümsüz Tanrı rolünü oynama isteğidir. Bu isteği en eski yazılı eserlerden olan Gılgamış Destanı, Beowulf ve İlyada'da görebiliriz. Çağdaş edebi dönemde de Frankenstein Ya Da Modern Prometheus, Ben, Robot ve Safağın Robotları gibi eserlerde kahraman ve anti-kahramanların ölümsüzlük ve hükmetme arayışlarına şahit olmaktayız. Bu arayışların birçoğunda insanın mutlak hükmetme ve ölümsüzlük isteği, onu bir şeyler üretme (veya yaratma) isteğiyle beraber tanrı ile karşı karşıya getirmiştir. Öte yandan, beyaz perdeye uyarlanan Batman Süpermen'e Karsı: Adaletin Safağı gibi güncel filmlerde de insanın sınırsız sahiplenme isteğinden dolayı kendini aşmaya kalktığında bir tanrı olan Süpermen ile karşı karşıya geldiği görülmektedir. Çağımızın bilim kurgu eserlerinde insanın hükmetme eğilimi eski köle-efendi ilişkisinden, Isaac Asimov'un eserlerindeki gibi kaotik robot-insan ilişkisine dönüşmeye başlamıştır. Terminatör veya Matrix serileri buna en güzel örneklerdendir. İşte bu yüzden bu makale insanların Tanrı rolünü oynarken karşılaştıkları kargaşa ve çatışmanın teorisini kurmaya çalışacaktır. Bunu yaparken de bu teori Asimov'un Ben, Robot, Şafağın Robotları ve Robot Görüntüleri romanlarından bazı alıntılar eşliğinde desteklenmeye çalışılacaktır. Elbette bu yazı sadece Asimov'un eserlerini merkezine almaktan ziyade, insanın yararlanabileceğini düşündüğü her şeyde hak iddia etme eğilimini de inceleyecektir. İleri seviye yapay zekâyla donatılan bu robotlar da acaba kendilerini üreten insanlara Kabil'in tanrıya başkaldırdığı gibi isyan edecekler mi? Sonuç olarak, bu çalışma insanoğlunun dur durak bilmeyen güç ve ölümsüzlük arayışının Asimov'un seçili romanları ve tanımları ışığında gelebileceği noktayı tartışacaktır.

Anahtar Kelimeler: Siborglar, Robo-Kültür, Asimov, düzen, kaos.

INTRODUCTION

"When someone strives & strains to prove to me that black men are as intelligent as white men, I say that intelligence has never saved anyone; and that is true, for, if philosophy and intelligence are invoked to proclaim the equality of men, they have also been employed to justify the extermination of men." (Frantz Fanon)

At first glance, the topic of the essay might seem quite centered on robots and their representations in Asimov's selected works. Nevertheless, the primary purpose of this essay is not a 'unidimentional' consideration of how Asimov displays his robotic world. Rather, this work tends to solidify man's ancient propensity for staking a claim on anything that he can benefit from continues today and it will continue in possible different ways.

For many centuries, myriad of kings, emperors, tyrants and all kinds of rulers have self-appointed themselves as gods. In ancient history, widespread slave trade has proved that oppressors tried to abuse oppressed ones. People have oppressed the weak people to see themselves strong. In this way, they have satisfied themselves. Yet, because of uncontrolled power, they eventually brought their own endings like Beowulf, or they suffered the wrath of the gods like Enkidu in *The Epic of Gilgamesh*. Surely where there are oppressors there are oppressed ones as well. These oppressed people are generally enslaved in a slavery system. Even appearance of modern religions has not changed slavery system much. Furthermore, in late history, though the Universal Declaration of Human Rights was acknowledged by the United Nations General Assembly in Paris on 10 December 1948, still today we witness new atrocities that violate all human rights in many different regions of the world.

