

T.C.
İSTANBUL AYDIN UNIVERSITY
INSTITUTE OF GRADUATE STUDIES



**SCIENTIFIC UTOPIAS IN *THE NEW ATLANTIS* AND *THE*
*TRANSHUMANIST WAGER***

MASTER'S THESIS

Ardeniz ÖZENÇ

Department of English Language and Literature
English Language and Literature Program

MAY-2020

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DEDICATION

I hereby declare with respect that the study “Scientific Utopias in the *New Atlantis* and *The Transhumanist Wager*”, which I submitted as a Master thesis, is written without any assistance in violation of scientific ethics and traditions in all the processes from the Project phase to the conclusion of the thesis and that the works I have benefited are from those shown in the Bibliography. (11/05/2020)

Ardeniz ÖZENÇ





To my dear parents,

PREFACE

In this study, Francis Bacon's *New Atlantis*, published in 1627, and Zoltan Istvan's *the Transhumanist Wager*, published in 2013, have been examined. In both novels, the concept of utopia, and the place of science and technology in utopias, have been analysed. Also, Francis Bacon's understanding of science and state, and transhumanism in Zoltan Istvan's work, as an ideology, have been investigated.

May 2020

Ardeniz ÖZENC

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SCIENTIFIC UTOPIAS IN *THE NEW ATLANTIS* AND *THE TRANSHUMANIST WAGER*

ABSTRACT

About five hundred years ago, Europeans started to set sail across oceans and settled in continents outside Europe in large numbers. While “discovering” the rest of the world, they found that the new world before their eyes, had an immense amount of riches that needed to be cultivated. So, they started on developing new tools to refine it, and while doing so, they discovered their ability to mould nature in the direction they pleased. This new age of discoveries naturally led to the Industrial Revolution in 19th century, through which systematic exploration and alongside it, exploitation, were possible. All of these developments eventually prompted the most powerful European nations to go to war with each other over supremacy, which resulted in millions of deaths and loss of valuable resources that were wasted in wars. However, after 1950s, European nations and America stopped quarrelling with each other, and turned their attention to developing new technologies and making scientific improvements. They gave the whole world internet, which connects people through machines even from the remotest regions in the world. Via GPS, people can find their own location almost anywhere on Earth, simply by sending signals from their smartphones to the satellites that roam the wide and infinite space. About four hundred years ago, philosophers and thinkers, such as Tommaso Campanella, foresaw “that the coming age would have more history within a hundred years ‘than all the world had had in the four thousand years before’” (Mumford, 1964). English politician and philosopher of 16th and 17th centuries, Francis Bacon, argued that political changes would go in cooperation with scientific and technological developments (Mitchell, 2006). Just like the age of discovery, we are now in an age of information, and the data that has been accumulated since the beginning of the 21st century far surpasses what had been accumulated before. Countless scientific discoveries and technological innovations are being made and used by a lot of people all around the globe. These developments are not always used constructively and equally by everyone, and at the same time, governments are also abusing the privacy of their citizens by keeping tabs on them and exploiting the data collected through the citizens’ use of these technologies. However, with the developments made in science and technology, we stand on the threshold of the new coming age, which would transform our existence into something that has never been seen before. Transhumanists, like the writer Zoltan Istvan and many other scientists, philosophers, thinkers and so on, believe that the new age, as a result of the technological innovations it provides, will make it possible for humanity to evolve into a different and superior form of being. Other thinkers, such as political scientist Francis Fukuyama, argue that the transhuman form of humanity will bring along a moral dilemma about the essence of being a human. Only time will show us how this new form would come into existence, if at all, and how the world we live in will be altered

by the rapid changes in its physical conditions. One thing is certain that, just like hundreds of years ago in the age of discoveries, we are going to keep witnessing and experiencing great transformations in our lives.

Both writers, whose works are analysed in this thesis, Francis Bacon and Zoltan Istvan, hoped that science and technology would be the greatest means humans could use in their struggle against nature, and that humanity would finally reach omnipotence and immortality. They both depicted such utopias in their novels, *New Atlantis* and *the Transhumanist Wager*. The two scientific utopias, written about four hundred years apart from each other, underline the importance of science and technology in human life, and how they would serve humans to attain full control of their surroundings. In *New Atlantis*, Bacon depicts a society which has mastered nature and its whims, with its political, social and cultural institutions all serving for one unified purpose. In *the Transhumanist Wager*, humanity is still at large in reaching its goal of immortality. Istvan describes the challenges of building such a perfect society that values science and knowledge over religion and politics. However, in the end, humanity triumphs over death, and nature is subdued against the powers of the new form of existence of humans, or transhumans. In both books, it is emphasised that science and technology would be the best options to guide people in maintaining control over their lives and in building the perfect societies.

Keywords: Utopia, Scientific Utopia, Science, Technology, Nature, Humanity, Transhumanism, Francis Bacon

YENİ ATLANTIS VE THE TRANSHUMANIST WAGER İSİMLİ ESERLERDE BİLİMSEL ÜTOPYA

ÖZET

Yaklaşık beş yüz yıl önce Avrupalılar okyanusları aşmış Avrupa dışındaki kıtalara kitlesel olarak yerleşmeye başladılar. Dünyanın geri kalanını "keşfederken" gözlerinin önündeki bu yeni dünyanın, işlenecek pek çok zenginliği olduğunu fark ettiler. Böylelikle yeni dünyayı düzeltmek için araçlar geliştirmeye başladılar ve bunu yaparken de doğayı istedikleri yöne çekip şekillendirebileceklerini gördüler. Yeni keşifler çağı Avrupalıları 19. yüzyıldaki Endüstri Devrimine kadar getirdi ve bu sayede dünyayı sistematik bir şekilde keşfedip beraberinde de sömürmeye başladılar. Tüm bu gelişmeler en güçlü Avrupalı milletlerin üstünlük için çatışmasına ve savaşlarda milyonlarca can ve mal kaybına uğramalarına sebep oldu. Ancak 1950'lerden sonra Avrupa devletleri ve Amerika birbirleriyle savaşmayı bırakıp dikkatlerini yeni teknolojiler geliştirip bilimsel olarak ilerlemeye verdiler. Batılı devletler dünyaya, insanları dünyanın bir ucundan diğer ucuna makine aracılığıyla bağlanabilecekleri internet teknolojisini verdiler. İnsanların, dünyanın neresinde olurlarsa olsunlar, cep telefonlarından uzaydaki uydulara sinyal yollayarak yollarını bulabilecekleri GPS adını verdikleri teknolojiyi geliştirdiler. Yaklaşık dört yüzyıl önce İtalyan düşünür ve ütopya yazarı Tommaso Campanella "bu önümüzdeki çağın bir yüzyılının, 'tüm dünyanın şimdiye kadarki dört bin yıllık tarihinden daha çok tarihi olacağını" öngörmüştür (Mumford, 1964). 16. ve 17. yüzyılda yaşamış olan İngiliz politikacı ve düşünür Francis Bacon, siyasi değişikliklerin bilimsel ve teknolojik gelişmelerle eş zamanlı ilerleyeceğini savunmuştur (Mitchell, 2006). Bizler de şu an, keşifler çağına benzer nitelikte bir bilgi çağında yaşıyoruz ve 21. yüzyılın başından beri edinilen toplam bilgi, insanlığın bundan önce elde ettiği bilginin çok ötesinde. Dünyanın pek çok yerinde insanlar sayısız bilimsel keşifler ve teknolojik yenilikler yapmakta ve kullanmaktalar. Gerçi bu gelişmeler herkes tarafından yapıcı ve eşit şekilde kullanılmıyor ve hükümetler de zaman zaman vatandaşlarını, kullandıkları teknolojik ürünler aracılığıyla takip ederek özel alanlarına saldırıda bulunuyorlar. Ancak yine de teknoloji ve bilim alanında yapılan gelişmelerle şimdiye kadar hiç görülmemiş ve varlığımızı kökten değiştirecek yeni bir çağın eşliğinde bulunuyoruz. Amerikalı yazar ve politikacı Zoltan Istvan gibi pek çok bilim insanı, filozof ve yazar yeni gelen bu çağın, sağlanan teknolojik yenilikler sayesinde insanlığın çok farklı ve üstün bir varlığa dönüşeceğine inanıyor. Amerikalı politik düşünür Francis Fukuyama gibi diğer filozoflar da insanlığın transhümanist formunun, insan olmak konusunda ahlaki bir ikileme sebep olacağını öne sürüyor. Sadece zaman bize bu yeni formun nasıl ortaya çıkacağını ve dünyanın bu hızlı değişime nasıl ayak uyduracağını gösterecektir. Ancak bir şeyden emin olabiliriz ki hayatımızda, tıpkı keşifler çağı öncesindeki gibi çok büyük değişiklikleri yaşamaya devam edeceğiz.

Bu tezde eserleri incelenen yazarlar olan Francis Bacon ve Zoltan Istvan bilim ve teknolojinin, insanlığın doğaya karşı verdiği savaşta kullanabilecekleri en sağlam silahlar olduğunu ve insanlığın en sonunda her şeye gücünün yeteceğini ve ölümsüzlüğe ulaşacağını ümit etmiştir. Bacon *Yeni Atlantis* adlı eserinde ve Istvan da *the Transhumanist Wager* isimli romanında bu tür ütopyalar yaratmışlardır. Birbirlerinden dört yüzyıl arayla yazılan bu iki bilimsel ütopya bilim ve teknolojinin, insan yaşamındaki önemini vurgulayıp bu iki gücün, insanlığa çevresini yönetme gücünü nasıl vereceğini anlatmışlardır. Bacon, *Yeni Atlantis*'te doğayı tamamen kontrol altına almayı başarmış ve tüm siyasi, sosyal ve kültürel birimleri tek bir hedefe hizmet eden bir toplumu betimlemektedir. *The Transhumanist Wager*'da ise insanlık henüz ölümsüzlük hedefine ulaşamamıştır. Istvan bu romanda bilim ve teknolojiyi siyaset ve dinin önünde tutan mükemmel bir toplumu oluşturmanın zorluklarını anlatmaktadır. Ancak romanın sonunda insanlık ölümü yener ve doğa, insanlığın bu yeni yaşam formunun, yan transhümanist formunun gücünün karşısında yenik düşer. Her iki kitapta da bilim ve teknolojinin, insanların kendi hayatlarına hâkim olmakta ve mükemmel toplumu oluşturmakta onlara yardım edecek en iyi seçenekler olduğunun altı çizilmektedir.

Anahtar Kelimeler: Ütopya, Bilimsel Ütopya, Bilim, Teknoloji, Doğa, İnsanlık, Transhümanizm, Francis Bacon

I. INTRODUCTION

A. Research Topic

Writers and philosophers, as diverse as Plato, Tommaso Campanella, Thomas More, Francis Bacon, and so on, depicted and discussed the concept of utopia, or the ideal society. Later on, writers such as Aldous Huxley, Ursula K. Le Guin, George Orwell, Yevgeny Zamyatin, and many others, argued about what could go wrong and illustrated societies that are far from ideal, or dystopias. In many utopias and dystopias alike, science and technology are the overriding powers that shape society with their abilities to create wonders and disasters concurrently. In scientific utopias, they are seen as the saviours of humankind, which is the main subject of this thesis.

B. Aim of Thesis

The search for a better life and a better society is intrinsically human, and humans have been dreaming of these better systems which they call utopias. What characterises this “better life” is the relief of pain and abundance of pleasure, while the “better society” is defined as a place where people are not in need of sustenance and they are all completely contented. In *New Atlantis*, Francis Bacon introduces a land in which this perfection is achieved in 1600s, and in *the Transhumanist Wager* Zoltan Istvan creates such a land in a world as we know it today. Both of these utopias are similar in their pursuits, which is to move up humanity in its evolutionary journey and reach its maximum potential by achieving immortality. This paper will analyse the concept of utopia that takes its power especially from science and technology in *New Atlantis* and *the Transhumanist Wager*, and will argue that these two forces can make the dream of utopia come true.

C. Literature Review

People have always asked the question whether they can change their lives for the better. Especially in times of great change, they do not stop dreaming of a better way of existence. According to Ernst Bloch “[w]e never tire of wanting things to improve”, meaning that people never content themselves with the current state of their situations and always look for something better (quoted in Sargent, 2010). When they consider the problems of society in general, people ask questions like “can the way we live could be improved” and start to actually think of a means to do so. They single out what is wrong with society and start working on it to make life better for every individual or a group of people. According to Lyman Tower Sargent “[m]ost utopias compare life in the present and life in the utopia, and they point out what is wrong with the way we now live, thus suggesting what needs to be done to improve things”. Sargent calls this way of thinking, or utopianism in general, “social dreaming” because it includes imagining a what-if like scenario at its core (1994).

