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JEANETTE WINTERSON'IN *FRANKISSSTEIN*:
BİR AŞK HİKAYESİ'NDE BİYOETİK
TARTIŞMALAR
Salih ÖZKAN
Yüksek Lisans Tezi
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TARTIŞMALAR

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ELAZIĞ

BEYAN

Fırat Üniversitesi Sosyal Bilimleri Enstitüsü tez yazım kurallarına uygun olarak hazırladığım “Jeanette Winterson’ın *Frankissstein: Bir Aşk Hikayesi*’nde Biyoetik Tartışmalar” başlıklı yüksek lisans tezimin içindeki bütün bilgilerin doğru olduğunu, bilgilerin üretilmesi ve sunulmasında bilimsel etik kurallarına uygun davrandığımı, kullandığım bütün kaynakları atıf yaparak belirttiğimi, maddi ve manevi desteği olan tüm kurum/kuruluş ve kişileri belirttiğimi, burada sunduğum veri ve bilgileri unvan almak amacıyla daha önce hiçbir şekilde kullanmadığımı beyan ederim.

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This thesis aims to discuss the bioethical arguments in Jeanette Winterson's novel, named *Frankissstein: A Love Story*. In this sense, this study offers a general examination of bioethical concerns and how they are addressed in *Frankissstein: A Love Story*.

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TABLE OF CONTENTS

BEYAN.....	I
ACKNOWLEDGEMENTS.....	II
TABLE OF CONTENTS.....	III
ÖZET.....	IV
ABSTRACT.....	V
1. INTRODUCTION	1
2. BIOETHICS.....	3
2.1. Bioethical Principles.....	4
2.1.1. Respect for Autonomy	4
2.1.2. Beneficence	5
2.1.3. Nonmaleficence.....	6
2.1.4. Justice	7
2.2. The Role of Literature in Bioethics	8
3. BIOETHICAL CONCERNS IN FRANKISSSTEIN	10
3.1. Transhumanism	10
3.2. Transgenderism	14
3.3. Artificial Intelligence	18
3.4. Cryopreservation	22
3.5. Sexbots	26
3.6. Mind Uploading	31
3.7. Bioconservatism	35
4. THE REASONS WHY SCIENTISTS NEGLECT THEIR BIOETHICAL RESPONSIBILITIES	41
4.1. The Image of Mad Scientists.....	41
4.2. Lack of Responsibility.....	44
4.3. Disregarding the Dead.....	48
5. CONCLUSION.....	51
REFERENCES	54
AUTOBIOGRAPHY	

ÖZET

JEANETTE WINTERSON'IN *FRANKISSSTEIN: BİR AŞK HİKAYESİ*'NDE BİYOETİK TARTIŞMALAR

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Biyoteknolojik gelişmeler, İkinci Dünya Savaşı'ndan sonra toplum genelinde çeşitli kaygılara yol açmış ve bunun sonucunda bu biyoteknolojik gelişmelerin oluşturduğu kaygıları tartışmak adına biyoetik adında yeni bir çalışma alanı ortaya çıkmıştır. Bu alan, aynı zamanda edebi eserlerde yer alan biyoteknolojik çalışmalara ilişkin tartışmalardan da büyük ölçüde etkilenmektedir. Bu çalışmanın amacı, Jeanette Winterson'un 2019'da yayımlanan *Frankissstein: Bir Aşk Hikayesi* adlı romanının bu tartışmalara kaynak olabileceğini göstermektir. Bu çalışma giriş ve sonuç bölümleri dışında üç ana bölümden oluşmaktadır. Bu çalışmanın ilk bölümünde biyoetik ve biyoetik ilkeler hakkında bazı bilgiler verilmektedir. Biyoetikçiler için edebi eserlerin önemi de bu bölümde ele alınmaktadır. Daha sonra ikinci bölümde *Frankissstein: Bir Aşk Hikayesi*'nde ele alınan biyoetik kaygılar tartışılmaktadır. İkinci bölüm, romanda bulunan her biri farklı biyoetik kaygıya adanmış yedi bölümden oluşmaktadır ve romanda nasıl tartışıldığına değinmeden önce bu kaygılar hakkında bazı teorik bilgiler sunmaktadır. Son bölüm, Victor Frankenstein ve Victor Stein'in biyoetik sorumluluklarını ihmal etme sebeplerini ele almaktadır. Bu çalışma bu doğrultuda, bir edebiyat eserinde biyoetik farkındalığın nasıl ortaya konulduğunu irdelemeyi amaçlamaktadır.