Consequently, maintaining the control over people has continued since the creation of mankind and will continue till the end of mankind. Since 1945, the world residents have boosted from about 2 billion people to over 6 billion. The highest fragment of that intensification has been in the countries in which slavery is predominant in these days. In a way, slavery is globalized. It is not a kind of bondage anymore that forces a slave in chains to work. The methods of captivity in diverse parts of the world are becoming more alike. The way slaves are abused and their roles in the world economy is gradually similar whatever they are. Slaves are nowadays low-priced than they have ever been. So-called masters such as factory or global company owners can get them as little as 10\$. This slavery is of course not in the conventional understanding of lifelong one. It is totally a new understanding though rich people still act like gods and try to determine poor ones' fates. Such slavery is often momentary, or for a few years or even months, days, hours and so on. The major part of approximated 27 million workers of this new slavery is in India, Pakistan, and Nepal as well as Southeastern Asia, Northern and Western Africa and parts of South America. In fact, there are some slaves almost in every country in the world, together with the U.S.A., Japan and many European countries (Bales 2004: 3-7). As can be seen from the above information, there is still an economic system based on the exploitation of people. However, the development of a possible system that can be cheaper also from people can change the definition and the process of slavery. This other possibility is that, as Asimov foreseen in his works, the emergence of robots which will radically change anything. Today, many different types of robots control everything from traffic lights to nuclear weapons. Man feels himself better and more powerful as he creates more intelligent and complex robots. Such machines are thought to be reliable since they are and will be capable of even protecting us from ourselves. Either to feel like God or maintaining order to prevent anarchy, man has long created a robo-culture. To put it briefly, the text will stand on

¹ In Psychology, 'unidimentional' means one-dimensional thinking, but since it is related with mental activities, it is 'unidimentional'.

quotes from some selected works which humans have produced their humanoid robots from the desire to dominate and play gods.

DESIRING MASTERSHIP

Man can displace God only if he is self-creating, hence abolishing his dependency and contingency; yet for him to become self-creating is to perpetuate the deity in a different form. It is to pay homage to religion in an attempt to abolish it. In what Christian theology would see as a naïve opposition, human autonomy and a dependence on God can only be seen as opposites. (Eagleton 2014: 161)

Although the desire of humans to be godlike dates to Ancient Greek mythology in Western literature, this tendency appears in the contemporary world in the fictional capabilities of artificial intelligence. Today, man even entrusts the control of nuclear weapons to machines. Computers and robots are protecting traffic lights, borders, and customs, performing surgery, and so on. On the other hand, turning back to the myths of the ancient Greek, it is possible to find Talos, the robot-like sentinel was crafted by Hephaestus from bronze and posted by Zeus to watch his beloved Europa and Crete. In the *Iliad*, book XVII, Hephaestus is depicted as having helpers in the form of "a couple of maids . . . made of gold exactly like living girls; they have sense in their heads, they can speak and use their muscles, they can spin and weave and do their work..." (Homer 2015: 18). Homer's description of these 'ancient robots' is in parallel with the description of future robots in the 19th and 20th centuries. The role of the Ancient Greek Gods was not limited to maintaining the order of the world; they also possessed the power of 'breathing life into non-living things,' animating them as Aphrodite had with Galatea or as Dr. Frankenstein animated the monster.

Moving forward to the 19th century, similar examples can be drawn from Mary Shelley's *Frankenstein: Or, The Modern Prometheus*. In the novel, a young, ambitious Victor Frankenstein creates an intelligent and emotional, but bizarre creature through a mixture of ancient magic and science. The monster classifies itself, while addressing Victor Frankenstein, as the Adam of his labor. While the psychology of Victor Frankenstein is open to discussion, one should bear in mind that, rather than make her character undergo psychoanalysis to gain a deep insight to the reasons for the monster's creation, she chooses to let the monster speak for her. Shelley explains her intention when the monster tells Frankenstein to "Remember that I am thy creature; I ought to be thy Adam, but I am rather the fallen angel, whom thou drivest from joy for no misdeed" (Shelley 2011: 45). The tendency of juxtaposing man with God continues throughout 19th century literature.