In his seminal work *Utopia*, Thomas More coined the term that has since been used to describe any idealised fictional society: “[t]he word *utopia* or *outopia* was derived from Greek and means ‘no (or not) place’ (*u* or *ou*, no, not; *topos*, place).” According to Gregory Claeys and Lyman Tower Sargent, Thomas More “punned on *eutopia*, or good place, and we have since added *dystopia*, or bad place” (1999:1). The main feature of all utopias is their “non-existence combined with a topos – a location in time and space – to give verisimilitude”, and Claeys and Sargent identify the term “utopia” as “a non-existent society described in detail and normally located in time and space”, and “utopianism” as “social dreaming” (1999:1). There are two distinctive types of utopias: “utopias of sensual gratification, and utopias of human contrivance. These traditions represent alternate ways of expressing the utopian impulse—that need to dream of a better life” (1999:2).

Claeys and Sargent state that earlier utopias have some shared elements: “simplicity, security, immortality or an easy death, unity among the people” and so on (1999:2). They all “look to the past of the human race or beyond death for a time when human life was or will be easier and more gratifying”, and these so-called “golden ages” are the blessings of “gods”, which are only given to the worthy after death (1999:2). However, people do not always want to leave their fate to the mercy of

“nature or gods”, and they choose to take matters into their own hands. Claeys and Sargent suggest that “Vergil’s fourth Eclogue” can be considered as an instance for this shift (1999:2). Even though people are yet to command their surroundings, “there is at least the suggestion that human beings can control their destiny” (1999:2). In the aforementioned work, Vergil depicts a land of perfection that will be created with the coming of a messiah: “A child is to be born, and, with him, a new Age of Gold” (Mattingly, 1947). Vergil’s imaginary land of plenty and peace is achieved with the birth of a child, which was attributed to the coming of Jesus Christ by Christian scholars (Mattingly, 1947). Nevertheless, in his fourth Eclogue, Vergil turns from “the past golden age to the future” (Sargent, 2010).

The very idea of a land where the rich and the poor are equals and they share their fortunes, comes from an ancient pagan festival called “Saturnalia” that was celebrated in ancient Rome (Jonassen, 1990). Saturnalia is, by definition, “a mid-winter holiday period which commemorated the myth of the Golden Age, when Saturn ruled instead of his son, Zeus. During the Golden Age men did not have to work for a living, food was bountiful of its own accord, there was no strife between people, and differences in social status did not divide the human family” (Jonassen, 1990). During this holiday, “the world is turned upside down”, and this is achieved through human agency (Claeys & Sargent, 1999). The idea that humans can control the way of the world even temporarily, eventually leads to the possibility of this happening permanently. G. Claeys and L. T. Sargent state that imaginary lands such as Cockaigne where a “permanent utopia of sensual gratification” is created, suggest the likelihood of similar dreams (1999:3). Cockaigne, though it goes under different names in different European cultures, is “a peasants' paradise where houses are made out of pastries, food falls from the sky right into one's mouth, and no one needs to work for a living” (Jonassen, 1990). All the fun and pleasure that are provided in this land is permanent, unlike the brief one-week holiday of Saturnalia (Jonassen, 1990). Thus, the idea that contentment can be attained in earthly life and that it can also be forever, gives people the hope that they can change their lives for better.

When people start to see what is wrong and inadequate around them, they wish that it was different. They express their desire of things being different than reality, and they depict their hopes and dreams in folklore, just as in “the Cockaigne myth”

(Jonassen, 1990). And when they find out that they can make the changes they want without the help of any divinity, they start dreaming of this better life in a better land, and this is what Thomas More called “utopia” (Claeys & Sargent, 1999). According to G. Claeys and L. T. Sargent, “to imagine that every aspect of social order can be susceptible to human control” is the final “step” in developing the literary genre that is termed “utopias of human contrivance” (1999:3). With his seminal work, Thomas More not only helped critics to outline the specifics of these types of writings but he also gave it a name (Claeys & Sargent, 1999). In *Utopia*, More describes a “society” based on equality among its citizens, in which the state supplies them “with the necessary food, clothing, housing, education, and medical treatment” (Fokkema, 2011). This “island of Utopia [...] possesses admirable institutions” and there “the population lives in perfect harmony and security” (Caudle, 1970). In his work, More points out the evils of his own country, such as “poverty” resulting from “wars” that the rich and the powerful of the country waged on for supremacy (Caudle, 1970). More argues against despotism and sees it “as the chief obstacle” in the improvement of “society” (Caudle, 1970). He calls attention to such concerns by giving a contrasting example of it in the fictional land he created in *Utopia*. Although the society in *Utopia* is far from the ideal in many aspects, it is still a veritable example of what ‘the ideal’ could consist of, in terms of political and social situations the author underlines (Bruce, 1999). With what intentions More wrote *Utopia*, whether it was meant to be the description of the ideal state or a “joke” on its “readers”, is unclear, however, there is an obvious “critique” on society and its socio-political institutions in general (Bruce, 1999). As the creator of the name "utopia", Thomas More, criticised the social, economic and political institutions in his country. By depicting a fictional country that contradicts the England of his time, he underlined what he saw wrong. Just like More, other utopian or dystopian fiction writers criticised their society by pointing out the shortcomings, and giving examples on how to fix them. For example, in the 18th century, Irish writer Jonathan Swift, criticised the weaknesses in British political and legal system in *Gulliver's Travels*. Writers as diverse as Plato, Tommaso Campanella, Thomas More, Jonathan Swift, and so on, all pondered on the question of what would make a society better, and all came up with different answers.

According to G. Claeys and L. T. Sargent, the ideal societies depicted or the socio-political institutions criticised in utopian writing, evolve as the society it is written in, evolves: “[u]topias and the changes they undergo both help bring about and are reflections of paradigm shifts in the way a culture views itself” (1999:3). As economic, social and political changes take place in a society, the way its people see their lives changes too. Claeys and Sargent identify certain major “historical stages in the evolution of utopian tradition” (1999:3). The foremost one is the “egalitarian” social theories that were generated in “16th and 17th century” Europe, which eventually led to “socialism in the 19th century” (1999:3). For instance, Tommaso Campanella, who was a “Dominican monk” and lived in 16th-17th centuries, speaks of a communal society in his utopia, *City of the Sun* (Dickinson Blodgett, 1931). Campanella, who was imprisoned for his unorthodox ideas such as a “universal brotherhood” and socio-economic equality among all people, witnessed “the corruption of the age in religion and literature alike” and therefore, he abhorred the despotism of both religious and political authorities (Dickinson Blodgett, 1931). Being a man of religion himself, Campanella suggests a type of “monastic communism” as an answer to the institutional problems of his time (Dickinson Blodgett, 1931). His utopian society in *City of the Sun* reflects what he sees as ideal in both communal and private life. He considers “self-love” as the greatest “evil” in society and suggests the system of “[c]ommunism” to eradicate it completely: “self-love springs from private ownership of property, and property is acquired and improved if a man has incentive in a home, a wife, and children” (Dickinson Blodgett, 1931). As a result, forming such relational bonds among citizens and individual ownership of property are excluded in his utopia (Dickinson Blodgett, 1931).

According to Claeys and Sargent, this “first stage” of utopian tradition made way to “socialism in the nineteenth century” (1999:3). The ideas of “social equality” already set by thinkers such as Plato thousands of years ago, and later by such authors as More and Campanella, prepared the basis for “the revolutionary movements of late eighteenth-century North America and France, in which the utopian promise of a society of greater virtue, equality, and social justice was now projected onto a national scale” (1999:3). Philosophers seeking revolution such as Karl Marx and Friedrich Engels, thought of societies where people lived better lives, and their ideas shaped the politics of many countries. Aside from the political developments, in certain places of

the world people started to form “communes or intentional communities”, where they would gather and live following the principles of social equality (1999:4). Both in “such communities” and in “utopian literature”, people still dream of, and conceptualise ideas of “social and human improvement” and envisage a better future for humanity “as well as dangers to be avoided” (1999:4).

The “second stage” in utopian writing can be characterised by an impassioned argument “over the virtues and vices of primitive peoples” (Claeys & Sargent, 1999). As the Europeans explored the globe and found out about the existence of cultures that have much simpler socio-economical organisations than theirs, they viewed these groups of people as glorified “noble savages, peoples who, without the benefits of Christianity and civilization, still seemed to be in some ways better than Europeans” (Claeys & Sargent, 1999). Images of these “primitive” people were used to embellish the descriptions of uncorrupted utopias, which represented a long lost “age of innocence” (Claeys & Sargent, 1999). For example, in his very famous *Essays*, in the essay entitled *Of the Cannibals*, Michel de Montaigne depicts the way of life of a native Brazilian society which was considered to be primitive by the standards of his own time. Montaigne talks about this society with high praise, and he says that the people who live there have “the perfect religion, the perfect government, the perfect and accomplished manner of doing all things” because of the fact that they have not lost touch with “[n]ature” (Screech, 2003). He states that their way of living is not tainted by the “inventions” of civil life, as it is for European societies, and therefore, “they are still in [...] a state of purity” (Screech, 2003). Since they do not care for the acquisition of valuable materials, they do not know of the concepts such as “falsehood, treachery, dissimulation” and so on (Screech, 2003). Their happiness results from “not desiring more than their natural needs demand” because they “know how to enjoy happily their condition, and be content with it” (Screech, 2003). Montaigne exalts these types of “uncivilized” societies for their virtues and asserts that they possess an ideal form of organisation, as opposed to the “corrupt” ways of European societies (Screech, 2003).

The “third” stage of utopian writing can be characterised with the influx of “scientific discovery and technological innovation from the seventeenth century on” (Claeys & Sargent, 1999). All of these developments in science and technology,

brought people the hope for “better health, a longer life, and the domination of nature in the interests of humankind” (Claeys & Sargent, 1999). Especially the works of “science fiction” written in 1900s, reflect “both the hopes and fears of” mankind for the future (Claeys & Sargent, 1999). In the 20th century many writers such as H. G. Wells, Yvgeni Zamiatin, Aldous Huxley, Olaf Stapledon, George Orwell, and Ursula K. Le Guin, enquired into the nature of contemporary developments, and they created utopias and dystopias about what they thought science and technology was holding for the future of humanity (Claeys & Sargent, 1999).

Bacon’s *New Atlantis* and Istvan’s *the Transhumanist Wager* are both concerned with the place of science and technology in society’s all affairs, and although they were written 400 years apart from each other, they both idealise a society where science rules over everything. In both books the authors are very optimistic about such outcomes of scientific development and firmly believe in the supremacy of science over politics. They point out that such utopias and utopic ideals are achievable if people realise the potential science and technology have in the improvement of their lives, and if they rearrange their priorities and place scientific progress at the top. Both of these utopias are scientific utopias, and the position of science in fiction has been varied in creative writing over centuries.

II. SCIENTIFIC UTOPIA

A. Science and Technology in Utopian Writing

Science fiction, supposedly takes its very sources from science and technology. According to Gerard Klein, “science [...] produce, often unknowingly, images (eikons) and representations (eidons)” (2000:120). Klein gives the example of “Jupiter surrounded by some of its satellites in Galileo’s telescope”, and this “image of a central body surrounded by its satellites” creates its own “representations” in the minds of the people who have seen it (Klein, 2000). So it can be said that any kind of scientific discovery (image) leads to its different representations in the thinkers’ minds, and eventually this situation results in an abundance in science fiction writings. Johannes Kepler, “who may reasonably be claimed as the first science-fiction author” gives a striking example of such an occurrence (Parrinder, 2000). Kepler who was an astronomer and a mathematician, discovered the elliptical orbit the planets take “around the sun”, and he was fascinated by the movements of planetary bodies (Mumford, 1964). He fantasized about the life on the moon in his *Somnium or the Dream*, which is a fictional narrative describing the environment and inhabitants of the moon, and it is considered to be an early example of science fiction (Parrinder, 2000). Kepler, with the image of the moon as a planetary body in his mind, gave his own representation of what life might be for the ones who live on the moon. He imagined that there would be “grotesque creatures” inhabiting the moon, who are constantly struggling with the harsh living conditions of very hot and cold climate, and have to live in caves to ward themselves against these conditions (Mumford, 1964). What he already knew about space and the Moon was Kepler’s source of origin in writing *the Dream*, however, his conjectures of what else might be there, coupling with his knowledge, made him to create this novel. So, it can be said that scientific discoveries and technological developments provide the most basic materials that sci-fi writers need to work with, and the rest is up to the extent of their imaginative powers.