Anahtar Kelimeler: Biyoetik, Biyoteknoloji, *Frankissstein: Bir Aşk Hikayesi*, *Frankenstein* ya da *Modern Prometheus*, Jeanette Winterson

ABSTRACT

BIOETHICAL ARGUMENTS IN JEANETTE WINTERSON'S *FRANKISSSTEIN: A LOVE STORY*

Master Thesis

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Biotechnological developments caused various concerns in society after the Second World War, and as a result, a new field of study called bioethics has emerged to discuss the concerns created by these biotechnological developments. This field is also heavily influenced by the arguments regarding biotechnological concerns in literary works. The aim of this study is to show that *Frankissstein: A Love Story*, published in 2019 by Jeanette Winterson, can be a reference for these bioethical discussions. This study consists of three main chapters, except for the introduction and conclusion parts. The first chapter of this study introduces some information about bioethics and bioethical principles. The importance of literary works for bioethicists is also taken into consideration in this chapter. Then the bioethical concerns addressed in *Frankissstein: A Love Story* are discussed in the second chapter. The second chapter includes seven parts each dedicated to a different bioethical concern found in the novel, and it introduces some theoretical information about these concerns before addressing how they are discussed in the novel. The final chapter deals with the reasons why the bioethical responsibilities are neglected by Victor Frankenstein and Victor Stein. By doing so, this study aims to investigate how bioethical awareness is revealed in a literary work.

Keywords: Bioethics, Biotechnology, *Frankissstein: A Love Story*, *Frankenstein*; or, *The Modern Prometheus*, Jeanette Winterson

1. INTRODUCTION

The Hippocratic Oath, requiring a physician to act for the benefit of others and to restrain from causing harm, was the dominant ethical reference until the mid-twentieth century. Yet it was realized that this Hippocratic tradition was not sufficient to respond to the technological and scientific advancements that could have a dramatic interference with the biological forms. This realization was put into words after the Nuremberg trials (1947) in which the immoral Nazi doctors were sentenced due to their maltreatment of other human beings as “less than beasts” (Shuster, 1997: 1437). These trials led to the Nuremberg Code in which it was established that it is necessary to obtain consent before conducting an experiment on human beings. There were other following agreements such as the Helsinki Declaration (1965) and the Belmont Report (1979) addressing the new ethical requirements in biological studies. Van Rensselaer Potter was one of those addressing the necessity to find a bridge between “biological knowledge and human values” and coined the term “bioethics” for this endeavour (1970: 128). The cumulative references to the necessity of a new field in which biotechnological advancements are investigated in line with human values led to the establishment of bioethics as a new field of study.

Literary works have become a useful source for bioethicists to refer to the potential benefits and risks of new biotechnologies. Among the ones most cited to address the bioethical concern of the creation of new forms of life is Mary Shelley’s *Frankenstein; or, The Modern Prometheus* (1818). From a bioethical standpoint, Victor Frankenstein’s scientific endeavour to bestow life into an inanimate body was regarded as an immoral attempt to play God while at the same time appreciated as a heroic attempt to push the boundaries of science for making human beings invulnerable (Szollosy, 2017: 435). Yet his “carelessness” in his research has been occasionally pointed out as his tragic flaw, bringing a catastrophe to him and his studies in the end (Campbell, 2003: 346).

Mary Shelley’s *Frankenstein* has inspired many literary works, and one of them is Jeanette Winterson’s *Frankissstein: A Love Story*, published in 2019. As its name suggests, Winterson’s novel adopts the narrative of Shelley’s novel. However, it can be said that Winterson’s novel is experimental and offers more than one story. The first story is about Mary Shelley and the time when she visits Geneva with her acquaintances. This fictionalized Mary Shelley informs the other characters about her interest in writing a story of an ambitious scholar, named Victor Frankenstein, who aims to create a new form of life. After publishing this compelling work, she gets informed that her protagonist is actually living in a madhouse at Bedlam. When she visits him there, Victor Frankenstein informs Mary Shelley that he is the embodiment of both the creator and the creature at the same time and asks her to “unmake” him so that the creature can be stopped (Winterson, 2019: 144)¹. Mary Shelley does not know how to respond back to such a puzzling request and leaves him to his own fate. The second narrative takes place in the present day in which Ry Shelley, a trans medical professional, is the narrator. He² falls in love with Victor Stein, a doctor who is specialized in machine learning and artificial intelligence. Although Ry is not a supporter of his studies, he accepts to help him by providing him with the body parts of the dead. Later on, he learns that Victor has a secret laboratory under the tunnels of Manchester where he is doing different types