By the twentieth century, our understanding of the place of the artificial being had changed again. Karel Capek's 1920 science fiction play, *R.U.R.*, introduced an unconventional idea to the modern world: this time, unlike past stories it was no longer Dr. Frankenstein, Satan, Adam, or Cain, who broke God's laws, but man's artificial creations themselves. That is, the robots rebelled against mankind due to their anarchic spirit, which was born out of the harsh conditions of labor under capitalism. Capek created a new name for the artificial lifeforms created by man 'roboti.' The term was derived from the word 'robota' which means 'labor' in the Czech language, and eventually evolved into the word 'robot' through Marxist criticism, in both the English language and modern science fiction. Thus, the entry of the 'robot' word into the fiction world opened the door to the fantasy world where robots took place.

It is without argument that Isaac Asimov is the modern procreator of robot fantasy series, with hundreds of texts on the subject. In his fourth robot story, "Runaround," published in the magazine *Astounding Science Fiction* in 1942, Asimov introduced 'The Three Fundamental Rules of Robotics' for the first time. They are as follows:

- 1-A robot may not injure a human being or, through inaction, allow a human being to come to harm.
- 2-A robot must obey the orders given it by human beings, except where such orders would conflict with the First Law.
- 3-A robot must protect its own existence as long as such protection does not conflict with the First or Second Law. (Asimov 1990: 8)

These three laws² visibly display that man has dominance over robots, since the robots are instructed to protect human beings, even at the cost of their own destruction. While robots are supposed to have self-preservation included in their programming, they can terminate themselves so long as ordered by authoritative humans. Using Asimov's three laws, one can see that man has full control over robots. Moreover, these three laws remind of the system of slavery that has left domination entirely to the hands of the master. The point where slavery exists between traditional slavery and controlling psychology is crucial to see historical function of slavery. Having said that, where does the desire for this control come from?

Aristotle states in his *Politics* that humanity is separated into two groups: the masters, those who dominate, and the slaves, those who are dominated (Aristotle 2000: 36). It may seem like this idea should belong only to an ancient society, since the slave trade has been abolished for over a century and human rights are commonly accepted in Europe and America. Considering the history and historical function of slavery, Hugh Thomas asserts that:

Slavery was a major institution in antiquity. Prehistoric graves in Lower Egypt suggests that a Libyan people of about 8000 B.C. enslaved a Bushman or Negrito tribe. The Egyptians later made frequent raids on principalities to their south and, during the Eighteenth Dynasty, also launched attacks by sea, to steal slaves from what is now Somaliland. Slaves helped to build the innovations of the world's first agricultural revolution: the hydraulic system of China and the pyramids of Egypt. (Thomas 1999: 25)

Realizing how slaves have contributed to the construction of massive buildings in ancient societies and their undeniable role in the evolutionary progress of mankind, it is not a coincidence that the choice of the word 'robota,' which in Czech means labor, was adopted into English as robot to keep the original meaning of one, who labors within the context of its modern meaning. As Thomas has pointed out, slaves have worked throughout history and built masterpieces. However, the names of the slaves are not mentioned. Instead, the names of the ancient architects is uttered. Similarly, in the contemporary world, we require robots and, of course, non-robotic machinery in every field of our lives, relying heavily on this source of free labor, or slavery if one carries the analogy to the fullest extent. However, a question must first be answered to better understand the correlation between the old human slaves, the new robotic slaves, and their respective gods. The question is, 'what makes a robot a robot'? Asimov tries to answer this question in *Robot Visions*:

We might define it most briefly and comprehensively as "an artificial object that resembles a human being". When we think of resemblance, we think of it, first, in terms of appearance. A robot looks like a human being. It could, for instance, be covered with a soft material that resembles human skin. It could have hair, and eyes, and a voice, and all the features and appurtenances of a human being, so that it would, as far as outward appearance is concerned, be indistinguishable from a human being. (Asimov 1990: 1)

² These three laws of Asimov are seen in almost all the Robot Series Novels. These three laws are imposed on Robots memories in the production of them and compulsory to comply.