The source of scientific or technological utopias can be traced back to the utopian tradition that emerged in “sixteenth century” (Sibley, 1973). According to Howard P. Segal “utopianism is rooted in two European developments”: the belief in logical thinking “to achieve steady human improvement” and “the English Industrial Revolution” (2012:50). Both of these factors converged in the Europeans’ minds and made it seem possible to hope for a better future using science and technology. Relying on the capabilities of the human mind and seeing that technological advances could accomplish things that were formerly thought to be impossible, provided the circumstances that were needed to imagine realistic utopias. Many scientific discoveries and inventions were made from 16th century on. Francis Bacon, living in a time period between the 16th and 17th centuries, witnessed and heard about many of the inventions and discoveries himself. In *New Atlantis*, Bacon depicted inventions such as the submarine and the airplane, taking the sources of his imagination from contemporary scientists. Scientists of these centuries made ground-breaking inventions and discoveries, for example, Galilei looked into the starry night sky with his telescope and proved that planets, including the Earth, moved around the Sun; Newton discovered the force of gravity, which holds everything in its place on the face of the Earth, along with his ground-breaking work in optics; James Watt designed the steam engine much more practically for its use in both the production and transportation of goods; and so on. People started to find out that nature can be mastered with the application of science and technology, and this eventually led to the idea that science and technology can help them live much better lives. Howard P. Segal suggests that Marx and Engels hoped for the creation of such a “society that would utilize modern, especially automated, technology as a principal means of freeing the proletariat” (2012:66). So, technology could help people to live more conveniently because they would not have to work in harsh conditions. Ernst Bloch, who is a Marxist philosopher, gives “utopia” two defining characteristics: the condition of “the Not-Yet-Being”, meaning the potential of something that has not come to pass yet; and the “collectivity”, which is the togetherness of all the subjects living under the same binding socio-economic circumstances (Freedman, 2000). In scientific or technological utopias, the unrealised potential lies in the opportunities brought about by the advancements in those very fields. The potential of a better life suggested by scientific developments gives new hopes to writers, and the writers employ the

outcomes in their creations of utopias. In his analysis of “detective novels” and “novel of the artist”, Bloch unknowingly puts forward a new theory that can help evaluate “science fiction” and utopian fiction (Freedman, 2000). According to Bloch, “the essential function of utopia is a critique of what is present”, and in order to make such a critique, something completely new is introduced to the medium that reshapes “the entire surrounding world”, and consequently this new thing forges “a new world” (Freedman, 2000). The world depicted in the narrative is differentiated from the real world by this completely new element, and the new world serves as a critique of the real world by giving the message that if people make this profound change, life would be much more different than it is at present. The utopias in science fiction, require the conversion of reality into a beautiful place that can be achieved if its inhabitants make major changes in their lives. Similarly, in dystopias, our reality turns into something horrible if people do not make certain adjustments. Utopias in science fiction are “critical and transformative” in their nature because they encourage change by showing us that it is possible in the potentiality of the present to project that kind of significant transitions into the future (Freedman, 2000). For scientific or technological utopian writers, the potential is within the sciences if people do not fail to follow them properly, that they use scientific and technological knowledge wisely to enrich their lives and not to cause harm to each other, to nature or even to themselves. In both Bacon’s and Istvan’s utopias, science is seen as the most important force that shapes human life and it sets the guiding principles with which humans control all their affairs. Especially in *the Transhumanist Wager*; nations, religions, cultures and so on, signify only the slightest value systems that could lead the affairs of the whole world society, and as opposed to them, science is the leading power that guides the way for humanity.

B. Francis Bacon’s Understanding of Science

There have been many ideas as to what should hold a community together in utopias. For example, Plato suggests a shared interest and commitment for the improvement of social system by believing in communal life, as does Tommaso Campanella in *City of the Sun*, where he puts forward that all property and resources in a society should be used in equal terms by its citizens. Different authors in different time periods suggest their own solutions to the problem of what could possibly strengthen the bonds in a society to the point where a complete unity might be

achieved. Francis Bacon, who lived in the age of explorations, offers science and technology to unite the whole of civilisation (Fletcher, 2017). According to Bacon, science and technology would be the most important powers that lead humans to a brighter future because they would help humans to have “dominion over nature” (McKnight, 2006).

Bacon (1561-1626) lived in the same age with great natural philosophers (as scientists were called back then) such as Johannes Kepler, Galileo Galilei, William Harvey and René Descartes, and witnessed a lot of ground-breaking scientific revolutions in his time (Applebaum, 2005). Up until the 16th century, it was mostly believed that the whole universe revolved around the Earth. In Scripture, it was stated that “God had created man in his own divine image and given him dominion over the Earth”, and therefore man was the “very reason” for the creation of the world (Deming, 2012). As a result, it was natural to assume that humans were at the “centre” of cosmos, as was claimed by ancient philosopher such as Aristotle and Plato (Deming, 2012). However, taking his sources from ancient Egypt, Nicolaus Copernicus (1473-1543) asserted that not only the Sun and other planets did not revolve around the Earth but also the Earth was in continuous movement on its own axis (Deming, 2012). Removing the Earth and humans from their high status and underlining the inferiority of the Earth to the Sun, caused controversy in Copernicus’s time, nevertheless many natural philosophers like Johannes Kepler and Galileo Galilei followed after his theories (Applebaum, 2005). Kepler (1571-1630) found out that “planetary orbits were elliptical, and that a planet’s speed varied depending on its proximity to the Sun”, as opposed to Plato’s claim that planets were moving in circles (Applebaum, 2005). Galilei (1564-1642), also adhering to the teachings of Copernicus, observed with his “telescope” that there were spots on the surface of the Moon and other planetary bodies, conflicting with Aristotle’s theories on the subject (Applebaum, 2005). Galilei openly adopted Copernicus’s theorisation that the Earth and other planets moved around the Sun, and this caused him to be at odds with the Catholic Church (Deming, 2012). Although Francis Bacon did not personally meet these two radical thinkers of his time, he was aware of their scientific discoveries (Jardine, 2000). Since Bacon served as the “Lord Keeper”, “Lord Chancellor and Baron Verulam” under King James I of England, he had a high place in society and he was well acquainted with influential people of his time (Jardine, 2000). One of his friends, “English diplomat Henry

Wotton”, even introduced some of his works to Kepler and brought along important information to Bacon (Jardine, 2000). Another friend of Bacon, “Toby Matthew from Italy”, communicated the knowledge to “Bacon that Galileo had produced a written response to Bacon’s own paper on the ebb and flow of tides” (Jardine, 2000). Bacon was very well aware of the developments of his time and his “political status at home allowed him unusually direct access to emerging seventeenth century science on the mainland of Europe” (Jardine, 2000).

Bacon always believed in the importance of experimenting and he apparently felt that his such ideas were confirmed by the greatest natural philosophers in the 17th century. Knowing that there was a huge universe to discover both around and in us, and that this could only be achieved through experiment and research, was the driving force for many of the discoveries in Bacon’s time, and Bacon himself spent a lot of time working and gathering data (Jardine, 2000). One of the scientific inventions that fascinated Bacon was “the microscope”, since it enabled its user to see “the hidden, invisible small parts of bodies, and their latent structure and motions. By their means the exact shape and features of the body in the flea, the fly and worms are viewed, as well as colours and motions not previously visible, to our great amazement.” (quoted in Jardine, 2000). Bacon combined the knowledge of “the moving parts of tiny organisms made visible by the microscope” with all the other data he received from his European contemporaries, however, there was another scientist who used to live closer to where he lived, than Galilei or Kepler: William Harvey (1578-1657). Harvey was the royal “physician” in the court of James I and he was acquainted with Bacon as well (Jardine xi). Harvey had the chance to “experiment” on a large number of different kinds of animals as a result of his status at the English court, and he forms the basis for Bacon’s “ideal scientists in the imaginary land of Bensalem” (Jardine, 2000). Harvey asserted that “the heart acted as pneumatic pump, driving the blood in a perpetual circuit around the body of an animal, whatever its size” (Jardine, 2000). Eventually, Harvey concluded that “blood must circulate” in the body of an animal, rather than go up and down, as it was believed up until then (Applebaum, 2005). This ground-breaking discovery crashed another ancient icon, Galen or Galenus, by disproving another old theorisation about nature, for Galen had argued that “blood ebbed and flowed in the veins and arteries” (Applebaum, 2005).

Bacon, influenced by the methods they used to get to the data they produced, always defended the observational method of his contemporaries against the circular “logic” of the old philosophers (Peltonen, 1996). He especially opposed Aristotle’s system of logical thinking because Aristotle based his theorisation not on empirically gathered information but on logical deductions (Jardine, 2000). Aristotle’s way of thinking, that is, presenting a well-formed argument with solid assertions that can never be disputed, was not suitable for the age of discoveries and inventions; they were valid before 17th century (Jardine, 2000). However, in Bacon’s time of immense scientific and technological developments, a new method of inquiry was needed to fully understand and evaluate the data that was being continuously collected. Instead of forming solid assumptions about nature, Bacon suggested that scientists should first examine “the natural world” and form theories, and then they should test these theories by doing experiments (Rossi, 1996). Therefore, alluding to “Aristotle’s work on logic, the ‘Organon’ or ‘Instrument for Rational Thinking’”, Bacon suggested “the New Organon” to use as a tool to work with nature (Jardine, 2000). Bacon believed that the old “deductive” method which reduces arguments into fully-formed assertions about nature and life in general, was not helpful in dealing with the immense data collected by scientists in his time (Jardine, 2000). He proposed a completely different way in managing that data and put forward his “inductive” approach in *Novum Organum*, or *the New Organon* (Jardine, 2000). He thought that, given the necessary tools, there was nothing humans could not achieve.

Bacon had a “clear commitment to the role of observation and experiment as a prerequisite for the construction of scientific theory” (Jardine, 2000). Older generations of natural philosophers first formed their theories through logical thinking and then they did “experiments and observations” to prove them, no matter how unrealistic they seemed to be (Jardine, 2000). That way, the result was determined long before it could be experimented. Bacon, on the other hand, considered “observation and experiment” as the very basis for “science and its generalised methodology”; he saw them as the tools not to prove something that was already in mind but to see how “nature” works (Jardine, 2000). He believed that “the legitimate goal of science is the endowment of human life with new inventions and riches”, and he presumed that it could only be accomplished through experimental sciences (quoted in Mitchell, 2006). He was hoping to gather as much data as possible and help to form a completely

different and revolutionary “scientific theory” (Jardine, 2000). He believed in the importance of making unbiased judgments and insisted that “discovery comes to open-eyed and unprejudiced observers and it should lead to new theories” (Agassi, 2012). He also did many experiments and made observations of his own, along with the ones of other scientists that he followed both in continental Europe and his home England (Jardine, 2000). He asserted that “[w]e need a thread to guide our steps; and the whole road, right from the first perceptions of sense, has to be made with a sure method” (Jardine, 2000). He was interested in every aspect of experimental science and thought that humanity will eventually form a universally accepted philosophy which unifies every element of science, that is to say, a “theory” of everything (Jardine, 2000).

According to Bacon, progress should be incessant (Jardine, 2000). If people think that they have enough resources and that they have achieved enough, they would never improve their conditions. And for the continuous progress, they should always research, explore and discover. In *the New Organon* where he outlines his theory for the new method of sciences, Bacon likens the scientific developments of his time to the geographic discoveries conducted by Europeans: “But just as in previous centuries when men set their course in sailing simply by observations of the stars, they were certainly able to follow the shores of the old continent and cross some relatively small inland seas, but before the ocean could be crossed and the territories of the new world revealed, it was necessary to have a knowledge of the nautical compass as a more reliable and certain guide.” (Jardine, 2000). Europeans already had some knowledge to move around the globe, however it was not enough to find out all about it. So, they had to invent the “nautical compass”, which represents a milestone in their new science (Jardine, 2000). Here, Bacon forms a direct relation between science and imperialism, and suggests that both needs this new method in order to nourish from each other and flourish altogether: “[...] before one can sail to the more remote and secret places of nature, it is absolutely essential to introduce a better and more perfect use and application of the mind and understanding.” (Jardine, 2000).

The scientific and geographic discoveries started around the same time, feeding from each other at every step. These discoveries were the result of the explorations in not only the material world but also “in the mind” of the Europeans (Mumford, 1964). Especially “between the fifteenth and nineteenth centuries” the entire globe laid open

before the Europeans and presented them abundant resources to work with: the untouched lands promising a lot of opportunities to “explorers” as well as “scientists”, “engineers” and “inventors”: all of these groups of people joined their forces in reshaping “the New World” (Mumford, 1964). In this era, it was realised “that nature can be conquered and manipulated in the same way as (by analogy) simultaneously the world is being discovered and exploited by the European powers” (Mitchell, 2006). Although it is widely believed that the technological developments that allowed Europeans to explore and conquer the rest of the world started in the 15th century, these advancements had their roots in the medieval period (Mumford, 1964). Albeit rudimentary, the medieval mind was inquisitive into the environment and how things worked. The most basic tools in shaping nature, already being used “in the Middle Ages” such as “the magnetic compass” and nautical “charts”, enabled Europeans to take the first step in making the seminal discoveries and inventions, which are believed to be the corner stones of European Enlightenment (Mumford, 1964). It is clear that the medieval mind was not devoid of logical and abstract thinking, however, it was still bound by a stern belief in “after-life”, and that the natural world was not as much worth analysing and examining as the eternal world that comes after death (Mumford, 1964). As Europeans set sailed across much larger boundaries than they had ever done before, they came to understand that life on Earth offered a lot of possibilities to those who sought them. And although Bacon put biblical references in his works, such as “Solomon’s House” which refers to the king Solomon of the Old Testament and to his “wisdom”, Bacon was primarily interested in improving the life on earth (McKnight, 2006).

Bacon believed that scientific advancements and geographic expansionism should go hand in hand to prosper, and that the progress he had in mind could never be achieved with the prevailing understanding of his time:

Indeed it would be a disgrace to mankind if wide areas of the physical globe, of land, sea and stars, have been opened up and explored in our time while the boundaries of the intellectual globe were confined to the discoveries and narrow limits of the ancients. Nor are those two enterprises, the opening up of the earth and the opening up of the sciences, linked and yoked together in any trivial way. Distant voyages and travels have brought to light many things in nature, which

may throw fresh light on human philosophy and science and correct by experience the opinions and conjectures of the ancients (Jardine, 2000).

So, along with this new method of inquiry into the nature of all things, people also need a firm and powerful form of government to succeed as a whole. Therefore, Bacon insisted on a strong and perfect “state” which draws its power from “science” and “commerce” (Peltonen, 1992). For him, not only science needs a powerful state to flourish in but also the state needs science to improve its chances of development. The English political philosopher Thomas Hobbes, who lived around the same time as Bacon, compares the whole existence of civilised society to “Leviathan”, the great biblical sea monster (Curley, 1994). For Hobbes, the state “is but an artificial man”, and its “limbs” are the state offices and institutions (Curley, 1994). It is this great monster that puts the otherwise chaotic existence of humanity into order because it inspires awe in them, which they fear (Curley, 1994). As a result of the presence of this monster, the security and well-being of humans can be provided. Hobbes states that humans are competitive and unyielding by nature, so they are prone to apply force when they want to get something (Curley, 1994). What keeps someone from harming another person is not decency but the existence of a powerful authority that would punish them if they do something wrong. Consequently, when there is no greater power to make everyone respect each other, people would be in a constant state of agitation and fear. In such a state, there would not be “peace” to ensure a safe environment for arts and sciences to flourish, and eventually, humanity cannot lead its path forward in development (Curley, 1994). For Bacon too, the “state” should be powerful enough to maintain peace among its objects and for science to improve (quoted in Peltonen, 1992). The strength of states and development of knowledge have the same purpose in mind, which is to “enlarging of the bounds of Human Empire” (Bacon, 2008). However, what interested Bacon the most was not to enlarge the boundaries of the state but to make it strong enough that it would help scientific studies to thrive. Because Bacon’s main incentive was to “extend the power and empire of the human race itself over the universe of things”, which shows that he does not confine it to the power of one state (such as England) over others (Jardine, 2000). On the contrary, he emphasises the universal goal all humans should have in improving their knowledge of nature in general.

According to Bacon, provided that “we get rid of prejudices, observe diligently and exercise mental restraint for a while so as to avoid making the most general axioms”, science can improve endlessly (Agassi, 2012). His assumption that “every careful and open-minded observer could contribute to science” and that anybody can be beneficial for one great purpose in life is what ushered in a “science-oriented society” in the years following his death (Agassi, 2010). The conviction that continuous progression of scientific and technological developments would bring about a better future for humans is inherent in the Western civilization since the age of “Enlightenment” and this conviction has produced a lot of “myths” about technology in general (Stahl, 2001). Making “progress” and constant improvement are the chief prerequisites of technological dictum, and they are deeply rooted in all the parts of societal and governmental institutions (Stahl, 2001). Bacon’s designation of science and technology as man’s triumph over nature is almost fully adopted by many of the leading countries in their war of technology, and this is reflected in the relationships between them. The motto of the popular sci-fi TV show *Star Trek*, “where no one has gone before”, is actually taken from the meeting minutes of the US government’s “Science Advisory Committee” in 1959, and it reflects the USA’s desire to make further improvements in their exploration of outer space (Stahl, 2001).

Countries have been fighting over political supremacy through their use of technology and their advancements in science, and the general belief that whoever has the best developed state-of-the-art technology is the winner, is still prominent. However, what Bacon had in mind was not confined to national and regional boundaries: he believed in the all-uniting power of science, which superseded all the national or “religious and metaphysical” concerns that divided people into sects within themselves (Agassi, 2012). Bacon’s understanding of a scientific community promised the emergence of something much bigger than the petty concerns of states, groups or institutions, and it embraced the whole of humanity in their participation. However, in *New Atlantis*, the scientific utopia of Bensalem is isolated from the rest of the world and therefore it stays true to its purpose of improving science. The reason for its isolation is that most of the countries in the world are still in petty conflicts concerning material gains, instead of devoting their time and energy to science and technology. Contrarily, Bacon’s idea of universally accepted science requires the participation of all the scientists from all over the world, working in their fields, and as a result, it is

highly collaborative (Rossi, 1996). In his ideal state, scientists work alongside each other by collecting and sharing data.

Even though Bacon puts science ahead of everything else, he underlines the need for a powerful state that would make it possible for science to flourish. His “grand project” focuses on the improvement of sciences and technology, however, to maintain a working environment for this purpose, a strong method of government should be in use (Matthews, 2008:55). According to Howard B. White, “Bacon’s concept of the greatness of states forms a significant part of his whole project for Bacon defends a type of an ‘imperialism’ but of ‘science’” (quoted in Peltonen, 1992). He is aware of the importance of a steady and peaceful environment for the reproduction of knowledge, and he accepts the fact that without financial support no new scientific projects can be conducted (Jardine, 2010). For him, the way that a strong state could take its power from, is through “commerce” (Peltonen, 1992). Because, only with a steady economy, scientists could have the appropriate conditions and tools that they would need in their works. As a result, it can be said that the improvement of science is Bacon’s top priority, and his idea “links science, commerce and the greatness of states closely together” (Peltonen, 1992). In *New Atlantis*, Bacon outlines the basic principles that underlies his scientific utopia, which is the combination of peace and prosperity. Bacon’s depiction of the ideal state that takes its power from scientific developments reflects his stance in politics, as he characterises the state of Bensalem to have achieved perfection through its complete adoption of scientific principles. The state of Bensalem puts most of its resources on discoveries and inventions, and it maintains its citizens’ whole-hearted commitment in supporting the sciences.

C. Transhumanism

Quite similarly to Bacon’s philosophy, Transhumanism puts science at the centre of life. Transhumanism, as a school of philosophy, is directly related to Nietzsche’s concept of superman or “overhuman” (Sorgner, 2009). In its core, it is a philosophy which fundamentally aims to merge human with the machine. However, it has deep philosophical roots into the history of humanity. According to Bostrom, “[t]ranshumanism is a dynamic philosophy, intended to evolve as new information becomes available or challenges emerge. One transhumanist value is therefore to

cultivate a questioning attitude and a willingness to revise one's beliefs and assumptions" (2001). So, it can be said that transhumanism sees "nature and values" as ever-changing and ever-evolving (Sorgner, 2009). Sorgner also suggests that Nietzsche "holds a dynamic will-to-power metaphysics which applies to human and all other beings, and which implies that all things are permanently undergoing some change" (2009). How transhumanists and Nietzsche consider nature is that nature, human nature in particular, is prone to change and to evolve, otherwise it would stop advancing. In the future, humans can evolve into something that is utterly different than what they are now. For example, in *the Transhumanist Wager*, the protagonist, Jethro Knights, feels himself completely free from the rest of humanity and its systems of morality, he "was not concerned with belonging to the human race any longer or adhering to any of its accepted standards. He hardly identified himself with the human species anymore. His mind-set took him far outside that concept" (Istvan, 2013). Transhumanism essentially sees the current shape and structure of the human body as deeply flawed, and its value systems such as religion and culture as detrimental. So, it is only logical that they want humanity altered to go beyond the restrictions of our current time and reach into the future: "Jethro felt he should be a genuine philosophical machine, following the most expedient path to immortality" because this way he (or the human race in general) would attain its true potential (Istvan, 2013).

Transhumanism considers the nature of humans to be underdeveloped, however, it sees that there is a huge potential in making it better: "Transhumanists view human nature as a work-in-progress, a half-baked beginning that we can learn to remold in desirable ways" (Bostrom, 2005). The human heart pumps the blood into veins continuously, and if it stops doing that the human body and the brain cannot live for more than 10 minutes. Given its huge importance in maintaining an individual's life, the heart has such a flimsy structure that it can easily fail. Just like the heart, the brain is the other most important organ for human life because it controls everything the body does and is. As opposed to its exceedingly vital importance, the brain is constructed of cells that actually die by the seconds we breathe. Even though it is the biggest treasure an individual can ever have, it is placed in such a feeble construction that can be easily cracked open by a strong blow to the head. The weaknesses that surround the most vital parts of our body make us inclined to age and die as early as an average of 70 or 80 years. However, there is much to appreciate and enjoy in life

than to let them all go that conveniently. Transhumanists believe that technology and science can make us live much longer and healthily so that we can accomplish much more in life. They assert that “humans should exploit technological inventions that improve, lengthen, and yes, possibly change the lives of human kind” (Bostrom, 2005). So, it can be said that transhumanism aims at improving the capacity of humans and making them reach beyond the limits of their flawed nature lets them to do, through the use of science and technology. Consequently, the nature and the values of humanity would change because the resulting individual will be more than just human: he/she will be transhuman, someone that stands between a human and a machine but who is actually more than the sum of both. Transhuman, or transhumanism as a concept, is a part of the posthuman identity, as transhumanism represents just a step in becoming a posthuman entity. So, it can be said that transhumanism is the phase between the human and the posthuman.

Merging human with the machine poses a moral dilemma for some religions, including one of the most widely believed one, Christianity. In Christianity, the belief in an afterlife where one attains as soon as one’s earthly body dies, keeps many religious Christians from supporting such a merger. According to Bostrom, however, what Christianity suggests is actually the transformation of the earthly consciousness into something different than what it really is. And, so is the transhumanist consciousness because, when the feeble human body and brain are enhanced through science and technology, the human consciousness also becomes a different form of consciousness. However, this transformation takes place while the body is still alive, as opposed to the Christian transformation, which takes place after the body dies (Bostrom, 2005). With transhumanism, people can find peace and happiness while they are still alive, while Christianity claims that they can do it only after their physical death. So, this is why Christianity opposes transhumanism. Similarly, in *the Transhumanist Wager*, religion (in other words, Christianity) fights against transhumanism exactly for that reason, because transhumanism aims at achieving in earthly life what Christianity and other religions promise in afterlife. Transhumanism aims not just having body parts that are sturdily constructed but also uniting one’s consciousness with strong and intelligent machines, which is called Singularity: The main goal is “successfully navigating the possibility of a Singularity—controlling artificial intelligence and merging with it once it launched. And not being destroyed

by it, or left behind by it, or bedevilled by it” (Istvan, 2013). Transhumanists believe that if humans fail to do so, they will fall behind their evolutionary progress, as Jethro explains: “Humanity was at the very end of its brief existential epoch in time”, and if they do not take immediate action, they would get wiped off from the face of the earth without any success. The world’s resources are becoming scarce and the environmental damage caused by fast industrialisation has long scarred its structure. Jethro believes humanity’s fate is dependent on everybody working hard for one end, which is to try to reach immortality.

D. Scientific Dystopia

Science and technology provide humanity with boundless opportunities and inspire writers to hope for a better future, however, what gives hope to some, may lead others to be sceptical and fearful about the outcomes. Many dystopias were written to reflect such fears. What science and technology do is to show humankind’s capability to shape nature, and if they are left to the unbridled thirst for power, the results could be vexing. For example, in *Brave New World*, Aldous Huxley depicts a world in which science is used as a tool to control humanity and eventually render people into manageable masses. Humans no longer form relationships based on love and caring, and they no longer have families. Instead, humans are created in laboratories and divided into casts according to their physical and mental capacities. Nobody experiences pain anymore because it is repressed with medication and what makes life go on is just getting enjoyment from bodily pleasures. Humans are turned into mindless cogs that only fulfil their roles in the maintaining of society, superficially going through their lives without any purpose. Huxley feared that power-holders might exploit the potential of science and technology to dominate the rest of humanity. In his dystopia, science treats the whole being of humanity as a work that can be bent and mould into any direction, so long as it serves to the interests of hegemony.