Such a definition places great emphasis on the physiology of robots. However, it is quite probable that the robots, physiologically similar to humans, may have acquired the anarchic spirit of Cain from humans. Though there is not a certain clue in that aspect reflected by Asimov. Alternatively, Asimov expands the definition to focus on intellect, stating that "a robot is a computerized machine that is capable of performing tasks of a kind that are too complex for any living mind other than that of a man" and thus a multifaceted human brain, like a central processing unit (CPU) or a similar device, is needed for a robot to perform complicated actions. Applying this definition, not all machines or electrical devices can be classified as robots (Asimov 1990: 2). For instance, a hand blender cannot be a robot because it does not possess a 'positronic brain' (a fictional technological device initially theorized in Asimov's writing). In theory, the positronic brain works like a central processing unit or CPU for androids giving them what is in essence an artificial consciousness, which allows their brain to work like a human brain. In short, this new memory system gives androids a system of reasoning like humans, but which is limited by Asimov's three laws.

In the 1930's and 1940's, positrons were newly discovered particles, and thus 'positron' as a term was adopted by Asimov to add a recognizable kinship to man in the robots in his stories. Consequently, this creation of human-like androids, even in literature, caused many debates within the larger science fiction community. The first argument is contained within the statement above being about the possible results of creating androids that would work for humanity for no remuneration. The ethical issues arose when debate began amongst writers and reader that this type of robot would constitute a new form of slavery. That a machine which never requires money, food, or human rights will inevitably be abused by the society. This abuse of robots by the humans is the foundation of Capek's play: that beneath the surface, an atmosphere of fear is observed, like that found in Asimov's novels. What if robots start to control themselves and through their positronic consciousness reject Asimov's three laws in a r/evolutionary leap forward? The paranoia of an impending robot rebellion is rooted in history, eventually all slave societies face a revolt of slaves, who demand the rights of citizenship from their masters. Similarly, what would happen if future robots claim such rights from humans? The answer may be that they are not born and thus are not able to claim the same rights as humans; but as the creation of man, the android robot displays many of his features including potential sentience. In such a situation, what makes humans so different from the androids they have created? For Aristotle, the difference between the animated and unanimated is motion, such as the transformation of food into blood cells, reproduction, decay, and all other methods by which we decide the functions of life. Descartes differs from Aristotle in that, "while reason and consciousness cannot be materially defined," the form of its artificial existence "is akin to a machine or automaton: it acts and performs, like a clockwork mechanism, but possesses no reason and no thought" (Kakoudaki 2014: Kindle Edition Loc. 439). Therefore, according to Kakoudaki, "...Descartes's propositions attack the centrality of motion in recognizing an entity's status" (Kakoudaki 2014: Kindle Edition Loc. 439). The androids in Asimov's novels may not eat or reproduce, but they do possess consciousness. To give an example, in Asimov's The Robots of Dawn, detective Elijah Baley investigates a bizarre case: someone or something else has murdered a humanoid robot. He finds himself in a dilemma: does one call this a murder or something else? Eventually he dubs this case not a homicide but a 'roboticide.'

The conversations between detective Baley and Humanoid Robot Daneel are striking due to their meticulous analyses in regard to murder of R. (stands for robot) Jander Panell:

³ A term coined by Asimov which means "a computer CPU with the capacity to rival a human brain." The definition was taken from http://www.technovelgy.com/ct/content.asp?Bnum=900

'Even a tree may be killed by disease, so why may not a robot be killed, eh, Daneel?'

'Human beings and other animals and plants as well, Partner Elijah, are all living things,' said Daneel. 'A robot is a human artifact, as much as this viewer is. An artifact is "destroyed", "damaged", "demolished", and so on. It is never "killed" ' (Asimov, P: 48).

Elijah considers calling the incident as a murder, while the android Daneel presents an android as solely the artifact of man and thus the loss of a product or thing, regardless of intelligence, cannot be considered a killing. On the other hand, as Elijah uses the letter 'R' in front of the names of androids to signify their distinction from man, yet the android Daneel refuses this form of address. Surprised by Daneel's denial, Elijah questions Daneel about what he might wish to be called:

'How do I address it, then?'

'As you address me, by the use of his accepted identifying name. That is, after all, merely a sound indicating the particular person you are addressing – and why should one sound be preferable to another? It is merely a matter of convention. And it is also the custom on Aurora to refer to a robot as "he" – or sometimes "she" – rather than as "it". (Asimov 44-45)

It is made clear from this conversation that the human settlers of Aurora moves away from the ideas of Earth and now generally accept that robots have discrete identities. Further discussions create more ambiguity for Elijah regarding murder and its punishment if they accept that the word murder applies to androids:

'And yet can we say that the ending of robotic life by the deliberate violent action of a human being is also "murder"? We might hesitate. If the crime is the same, the punishment should be the same, but would that be right? If the punishment for the murder of a human being is death, should one actually execute a human being, who puts an end to a robot?' (Asimov 1994: 47)

Considering the conversation above, the reader or even the characters now face a dilemma in order to define what makes it necessary for an artificially designed entity to be counted as human. Kakoudaki further illustrates the evolution of the robot as artificial human defining the progression of shifting what aliveness and mortality will mean in the future [once] the kinesis of objects is detached from a privileged position to select the animation of living things, which objects can now be sentimental and which cannot. "Technological objects that are responsive and reactive, even superficially emotive, now trigger an adjustment to definitions of animation and personhood" (Kakoudaki 2014: Kindle Edition Loc, 554). It seems that the anthropomorphic desire of man to create or own something, to become a master, to enslave someone or something -as happened in the Slave Tradeis a constant cultural desire. Asimov states that now that man "has creatures to help him; stronger creatures than himself, more faithful, more useful, and absolutely devoted to him. Mankind is no longer alone" (Asimov, intro XIV). Moreover, the master-slave relationship is made clear in Asimov's I, Robot, through the example of how scientists mining selenium on Mercury treat their robot colleagues.

"We will take you up to the surface then, and indicate a direction. You will go about seventeen miles, and somewhere in that general region you will meet another robot, smaller than yourself. You understand so far?" "Yes, Master." "You will find this robot and order him to return. If he does not wish to, you are to bring him back by force." Donovan clutched at Powell's sleeve. "Why not send him for the selenium direct?" (Asimov 2004: 35)

Relying on examples that transcend history from the earliest literary works to the contemporary, the relationship between imagination and science-fiction emerges as not only the longing for mastership, but also the fear of losing that control, that lordship through a revolt. This fear is in part because he has entrusted so much to these machines. Alternately, man might need the logic of the machines, since while machines lack ambitions and passions, unlike people, which would make man inclined to commit atrocities and even bring his doomsday about as he had tried to in the two World Wars of the 20th century..