Concerns about treating the complicated workings of human mind as if it can be altered or controlled by science, are handled also by novelist Anthony Burgess. In Burgess’s novel, *A Clockwork Orange*, the human mind is treated as something that can be trained to develop certain behaviours. The novel is set in a dystopic future where many people see mindless violence as natural and the state tries to control it by

applying “Ludovico’s Technique”, which aims at correcting violent behaviour by conditioning it to respond negatively to brutality. The subject to this technique is a young man named Alex. At first, Alex seems to be conditioned in the way the scientists were trying to alter his behaviour, however, it turns out that he is not. Violence brings upon violence, and the society seems to be indulging in it senselessly. Science does not help here to make things better because scientists fail to understand the complex nature of human mind. Burgess, in an interview, says that “I’ve implied the junction of the organic, the lively, the sweet – in other words, life, the orange – and the mechanical, the cold, the disciplined. I’ve brought them together in this kind of oxymoron, this sour-sweet word” (A Clockwork Orange, 2016). Science sometimes might fail to understand this complexity and thusly, undermine its own workings. However, what transhumanists generally maintain is that the human body and mind, as a whole, should be altered and partially replaced by machinery. They believe that the nature of human beings is imperfect and it should be corrected. In Istvan’s utopia, humans form such a balance between human and machine that at one point, the main character Jethro, merges his consciousness with that of the machine and controls its behaviours.

Istvan sees the possible future interaction of man and machine in a much more positive way than many others including James Cameron and the Wachowski Sisters. In Cameron’s *the Terminator* franchise, humans have created machines that actually take over from them their power (1984). The machines which humans have created, turn against their creators because humans fail to understand the complexity of the entities they have given life to. Here, the unceasingly progressive nature of science falls short behind its very purpose and gives way to a hellish form of existence on earth. Much like *the Terminator*, Wachowskis’ *the Matrix*, also illustrates such a war between humans and artificial intelligence (1999). In *the Matrix*, machines control the lives of the majority of humans and a small minority of them try to take the power back from the machines. In the end, a middle ground is achieved as both humans and machines maintain a much more harmonious existence. In both of these scenarios of human and machine interaction, humanity has the fear and anxiety of creating something that is superior to itself, and as a result, the pictures drawn are much darker. Istvan, however, is more hopeful than Cameron or the Wachowskis, as in his utopia, humans and machines merge perfectly with each other.

III. REVIEW AND EXAMINATION OF *NEW ATLANTIS* AND THE *TRANSHUMANIST WAGER*

A. Francis Bacon's *New Atlantis*

When Francis Bacon wrote *New Atlantis* in the 17th century, he laid out the blue prints of “a new global community” based on science and technology (Fletcher, 2017). Before he wrote this novella, he had written many treatises about science and its position in the affairs of man, such as *the Advancement of Learning*, in which he proposes that humans should divide sciences into categories in order to make the most use out of them. Another example of his such works is *the New Organon*, or *Novum Organum*, and in this book he suggests that the old methods of scientific inquiry, which are syllogisms and circular logic, are obsolete in dealing with the problems of contemporary society. Therefore, in this work, Bacon puts forward an inductive scientific method that is quite different from those of the ancient philosophers. Aside from those, Bacon also wrote many other philosophical works concerning the nature of knowledge and how we should attain it. In all his works, Bacon had a set of ideas in his head about how to handle science and technology, and in *New Atlantis*, which is his final yet incomplete work, he foresees the results of his methods. *New Atlantis* is set on a remote island in the Pacific Ocean, away from the rest of civilisation. The narrative starts when a ship full of Europeans lose their way in the middle of nowhere. Just as they think they cannot escape death without food or any other provisions, they are miraculously saved by a group of people from a nearby island called Bensalem. Even though the people on the island are not European, they know many European and middle-eastern languages like Spanish, Latin, Greek and Hebrew. Upon landing on the island, the European visitors are brought to “the Strangers’ House”, where they are taken care of with great hospitality of the Bensalemites (Bacon, 2008). Later, the Europeans learn that the people of Bensalem are actually Christians and their conversion is the result of a divine miracle which took place just a few years after the death of Jesus Christ: Saint Bartholomew, one of his apostles, sent an “ark” containing

the divine knowledge of Christ and thusly the people of the island converted to Christianity. This sacred knowledge has been protected by “the wise men of the society of Salomon’s House, which house or college is the very eye of this kingdom” (Bacon, 2008). Their Christianity is different than the rest of the world because it is not tainted by the conflicts between the institutions of societies, as it was in Europe. The Bensalemites study the knowledge given to them by “God” and get much better solutions in understanding his works because of their most potent institution, Salomon’s House (464). Salomon’s House operates like a modern research institution because the natural philosophers there (in our day, they can be called scientists) work on many fields of scientific research, and collect and study data by doing experiments. Bacon describes this place in terms of “collaborative efforts of specialized sciences to advance empirical knowledge and bring relief to the human condition”, as its main objective is the improvement of human life (McKnight, 2005). The Bensalemites have kept their nation hidden from the rest of the world by isolating themselves and avoiding direct contact with other countries. However, they still approached them in order to gain their knowledge on positive sciences and somehow managed to keep their distance from them. Their ultimate purpose has always been to disclose “the true nature of all things (whereby God might have the more glory in the workmanship of them, and men the more fruit in the use of them)” (Bacon, 2008). By studying the works of God, which is nature, they can get closer to the revelation of His secrets.

Getting to the knowledge or the “*light*” of God is the main objective of the Bensalemites, which motivates all the activities in the island of Bensalem (Bacon, 2008). As a result, the people there form firmer relations between the members of their society. This is reflected in their respect for the organisation of family life in smaller and manageable units, where the father rules with great authority as the head of the household. Similarly, the country is administered by Salomon’s House with such respect and admiration by all members of the society. Bacon introduces “one of the Fathers of Salomon’s House”, “Father” meaning an executive member of the scientific institution that runs the whole country, as a very respectable and authoritative figure (Bacon, 2008). This “Father” explains the basic principles of how Bensalem is governed in detail, by first describing their aim: “The End of our Foundation is the knowledge of Causes, and secret motions of things; and the enlarging of the bounds of Human Empire, to the effecting of all things possible” (Bacon, 2008). To learn the

ways how nature works, the natural philosophers in Salomon's House conduct many experiments on different areas of research. For example, they work with different materials they have gathered from earth by putting them through different processes such as freezing or applying extensive heat, and they form new chemical compounds through other procedures. They simulate different weather conditions and observe them to collect data about natural phenomena. They also artificially produce nutrients that would help "for health, and prolongation of life" (Bacon, 2008). The natural philosophers in Bensalem experiment with the nature of plant life and just like their counterparts in our day, they genetically modify plants by causing "them also by art greater much than their nature" (Bacon, 2008). Similarly, they experiment on animals by dissecting and studying their bodies so that they can "take light what may be wrought upon the body of man", as well as creating new breeds of animals (Bacon, 2008). Such practices are very much alike gene-splicing that is practiced in laboratories in our time. They conduct many other types of experiments concerning mechanics and physics as well as producing and testing new military weapons. Bacon apparently foresaw the invention of airplanes, submarines and automated machinery hundreds of years ahead of their time:

We imitate also flights of birds, we have some degrees of flying in the air; we have ships and boats for going under water, and brooking of seas; also swimming-girdles and supporters. We have divers curious clocks, and other like motions of return, and some perpetual motions. We imitate also motions of living creatures, by images of men, beasts, birds, fishes, and serpents. We have also a great number of other various motions, strange for equality, fineness, and subtlety.

Bensalemite scientists collect and preserve the data they gathered from their various experiments, and they do not share their knowledge with the general public. Bacon's understanding of secrecy is important here because he believes that only a select few can comprehend the true nature of life, therefore the possession of knowledge is restricted to its owners. Natural philosophers are politicians in Bensalem and they decide who should know what: "we have consultations, which of the inventions and experiences which we have discovered shall be published, and which not: and take all an oath of secrecy, for the concealing of those which we think fit to

keep secret: though some of those we do reveal sometimes to the state, and some not.” (Bacon, 2008). Bacon apparently did not think that common man can be capable of understanding neither the purpose nor the outcomes of scientific discoveries, so he believed that such knowledge should be disseminated, if it is at all, carefully.

Bacon’s ideal state of Bensalem is governed by a very potent institution called Salomon’s House, which is actually the source of the power of the whole state. This institution is composed of natural philosophers who make the most important decisions concerning the affairs of the state and its people. The rulers in Bacon’s utopia are scientists who know how the world around them works; how materials turn into other materials, how organisms act the way they do or how mechanical machines create wonders. The universe is no longer a mystery to them nor are they afraid to search and reach into the depths of its secrets. Thinking analytically about natural phenomena rather than speculating over theological matters is their chosen course of action because they know that this would be their only way of unfolding the mystery of the universe. Bacon apparently thinks that such people would also be efficient administrators in handling economic, social, political and cultural matters since the members of the society of Bensalem are in a seemingly perfect harmony with each other and they respect their rulers sincerely. What creates such a success is the fact that the Bensalemites do not worry themselves with the metaphysical but rather they delve into the nature of the physical, because they know that only doing so, they can achieve “the relief of man’s estate” and make life on earth much easier for humankind (McKay, 1976). Bacon’s insistence on taking humanity’s concerns from otherworldly matters to concrete subjects like ‘how can we make the world around us more comfortable and liveable’ is the essence of his great plan or the “great instauration” (Weinberger, 1991). His plan was the reformation of how humans think and act, and eventually create something completely new and much more useful to human life, because he believed “reason directed by new means and ends would change completely man's place in the whole of things. When properly empowered, reason would no longer merely soothe our enslavement to a stingy nature, or take sides in the political disputes caused by nature's penury” (Weinberger, 1991). On contrary, if humans start to understand how nature works, their understanding of it would help them to live their lives much easily.

The people in Bensalem live in a society that is not contaminated by the corruption of social institutions because their administrators are scientists who think analytically about nature. They believe they all have duties for the state and they do their best to protect its interests, not their own interests. The ultimate duty and the utmost shared interest for the whole society in Bensalem is “enlarging of the bounds of Human Empire, to the effecting of all things possible” (Bacon, 2008). When people serve one noble cause their whole life, they become more respectful towards it. For example, when the European sailors first come to the island, they are taken to a place called “Strangers’ House”, where they are accompanied by an officer of the state (Bacon, 2008). When the Europeans offer the officer a gift for his kindness, he refuses it by saying that “[h]e must not be twice paid for one labour” for his wage is enough for his job (Bacon, 2008). It can be deduced that not only the state of Bensalem is fair in its distribution of wealth among its citizens but also its people are not covetous as a result of the dominating principles of the island in general. They respect their posts and their culture so much that they do not give in to the petty concerns of daily life. The advancement of sciences and scientific knowledge is the main pursuit of all their actions in life and they strive for this purpose only.

B. Zoltan Istvan’s the Transhumanist Wager

Another utopia that perfectly epitomises the formation of an ideal scientific society is Zoltan Istvan’s *the Transhumanist Wager*. In this novel, which was first published in 2013, Istvan defines the obstacles that prevent the formation of a perfect scientific community and a world order that enables the advancement of humanity. The scientific utopia is achieved towards the end of the book and this achievement takes a long and painful way to be completed. Istvan explains in detail the transhumanist philosophy that forms the core of this scientific utopia, which is based on the advancement of science and technology. The book opens with the protagonist Jethro Knights struggling with a tempest in the middle of the ocean, clinging tightly to his life on his boat which he calls “*Contender*” (Istvan, 2013). The scene depicted in the beginning of the book shows the reader what kind of a character Jethro is: he is stubborn, determined and a challenger of conventions, hence the “*Contender*” (Istvan, 2013). Jethro is a student of philosophy in one of the greatest universities in the USA and he thinks differently from many of the people surrounding him, because Jethro

believes that old belief systems are holding humanity back and keeping humans from achieving the ultimate success, which is immortality. After university, Jethro starts to sail around the world and starts to write a journal for an international newspaper. On his way, he meets and falls in love with a British-Chinese doctor named Zoe Bach, whom he later marries. Jethro gets involved with a group of scientists who united under the name of an organisation called “the World Transhumanist Institute” (Istvan, 2013). Their purpose is the same as Jethro’s, which is to achieve immortality. However, Jethro notices that most transhumanist scientists are too submissive and compliant to the wills and pressures of other opposing opinions, whereas Jethro is much more headstrong. He believes that trying to persuade opponents by yielding to their oppression with ease is useless because in that way the opponents would be more aggressive. Therefore, Jethro quits conventional methods in trying to reason with irrational people by trying to open their minds to more useful and constructive use of their limited resources. He simply urges all the other transhumanists not to give in to the threats or sanctions but to fight back at their oppression. At the end of a meeting with fellow transhumanists, one of the protestors against transhumanism throws a piece of rock at Jethro, and Jethro, instead of letting it go, picks up the rock and throws it “right back from where it came”, thusly showing his attitude towards his aggressors (86 Istvan, 2013). In the movement against transhumanists, the leading actor is Reverend Belinas, a charismatic religious leader who preaches peace but executes violence on the non-believers of his faith. Belinas characterises the neutralising power of blind faith, which asks from its followers their complete submission to and acceptance of the wretchedness of their conditions, so, as a result, they willingly consent to every evil threatening their existence, such as hunger, poverty, unemployment and so on. Belinas is against transhumanism because it asserts that such evils can be cured and humans can achieve happiness while living, instead of achieving it after they are dead. Belinas represents the unquestionable faith of the religious man while Jethro represents the inquiring and uneasy mind of the scientist. While Belinas preaches for everyone’s belief in the absolute power of an almighty god, Jethro puts forward that such absoluteness is irrational because of conditionality or causality of being, that is, the existence of one thing being dependent on the existence of another. While Belinas lectures on helping the poor and the needy, Jethro suggests that anything or anyone that cannot be made to use is just unnecessary and their existence is futile. Also, Jethro says that religious

people can live their own spirituality and that they should let him live his own (Istvan, 2013). However, he also says that the yoke of religion on the general public should be abolished. He is in conflict with his words, just like Belinas, who preaches equality and compassion but lets innocent people get killed through his devious schemes. So, it can be said that Reverend Belinas and Jethro Knights are the equal parts of the conundrum on the opposing sides. They both believe that “there could be no middle ground”, it is only one way or the other (Istvan, 2013).

In the world Istvan depicts in *the Transhumanist Wager*, government is against transhumanism because politicians do not want to make their relations worse with general public. And the general public, out of ignorance and fear, is against transhumanism. No matter how convincing the transhumanist doctrine is, with its agendas for life-extension, living longer and free of diseases, people still choose to go against it because they prioritise their petty and daily concerns over the greater good of humanity. Politicians just think about being elected again, lawyers just worry over the money they would make, and so on. However, according to David Livingstone, the roots of transhumanism is so deep within the political institutions that it cannot be picked out for what it really is (2015). It is ingrained in the general political agenda of the many institutions of a lot of countries, so it is not possible for a public turmoil of the like in this book to happen. Certainly, there are protestors against cryonics, stem cell research, nanotechnology and other progressive and controversial sciences, however, the general political agenda of the most powerful institutions in a country like the USA, is heavily influenced by transhumanist concerns. Also, transhumanism as a separate philosophical school of thought is not singled out so ostensibly as to invoke such great attention from the public. On the other hand, in Istvan’s novel, transhumanism is seen as the evil ideology by most people and as a result, transhumanists have to fight with ignorant and belligerent anti-transhumanists. Technology and ownership of technological devices mark the biggest difference between groups in society and especially in the USA, this difference is significant and most people see technology as one of the greatest divider among them. People associate technology “with increased governmental control, greater disparity between rich and poor, and withdrawal from nature” and therefore they deeply despise transhumanists (Istvan, 2013). They attack transhumanist scientists and organisations under the leadership of Reverend Belinas and the government supports these attacks

underhandedly. The conflict between religion and science is marked here because of its historical importance, as it resembles what happened to many philosophers and scientists who opposed to the dogmatic teachings of religion. For example, Galilei Galileo and Giordano Bruno, who were both prosecuted by the Inquisition because they had argued for the fact that the Earth revolves around the Sun, are among the people who had been caught in the conflict between religion and science. Just like them, scientists in the world which Istvan depicts, are prosecuted by the authorities, as a result of their search for the truth. Jethro realises that his country or any other country on earth would not provide the proper means to build his transhumanist utopia, so he starts to dream of “an isolated place on the planet where such an autonomous nation of transhumanists could be founded” (Istvan, 2013). What paves the way to the founding of Transhumania (the scientific utopia in the book) is the death of his wife, Zoe Bach, by a terrorist attack planned by Belinas, because after that attack Jethro gets the biggest support from a Russian oil mogul named Vladimir Vilimich, who wants to help his cause. With the financial assistance of the wealthy businessman, Jethro builds up his transhumanist utopia by putting it on a floating island which is both mobile and isolated, “fully exempt from the rest of civilization and its ideas of right and wrong” (Istvan, 2013). Transhumania becomes a place where everyone would dream to be but only the worthy can live in (Istvan, 2013):

This was, in a strange way, to be a utopia—a world designed as one could imagine and dream it. It must be the best place to live on the planet. People must yearn to want to go there, to ditch their homelands and become an intimate part of its great task. They must feel endowed, inspired, transported. They must believe passionately in the sense of purpose, of belonging, of entitlement, of life-giving commitment to Transhumania.

Jethro gathers the world’s leading scientists on his utopia and they work on many disciplines as diverse as “biology, chemistry, physics, and the medical fields [...] biotechnology, cryonics, cellular regeneration, nanomedicine, cybernetics, life extension pharmacology, chemistry, cognitive science, cloning, gene therapy, neuroscience, organ farming, tissue engineering, bacterial transformations, viral containment, psychiatry, cancer research, and nuclear physics” (Istvan, 2013). Technological innovations such as “supercomputers, supercomputer hacking, software

design, hardware creation, nuclear accelerators, fusion machines, robotics, artificial intelligence, nanobot technology, Web design, virtual world creation, computer chip architecture and construction” also take place. Scientists fundamentally work for one noble cause, immortality.

Jethro’s transhumanist utopia draws all the attention and naturally, all the hatred and grudge on itself by the world’s ruling countries. Even though Jethro believes spending time and money on military and weapons is a waste of time, they have to do it because eventually they have to fight back to make use of the world’s abundant resources. After successfully defeating the attacks and eliminating all their enemies, including Belinas, Transhumania takes control of the rest of the world. Jethro summarises Transhumania’s aim thusly: “We want to *teach* the people of the outside world, not *destroy* them; we want to *convince* them, not *dictate* them; we want them to *join* us, not *fight* us. They may not be essential, but they may help make it possible for us when it’s time to journey through what *is* essential” (Istvan, 2013). Transhumanists rule the world through their intelligence and hard work, not by helping the needy or the ignorant, because they know that only the strongest ones are needed to improve humanity. Most of the undereducated or the illiterate of society “may not be essential” as they are not useful for the greater good, therefore their existence is only coincidental. The philosophy Istvan employs through Jethro’s character strongly resembles Nietzsche’s theory of “superman”. According to Nietzsche, in primitive societies humans did not possess such values as humility, empathy, equality or justice; on the contrary, they were driven by their most innate instincts and desires, which were to overcome each other for superiority (Kaufmann, 1989). However, the strongest and the smartest minority of society came to dominate over the rest, and they decreed that imposing such principles on the masses would help control their erratic behaviour. From that moment onwards, the individual has been suppressed. Nietzsche believes that “everything a man does in the service of the state is contrary to his nature” because the state, or society in general, serves only to restrain the individual and his/her aspirations (Kaufmann, 1968). By way of imposing such rules as looking after the weak and the needy, society actually drains down its own resources by not spending them on the strongest and the most promising because such efforts are wasted on the needy; if the resources are spent on the most deserving, this would help to improve society as those individuals can work much more efficiently than the weaker ones. For

Nietzsche, it is the individual “will” that drives any person to do something worthwhile or for the good of humanity because man is essentially selfish, and only when he does something for himself, he can be truly successful. Nietzsche calls this concept “will to power”, while Istvan calls it “will to evolution”, and what Nietzsche calls “superman” Istvan calls “omnipotender” (Istvan, 2013). Jethro Knights takes on from Nietzsche’s steadfast and powerful individual and says that the “individual” is a “self-sustaining entity, bent on acquiring as much power as possible in life” and to have power “over everything and everyone” is his sole aim in life (Istvan, 2013). Jethro, in the words of Istvan, states that, just like Nietzsche, humans are not naturally “altruistic” or sympathetic to each other, on the contrary, they are born “selfish” (Istvan, 2013). Such norms of society only hold back humanity because it wastes its time and energy on trying to improve what cannot be improved and to help what cannot be helped. If an individual does not have any function in his/her community, he/she does not have any value either. So, it can be said that the strongest and the brightest individual is the one that would help humanity to move forward, while the weak and the needy hold it back. Nietzsche calls this strong individual “superman” and Istvan calls him/her “omnipotender” and they are both closer to the position of God(s) in the ability of creation and power of might. Istvan’s omnipotender is not constrained by any morals derived from “ethnic or religious” sources, and as a result, does not consider their guidance in the way to success (Istvan, 2013). The unrestraint from the rules that bind other individuals, helps the omnipotender to be free to make his/her rules, so long as they serve the greater purpose of science and scientific improvement. Istvan’s omnipotender is different than Nietzsche’s superman in respect to the reverence to science, because omnipotender is in an endless search for the scientific development that would make him/her reach the ultimate goal, which is immortality through merging with machine. Although the omnipotender is self-centred to the core, he/she aims to make a change to the whole of the way we live, because the developments in science and technology would entail the evolution of humanity as a species.

The ideology that Istvan purports in the Transhumanist Wager is called “Teleological Egocentric Functionalism”, or shortly, “TEF” (Istvan, 2013). It is based on “will to evolution”, which is the concept Istvan uses to define his philosophy. It claims that any individual who exists should have a purpose to fulfil in life, hence it is “teleological”; it is also “egocentric” because the life force in every individual requires

him/her to be assertive and self-centred in achieving his/her ambitions; and it is “functional” as it only accepts the existence of individuals or things that are “rational and consequential” (Istvan, 2013). TEF does not disregard the weak and the needy, however, it sees them as obstacles in its path to the greatest goal in life, which is immortality: “We need to divert the resources to the genuinely gifted and qualified. To the achievers of society—the ones who pay your bills by their innovation, genius, and hard work. They will find the best way to the future. Not the losers of the world, or the mediocre, or the downtrodden, or the fearful. They will only drag us down, like they already have.” (Istvan, 2013).

Taking assertive actions that border on aggressive, is the only way to eliminate the barriers that hold humanity back, and as a result, TEF suggests abandoning the old and impractical institutions such as religion and legal systems because such systems continually look out for the rights of “the mediocre, or the downtrodden” (Istvan, 2013). Just like Nietzsche’s, Istvan’s philosophy seems harsh and cruel in its treatment of the ‘lesser’ beings as it sees them as one of the biggest obstacles in the attainment of its ultimate goal, which is immortality. The idea that such weak and needy beings should be eliminated consequentially in the due course of nature, is usually traced back to Darwin’s theory of evolution. However, Darwin’s view of human nature is not as severe and utilitarian as Nietzsche’s view of the same subject, because Darwin believed in the “special nature of humans consisted in part in their ability to build on an evolutionary platform of altruism” (Wilson, 2013). Nonetheless, the concept stemming from Darwin’s findings on the nature of living organisms, which suggests that the ones which are equipped with the best genetic material can survive the ailments that could kill all the others, or “the survival of the fittest”, is very consistent with Nietzsche’s superhuman (Wilson, 2013). Istvan’s omnipotender also sticks to this idea:

The core of the sentient world has always been like that, from the weakest species in the animal kingdom to the strongest. Every gene in our body is imbued with this necessity to triumph the existing competition. Survival of the fittest. You can sugar-coat reality for yourself however you want, but the indelible nature of evolution always remains paramount. This is the main force propelling the world forward (Istvan, 2013).

Just like Nietzsche, Istvan also believes that the strongest individual has the right to rule over others, not with the aid of an outer power such as religion, politics or culture but as a result of his/her natural abilities that makes the person(s) stand out among all the rest. This powerful individual, superhuman or omnipotender, would lead society forward and eventually improve life on earth for every other being. Istvan's omnipotender just aims at doing so.



IV. COMPARISON OF TWO SCIENTIFIC UTOPIAS: AXIS OF SYMMETRY

In both novels, the ideal science is described. In *New Atlantis*, a scientific community is already formed and what we see is its fully operational state. On the other hand, in *the Transhumanist Wager*, we can witness the scientific state in its very making. In Bacon's utopia, the administrators have been scientists for many years and the community is blooming under their supervision, while in Istvan's, at first the rulers are the ordinary politicians with their petty and selfish concerns, and then scientists and philosophers take control. After scientists come to power, a much better form of existence comes into being for most people. In both utopias, an immense amount of resources is spent into making and maintaining the utopia, and science and technology are the driving powers of all affairs concerning humans. In this part, similarities between the two scientific utopias will be established and differences will be underlined.