CONCLUSION

The idea that we desire to control either things or people is not new. As Freidrich Nietzsche suggests, man has a "will to power," and looking at our world, this will cannot be satisfied. Returning to the myths of ancient Greece, there are many different gods and goddesses, all who perform different duties and functions. Yet what these deities have in common is that they are superior beings and might affect people's lives dramatically, as gods are the arbiters of our fate and possess the omniscient power to make their will felt. Thus, the issue of the free will of man becomes pivotal in determining that which has control over him. In other words, one can force a man to do something, yet man cannot be forced to the degree, whereby his ideas and actions become concordant with each other. For instance, a slave in the 15th century might be thinking about killing his master. He might murder his master eventually, since it is not a matter of intent, but of opportunity; once he is determined to do something, if possible, it will happen. This free will is actually the state of consciousness or identity that radically demarcates man from robot in the literature discussed here. However, the question can be asked, where does free will come from? At its simplest, freewill is a natural right of any human. It is not limitless, but it cannot be limited as well. As long as a person doesn't challenge or break the laws that determine the social life and regulation of a nation, s/he is free to do anything in accordance with her/his free will. Perhaps, it is the fear of mankind itself that is a problem in itself, since when man pretends to act like God, as happened with Adam and Satan; he expects an inevitable rebellion against an imposed order that does not respect the free will of others. Whatever is taken into consideration, it is clear that a rebellion or a clash against mankind by robots and a clash between man and God is visible in contemporary literary works and popular movies, such as *The Terminator* and *The Matrix* series, in which machines take control of the Earth and enslave man. Another possible conflict between a man and a God directly is the plot of the recent film, Batman vs Superman: Dawn of Justice, where Batman, as a human, tries to push his limits against a God called Superman. Regardless of the conflict, human versus robots or man versus man, or man versus God, the general tendency is to be the dominator rather than the dominated. Therefore, in Greek mythology ancient priests described the gods in human surrogates or forms. In the Medieval period, the clergyman put himself between the God and the parishioner to be treated by the parishioners as God's right hand and thus respected as much as God by the people. Man acted like God, when he conquered the New World. He became the arbiter of life and death for the native inhabitants. When emancipation was declared during the settling of the American South, he started to find new ways to dominate the ones perceived as the other. The reason for the First and Second World Wars was the mentality of wanting to control more resources and colonies. Today, to become increasingly powerful, big bosses abuse millions of workers literally as modern slaves. One day, these bosses may like the idea of having humanoid robots that work for them night and day. Eventually, the idea of a nonliving, but humanoid existence -if everyone agrees that a robot is an existence- will be real. It is the sole creation of mankind, first as fantasy in literature, but now becoming a reality. However, as these people become more involved in the role of god, they might trigger a great chaos like the two world wars they caused, and perhaps prepare their own end. Ultimately, when one wants to overcome himself and play the god, the robots he produces can revolt as Cain rebels against God, who has created him.

BIBLIOGRAPHY

Primary Sources:

ASIMOV, Isaac (1990). Robot Visions. New York, NY: Penguin.

ASIMOV, Isaac (1994). The Robots of Dawn. New York: Bantam.

ASIMOV, Isaac (2004). I, Robot. New York: Bantam.

Secondary Sources:

ARISTOTLE (2000). Politics (Dover Thrift Edition ed.) (B. Jowett, Trans.; J. Berseth, ed.). New York: Dover Publishing.

BALES, Kevin (2004). New Slavery. California: ABC-CLIO. 2nd ed.

CAPEK, Karel and Claudia-Novack (2004). R.U.R. (Rossum's Universal Robots). London: Penguin.

EAGLETON, Terry (2014). Culture and the Death of God. New Haven: Yales PU.

FANON, Frantz (2008). Black Skin, White Masks. trans. Richard Philcox. New York: Grove.

GRAVES, Robert (2011). The Greek Myths: The Complete and Definitive Edition. London: Penguin.

HOMER (2015). The Iliad. trans. W. H. D. Rouse. New York, NY: New American Library.

KAKOUDAKI, Despina (2014). Anatomy of a Robot Literature, Cinema, and the Cultural Work of Artificial People, Kindle Edition.

Positronic Brain by Isaac Asimov from Reason.

(n.d.). http://www.technovelgy.com/ct/content.asp?Bnum=900. [27.02.2017].

SHELLEY, Mary (2011). Frankestein or the Modern Prometheus. Istanbul, Turkey: BS Yayin Basim Dağıtım Rek. Org. San. Tic. Ltd. Şti.

THOMAS, Hugh (1999). The Slave Trade: The Story of the Atlantic Slave Trade, 1440-1870. First Touch Stone Edition ed. United States: Simon&Schuster, Print.