A. Science and Politics

In *New Atlantis*, scientific progress is the ultimate goal of almost all the citizens in society: they all work for the enhancement of their knowledge of natural phenomena and its mechanics. Their organisations are science-oriented and their administrators are natural philosophers, or in other words, scientists. Political, social, economic and cultural institutions are conducive to the improvement of sciences, and they all work collaboratively for that purpose. Francis Bacon's utopia reflects his opinions about the place of science and technology in the development of a state. As it can be observed in *New Atlantis*, Bacon sees science as the overarching power that dominates every aspect of social, economic and political life. Before the place of science can be underlined in Bacon's views, it is necessary to establish his ideas regarding the importance of a powerful state. Bacon believed that a nation had to have a strong government that could control vast majorities under its grip. And to be strong

necessarily entailed having commercial power. In his essay, *of True Greatness of Kingdoms and Estates*, Bacon gives the example of how a state that comprises a small territory could gain power by expansion. He asserts that having a strong army and commercial power are the most important elements that help the state to flourish. His ideas of such a state is the precursor of British imperialism, however, Bacon's imperialism is "the imperialism of Baconian science" (White, 1968). What makes such a state so strong is its "naval power", which enables its citizens to go around the world and conquer areas that were previously unreachable (White, 1968). Bacon's understanding "comprised the new science as well as imperialist political aspirations and was linked with emerging capitalism" (Peltonen, 1992). Because Bacon saw that science needed both resources and tools to cultivate nature, and it meant that huge sums of money were necessary to maintain those means. Seeing that only a powerful state can gather such factors together, Bacon insisted on "enhancing the powers of the State" (Martin, 1992). He heartily believed in a perfect state which took its powers from science and commerce, and most of his writings supported the idea of such a truly potent state (Martin, 1992). Bacon believed that science and state should go hand in hand:

Empirical science will be used to make the dream of the manipulation of nature a reality, and this will run in parallel to a project of empire, which Bacon specifically recommends. The rewards in terms of material dividends and colonial wealth will be enough to silence criticism, as imagination is forced into a subordinate role. For a time, it will indeed appear that everything can be known and the secrets of the universe, like the white spaces on the map, be subjected to human dominion (Mitchell, 2006).

Bacon's merging of imperialism, commerce and science points to his design of a grand project, or "the Great Instauration" (Jerry Weinberger, 1991). At its core, the Great Instauration indicates a complete departure from old ways of learning and philosophy of the ancients, and eventually this would lead to the formation of a brand new ideal of science. Taking its impetus from this shift of paradigm, the boundaries of human knowledge would be extended. Even though Bacon put much emphasis on the greatness of states, his main purpose always had been to improve sciences. In *New Atlantis*, the state is strong as a result of its prioritising of scientific knowledge over

political superiority. The island and the country on it, are small in size but they are able to accomplish much more than their limited physical conditions allow them to. Peltonen underlines the misconceptions about the “greatness of kingdoms”, one of which is to put “too much importance to large territory” (1992). Having vast lands under its dominion does not necessarily give control to a state, contrarily, power is measured by the authority the state exercises on its land. Also, as opposed to having a lot of riches, it is more important and practical to trade and do business with other states. So, it can be said that what makes a state stronger is not the amount of land or riches it possesses but how much control it has on its assets. Peltonen deduces that, for Bacon, “the themes of greatness and advancement of learning had certain things in common” because they both pointed at “an extension of power” (1992): the success of the state equals to the expansion of “empire”, on the other hand, the goals of “natural science” is the expansion of “the bounds of the human empire” (Bacon, 2008). Since there is a direct correlation between the success of state and of science, it is natural to assume that they both take power from each other by feeding and supporting each other’s development.

In Zoltan Istvan’s *the Transhumanist Wager*, science is the ultimate weapon that enables transhumanists to have control over their lives. And towards the end of the book, a new world order that takes its power from science and technology is established. As it was mentioned before, the purported philosophy of transhumanism in Istvan’s book is called TEF. TEF asserts that one should always value his/her own life and safeguard it against everything. And if a value of that sort is put on something, it should be sought after all the time: “*If you love life, you will always strive to reach the most advanced form of yourself possible while protecting that life*” and what would enable this task is only the strongest tool humans possess, which is science (Istvan, 2013). Science and technology are the means that would make it possible for humans to accomplish their aims in life, so they are the top priorities in transhumanism. Consequently,

TEF - like transhumanism in general - considers the advancement of research and technology to be its first priority, as this prioritization is most likely to realize the transhumanist agenda through science. Science - and its outcome, technology - thus becomes the centerpiece of virtually “everything”, with politics,

economics, culture and religion taking second place, as servants of the natural sciences. This in essence makes the humanities irrelevant, since they stem from centuries ago and will therefore have to be rebuilt from the scratch for the new transhuman world that arises (Benedikter et al., 2015).

TEF strongly asserts that new values should be determined in accordance with the changing world order because the previous ones are not suitable for the new type of human that is emerging, a transhuman who is enhanced in every way by the improvements of science. The transhuman is a completely new life form and his/her “new nation” should “be fully exempt from the rest of civilization and its ideas of right and wrong” (Istvan, 2013). Just like Francis Bacon, Zoltan Istvan insists on going through a complete reformation of all the values, beliefs and ideas regarding both human nature and society. Bacon’s “Great Instauration” strives for changing the mindset of humanity entirely, and Istvan’s “TEF” aims at nothing shorter than that. They both design the complete restoration of the old systems that hold humanity backward, and point out the ways that humans can improve their individual lives as well as their societies. Also, similar to *New Atlantis*, the protagonist Jethro Knights builds the perfect state- Transhumania- in *the Transhumanist Wager*. Transhumania is a place where “radical scientific progress and the search for immortality could go unheeded” (Istvan, 2013). It is a strong state that takes its power from science and technology, which are enabled through a substantial capital invested in the required machinery and tools. However, its purpose is not political supremacy but the advancement of humanity, and it only supports capitalism so long as it serves science: “Transhumania will promote capitalism, competition, free trade, and private property around the world—so long as it doesn't impede or counter the overall transhuman mission” (Istvan, 2013). It can be seen that, just like Bacon, Istvan puts scientific improvement over political power. Although science can make states great, it would be just the outcome, not the goal. The main goal is not to dominate politically but to enable science to flourish. Political power is only needed to maintain the advancement of sciences which would lead humans to a brighter future where the biggest enemy, death, is defeated.

In both of these scientific utopias, state is powerful because huge amounts of money have been invested in the improvement of science and technology. Hundreds of years ahead of Istvan, Bacon also foresaw “that this project is a massive collaborative one, requiring the financial and organisational backing of a ‘King or Pope’” (Jardine, 2000). For that reason, he appealed to the king of England, James I, promising great success as a result of investing in sciences. Being a “pragmatic” Renaissance man himself, Bacon addressed investors who seek to “make a rapid profit” from his project (Jardine, 2000). Although the sole purpose of the scientist is to learn more and more about the nature of life, what interests the investor could only be the enlarging of his/her wealth. In *the Transhumanist Wager*, when Jethro sets out to achieve his transhumanist utopia, he knows that what he needs the most is wealthy investors and that he should convince them that it is a profitable investment. He knows that Transhumania has a “substantial research and a detailed business plan behind it” that needs “investors and wealthy donors”, and that “it would only take one fully committed super-rich donor to build Transhumania—and change the course of human destiny” (Istvan, 2013). Even though they invest their money with a different purpose in mind, the outcomes of such investments are of much more importance to the advancement of sciences. For both Bacon and Istvan, improvement of science and technology is the most important purpose of states.

B. Science in Collaboration

Science is a cumulative form of knowledge, meaning that it builds up on the data that has been collected so far. And the accumulation of such data is dependent on the collaborative working of all the scientists and institutions within a field of study. For example, if Gregor Mendel, a 19th century Austrian scientist, had not noticed certain traits in the breeding patterns of the plants in his garden and stated the principles that now form the basis of genetic science in his works, the scientists in 1990s would not crack the code of the human genome and lay out its sequencing. Or if another scientist had not invented the telescope before him, Galilei Galileo, a 17th century Italian astrophysicist, would not be able to look up to the sky and make the necessary calculations and observations to discover that the Earth, along with other planets, revolved around the Sun. All the other scientists take on from each other’s works and improve the knowledge at hand. It is widely accepted that Bacon saw science as a work

of collaboration and cooperation among the scientists who worked in their fields (Mumford, 1964; Rossi, 1996; Malssen, 2015). Mumford explains that Bacon saw “that science in future would rest increasingly on a collective organization, not just on the work of individuals of ability, operating under their own power” (1964:108). He believed that scientists should share their findings with each other, and that all the institutions in society should support sciences, which should also be managed as an “organized community financed by the state or by public bodies” (Rossi, 1996). In *New Atlantis*, the scientists are separated from the rest of the society while they continue their works without going public with their findings. Bacon apparently believed in a secrecy of knowledge, thinking that not everybody can comprehend the magnitude of scientific and/or technological improvements. Bacon’s reasoning for this might be because that certain ethical or religious norms could interfere with scientific progress, such as gene splicing or human cloning cause ethical and religious concerns in our day. Bacon probably thought that the rules regulating other people’s beliefs should not affect the scientific progress because such rules might intercept certain morally ambiguous or questionable practices done by scientists.

Bacon righteously prophesised “that science would materially prosper by becoming a collective enterprise, subject to systematic organization on a worldwide basis; and that the social goal of science, as he phrased it in ‘*The New Atlantis*,’ would be ‘the enlargement of the bounds of humane empire’” (Mumford, 1964). And Istvan makes this very clear in *the Transhumanist Wager*. When Jethro Knights builds his transhumanist utopia, Transhumania, “a place where the world’s best scientists, technologists, and futurists can carry out research to achieve their life extension and human enhancement goals”, Bacon’s dream is achieved (Mumford, 1964). In Transhumania, there are many scientists working alongside of each other and achieving success in their own fields. They design the world’s best technologies, such as the creation of tiny robots performing the hardest tasks that a human can perform difficultly, supersonic machines that could travel faster than the speed of sound, an internet wiring system that connects a whole city and enables it to behave like a unified and corporate entity, and so on. In this scientific utopia, every person’s duty is clarified and what the can do for his/her community is obvious, and if anybody is not useful to Transhumania, he/she is simply not admitted to or expelled from there. All the

scientists contribute to one fundamental purpose, which is to perfect the human existence by enhancing it through technology and eventually achieving immortality.

C. The Imperfect Nature of Humans

Renaissance saw humans as the final step of creation, which represents perfection, meaning that humans were at the centre of cosmos. As a Renaissance man, Bacon also believed in that. He suggested that humans were “the centre of the world; insomuch that if man were taken away from the world, the rest would seem to be all astray, without aim or purpose, to be like a besom without a binding, as the saying is, and to be leading to nothing” (Bacon, 2010). Humans represent the “mind and intellect”, the most important powers that lead and shape the rest of the world, which is also an extension of “Providence”, or God. In his essay *Prometheus, or the State of Man*, Bacon recounts the story of how Prometheus created humans from pieces of beasts and soil. He gave them the gift of “eternal youth”, which they did not value enough to preserve carefully, and eventually a serpent stole it from them. According to Bacon, this shows the feeble nature of humans, for losing something that precious indicates the flaws in both comprehension and foreseeing. Being equipped with the most powerful tool, which is intellect, is not enough to make humans fully potent and in control of their surrounding because humans are weak by virtue of their nature. Especially, in the beginning of their life on earth, humans were helpless and in need of help from their creator: “man in the first stage of his existence is a naked and defenceless thing, slow to help himself, and full of wants. Therefore, Prometheus applied himself with all haste to the invention of fire; which in all human necessities and business is the great minister of relief and help”. This indicates the undone nature of humans that needs reshaping. According to Spedding, Bacon thought of humans as “imperfect intellectual machinery” (quoted in Muntersbjorn, 2002). Since humans are flawed and not rational by the nature of their creation, they should be perfected through science and eventually, get closer to the unerring logic of a perfect machine.

In *the Transhumanist Wager*, Istvan underlines the need to “improve the human condition” by correcting it “via applied science and technology” (Istvan, 2013). The imperfect human nature should be perfected through “cryonics, cloning, artificial intelligence, bionics, stem cell therapy, robotics, and genetic engineering” (Istvan,

2013). The human body is fragile, a strong blow to the head or a bullet to the heart could kill a person immediately. Whatever that person has done until the moment of his/her death; all the experience, feelings and thoughts that make up his/her character can all be ended in one quick motion. Istvan, through Jethro's character, points out the fact that this should not be the end of a person and that any person should have the right to "transcend his human biological limitations in order to reach a permanent sentience" (Istvan, 2013). Human mind, as opposed to its potential to achieve much more, is tainted by distractions and petty concerns of daily life. When given the opportunity and the necessary means, there is no limit to what a person can achieve. In a 2011 Hollywood film called *Limitless*, the main character, an unsuccessful writer named Eddie Morra, takes a pill that enhances his perception and thinking abilities when he uses this drug, he is able to finish writing the book he has been working on for so long. He remembers, in an organised way, every detail about what he has seen and read, he learns a language in a very short time and he makes calculations not even a computer algorithm can do as correctly as he can. By quoting the Bible, he says: "I was blind, but now I see". Because his perception is so much enhanced that he could use every bit of his mental power to the fullest. However, his new abilities come with a price for he says: "If I wasn't moving forward, I felt like I was going to explode". This line in the film not only summarises the course of progress in scientific societies, but also underlines the flawed nature of humanity. Jethro argues that "[t]here's much to scoff at with the human race, much to criticize, much to transform. Honestly, most of it should be scrapped and recast entirely" and that "evolution of humans is long overdue for a major upgrade" (Istvan, 2013). Here, Istvan suggests that it is not just the human body and mind that should be changed and evolved for better, but also the institutions humans have been creating and using to govern their lives. So far, humans have built their lives around certain norms concerning their relations with each other, such as politics, culture, economy and religion. Religion forms one of the most comprehensive set of rules governing people's lives, and it is dogmatic by nature. Therefore, most of the time, it conflicts with the ever-changing and progressing science.

D. Science and Religion

Istvan's and Bacon's utopic societies achieve an existence apart from the yoke of religion. In both utopias, Bacon's Bensalem and Istvan's Transhumania, the lives of all citizens are established around sciences, and what makes the communities go further is the complete dedication of all the members of society. As a result, all the institutions concerning the administration of social, political, economic and cultural life are reshaped accordingly. The dedication of citizens to the state is achieved only through their strong adherence to one common goal, which is achieving mastery over nature and eventually overcoming death. Science, with its infinite commitment to making progress and going further, is completely contradictory to religion, which has a set of rules that does not change over time. Science makes experiments and reshapes its data as it advances, however, religion is centred on the rules, whose truthfulness is accepted by its adherents. Science has paradigm shifts as new discoveries and inventions are made, on the other hand, religion has dogmas that cannot be easily challenged by anyone. As it can be seen, science and religion are poles apart from one another, even though some of the greatest philosophers and scientists such as astronomer Nicolaus Copernicus and genetic scientist Gregor Mendel are originally clergymen. This is probably because these men were well-educated, as hundreds of years ago education was restricted mainly to the members of aristocracy and clergy. Anyway, as a result of its dogmatic nature, religion is on the opposing side against the ever-progressing science.

In *New Atlantis*, Bacon uses a lot of religious symbols. Stephen McKnight suggests that Bacon aimed at exalting the knowledge of nature, or of God, by naming the most important scientific institute after King Solomon, a biblical figure that represents the knowledge of God (2005). McKnight states that Bacon uses Christian themes to underline God's power in making nature submissive to the needs of humanity. For example, when the European sailors' ship is blown off its course in the ocean, they are saved by divine intervention. They are delivered from peril, just like it happens in the story of Jonah and the whale (McKnight, 2005). The inhabitants of the island have been introduced to Christianity through a "genuine miracle", which is the message of Christianity delivered to them from the "apostle Bartholomew", by the hand of God (McKnight, 2005). Throughout the book, Bensalemites are described as

pious people who work to follow the will of God. Bacon's utopia is named after the myth of Atlantis, a city that is ruined as a result of its ambitions. Plato, for the first time, talks about the myth of Atlantis in his dialogues *Timaeus* and *Critias*, as a city that at first possessed every blessing on earth (Gregory, 2008). However, its inhabitants soon become corrupt and greedy, and try to attack other well-established cities like Athens. Seeing this, Zeus destroys their island and all the inhabitants. Bacon's utopia, on the other hand, is primarily composed of righteous people who are very unlike the people of the original Atlantis. Let alone interfering with other nations, they do not even trade with them and choose to stay away from customs and traditions of other peoples. McKnight suggests that such behaviours of Bensalemites show Christian piety, while the name "Atlantis" in the title shows how developed the civilisation is (McKnight, 2005).

Even though there are religious interpretations of Bacon's work, there are many other scholars who suggest otherwise (McKnight, 2005:74). For example, Weinberger states that Bacon uses Christian allegory and themes to make people accept the political ambitions he proposes in *New Atlantis*, and in many of his other works (1976). Fletcher argues that Bacon heavily used Christian allegories and symbols in his writing because he was living in a time when writing against Christianity would have been severely punished (2017:73-74). However, in between the lines, Bacon criticised Christianity. For Bacon, Christianity is the cause for schisms and "divisions" within a society, and as opposed to the purer nature of pagan belief systems, in which there are no such divisions because of the lack of a restrictive and authoritarian system like Christianity (Fletcher, 2017). Bacon makes use of Christian themes in order to persuade his readers on the righteousness of his propositions. Throughout the narrative, Bacon abandons Christian imagery and underlines the advantages of a scientific community. In Bacon's utopia, science takes the place of Christianity in performing the "miracles of the Bible", such as having eternal "youth" and "joy", and eventually creating the real "paradise" on Earth (Fletcher, 2017). Bacon's experimental method is directly oppositional to the dogmatic nature of Christianity and other Abrahamic religions, because scientists do not arrive at unchangeable truths as a result of experiments, but rather make deductions. However, religion puts "certainties" on the most important matters of life (Fletcher, 2017). Bacon criticises Christianity for its restrictiveness, but in the meantime, he underlines the fact that

Christianity has one almighty ruler, who watches people's every step and forces them to keep their behaviour in check. According to Fletcher, Bacon elaborates further on Christianity's belief that humans are created in the image of God, and suggests that humans have God's power within themselves, thusly making them their own ruler (Fletcher, 2017). All in all, it can be said that the community which Bacon depicts in *New Atlantis*, is a perfect example of a harmonious society whose actions are centred on the usefulness of experimental science, as opposed to the dogmatic disposition of religion. Bacon uses Christian imagery in his work, however, what he promotes in it, is contradictory to the main principles of religion. As a result, Christian symbolism stays at a cursory level in comparison to the overwhelming undertones of scientific experimentalism.

In contrast to Bacon's *New Atlantis*, Istvan's the *Transhumanist Wager* is outwardly against religion and all the other dogmatic systems. Istvan, living in a much freer and tolerant age than that of Bacon's time period, is more straightforward in asserting his displeasure with religious systems. Throughout the book, Istvan points out the conflicts that fundamentalist religion causes for humanity, such as war, hunger and poverty, in many parts of the world. For example, when Jethro visits India and Pakistan, he sees the harsh conditions people have to live in, because of the ongoing war of religion between those two countries. From the pure logical point of view, Jethro thinks that many religious teachings, including Christian and Muslim ones, are not appropriate or enough to maintain well-functioning society. Istvan, in Jethro's words, criticises religious people from all faiths, such as Christians, Muslims, Hindus, and so on, for their close-mindedness and disregard for improving life on earth. Istvan argues that there is a "multi-decade clash" between science and "religious America", which stunts all the possible development of humanity in general (2013). In the novel, politicians are using religion to convince people of their political agenda, as well as to maintain their position as trustworthy administrators in the eyes of the public. Religion is also used to stupefy the poor masses who have no satisfactory means to sustain themselves, by making them believe in a reward in the afterlife. As a result, these poor masses become more and more ignorant of what science and technology could do for them to improve their lives. Jethro thinks that religion is just one of the tools used to keep large numbers of people under control because of its dogmatic nature that asks for submission without questioning, on the other hand, science prompts people to think

critically and analytically of the universe. Religion dictates selfless concern for the well-being of others, which is quite contrary to the ideals of transhumanism. As a result, there is a major conflict between religion and science in Istvan's novel. Anti-transhumanist groups attack successful scientists and scientific organisations to hinder their works. Jethro and his fellow transhumanists fight against such fundamentalist religious organisations, and eventually have to flee USA to found a place where there can be no dogmatic beliefs to block scientific improvement. Transhumania becomes such a place where religious and other cultural or social norms do not apply, and as a result of this, it becomes the most powerful nation by dominating the rest of the world through its advanced technology. By making themselves free of the traditions of other societies, the citizens of Transhumania set their own rules around what is logical and useful, not what is acceptable by religion. So, it can be said that, in the world picture Istvan paints there is a definite and endless conflict between religion and science, however, in his utopia, science triumphs over religion and all the other enemies.

V. DISCUSSION AND CONCLUSION

The idea of utopia starts with the hope of a better future, a future where there is a more improved way of living exists for everybody. Relieving humans from their burdens and making life on earth easier, are the goals of utopias. Many utopias look at the current situation of their society and propose different ways to fix its problems. The tradition of imagining a better form of living started with Plato, who suggested a communal way of life, and other thinkers and writers followed him. In the 17th century, Francis Bacon argued that science and technology are the best possible tools that humans possess to improve their conditions and make living on earth much easier. Bacon believed that humans were destined to accomplish much more than they had done so far. Living at a time when Europeans were sailing around the world and ‘discovering’ new countries, Bacon saw a great potential for them to explore the macrocosm (the world) and the microcosm (the human). He suggested that scientific improvements would help humans to break the barriers that keep them away from achieving the ultimate goal, which is immortality. Zoltan Istvan, living about four hundred years after Bacon, argued for the same principles. Istvan, too, believes that humanity needs improvement via science and technology. Just like Bacon, Istvan also thinks that all the other institutions that make up a society - culture, economics, politics, and so on – need to be revised. Different from Bacon, Istvan also proposes a much more combative form of government, which promotes to act with forcefulness in the face of antagonism.

Utopias are the places where humanity’s dreams come true, as a result of the potentials they carry for the improvement of human life. In Bacon’s and Istvan’s utopias, the contentment of humans, is provided through the adoption of science and technology as the main ruling forces in society. Both writers suggested that the formation of such communities, where scientists are the most important decision-makers in governing the main affairs concerning human life, is the ideal way to pursue. In *New Atlantis*, Bacon shows how a civilisation maintains itself by setting all of its rules around science and technology. Bacon depicts the island, Bensalem, as a place

where experiments are made to improve humans' lives, and the sciences he describes in the book are actually the precursors of modern technologies such as airplanes, submarines, and sciences like medicine, genetics and chemistry. Bacon displays to the reader, the full-fledged form of a scientific utopia, however, in *the Transhumanist Wager*, the picture Istvan draws is much darker. Istvan shows the reader how a scientific utopia is built step by step, from a hopelessly dogmatic society to a much brighter one. Istvan epitomises the outwardly blatant pursuit of science, which is the pursuit of infinite progress. As a matter of fact, Istvan's and Bacon's description of science as the only saviour of humankind gives a clear example of how post-modern western societies think. In today's standards, only the countries that possess the latest technological inventions can prevail over others. For example, China, one of the world's most technologically advanced powers, sells the world most of its technology; Israel, a small nation-state, won its wars against the Palestinians by using its powerful technological weapons, and so on. Seeing the importance of science and technology, both Istvan and Bacon, put forward that all the affairs concerning human life should be regulated by principles that promote scientific development. However, there are many other writers who suggested that almost dogmatic belief in science would lead to destructive ends, such as Aldous Huxley in *Brave New World*, and Antony Burgess in *A Clockwork Orange*. In these dystopias, science is just a tool to shape society into what dominant ideology deems fit, and in both of them, administrators make the mistake of seeing human nature as an automated system that can be shaped with the hand of science. Nevertheless, humanity has been leading towards a path that science and technology dominate many aspects of life, shaping and altering the characteristics of being a human. Only time will show how this new form of human would come into shape, and if it will really be the answer writers and philosophers have been looking for. For Bacon and Istvan, the answer is clear, and that is, the outcome of science and technology that would lead humans to a much brighter future.

In this thesis, it was contended that science and technology could help humans to achieve a much better form of existence, as it is reflected in the two chosen works that were analysed. Both writers, living centuries apart, saw the positive effects of science and technology as driving forces that lead humans forward in their struggles against nature. They saw that the imperfect human nature, with its already low resistance to outside dangers such as sicknesses and untimely accidents, can and

should be corrected with the aid of science and technology because it is just too much precious to waste in useless wars of politics and religion. In Bacon's *New Atlantis* and Istvan's *the Transhumanist Wager*, utopias created with the assistance of science and technology, help humanity to achieve the heavenly perfection on earth, with the immense possibilities they offer to everyone who is willing to take it. It is argued that, if used wisely, technology could enable humans to build their utopias not with questionable hopes for an unknown afterlife but with strong possibilities to actually make it happen on earth, while already alive. Transhumanism, which is no longer a radical idea of mad scientists, foresees the merging of fallible human consciousness with that of an unerring machine, thusly making humans stronger and one step closer to immortality. Bacon dreamt of immortality four hundred years ago without actually knowing how it could take place, now Istvan lays out the basic framework of how it would come true. With the imagination and passion of scientists and philosophers from all over the world, humanity can speculate about how it could escape its seemingly inevitable dark fate, which is death. Some writers illustrate much gloomier and hopeless futures for humanity in its play with the tremendous power of science and technology, while others like Bacon and Istvan present us with reasons to hope for the better.

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