¹ The references to the novel will be given with the abbreviation of *F* and page numbers henceforth.

² “He” and “she” pronouns will be interchangeably used to refer to Ry Shelley hereafter.

of experiments. Victor locks Ry into his laboratory and conducts his last experiment in which he tries to revive I.J. Good, his professor, back to life. Ry escapes from the place he was confined and tries to find Victor. However, he cannot accomplish his aim.

The relationship between *Frankenstein* and *Frankissstein: A Love Story* is not limited to the similarity of their names. The characters and plotlines are somewhat similar as well. However, the most compelling similarity between these two works might be their bioethical concerns. Although these two works belong to different periods, it can be said that their bioethical concerns are relevant. Both novels seem to question technological and scientific advancements that can cause radical changes in society. In that regard, it can be argued that these two significant novels problematize scientism, a philosophy that claims science is “the one and only road to truth and reality” (Feyerabend, 1993: viii). For this reason, it can be pointed out that bioethics can have significant benefits from the bioethical examination of these literary works. However, it is pointed out that there are not enough studies focusing on the bioethical aspects of *Frankenstein* (Cambra Badii et al., 2020: 2795). This scarcity of a bioethical examination is much more observable for *Frankissstein: A Love Story*. In this sense, the aim of this study is to address this necessity by examining bioethical concerns in *Frankissstein: A Love Story*. It is hoped that bioethical awareness that helps one to “choose an action appropriate to the situation” (Hunter et al. 1995: 791) will be raised by doing so.

This thesis includes three chapters except for the introduction and conclusion parts. The first chapter will start with information about what bioethics is and how it developed. Then, it will move on with the analysis of four main bioethical principles: respect for autonomy, beneficence, nonmaleficence, and justice. This chapter will end with a discussion about the importance of literature for bioethics. Some examples of literary works and their bioethical arguments will also be introduced here so that the contribution of literature to bioethics can be seen. The second chapter will be dedicated to the discussion of bioethical concerns found in Jeanette Winterson’s *Frankissstein: A Love Story*. There will be seven parts in this chapter each dedicated to a different bioethical concern: transhumanism, transgenderism, artificial intelligence, cryopreservation, sexbots, mind uploading, and bioconservatism. The background of each of these bioethical concerns will be introduced beforehand. Related to the theoretical background, the bioethical arguments found in the novel will be discussed. In this discussion, there will be given some references to the philosophers interested in bioethics so that the relation between the arguments found in the novel and the arguments expressed by the philosophers interested in bioethics can be examined altogether. Each part of this chapter will also introduce a bioethical analysis of these arguments using bioethical principles. By doing so, it will be hoped that the true value of each of the bioethical concerns found in the novel can be ascertained. The final chapter will deal with the bioethical responsibilities neglected by Mary Shelley’s Victor Frankenstein and Jeanette Winterson’s Victor Stein. This chapter will focus on their depiction as mad scientists, their lack of responsibility, and the disregard they show for the dead. Thus, this study aims to offer a different perspective on literary studies regarding the problems of scientific studies conducted today from a bioethical standpoint.

2. BIOETHICS

The field of medicine and healthcare has been regulated within the boundaries of medical ethics. This regulation is based on the Hippocratic tradition suggesting that a physician's duty is "to benefit the sick and do them no harm" (Jonsen, 2003: 6). This duty has authorized doctors to deal with the life and death of people with their own understanding of ethics for centuries (Mooney and Currie-McGhee, 2009: 6). However, Rui Nunes asserts that:

[...] after the universal acceptance of the basic human rights, something had to change in the ethical standards of the medical profession, not because they were wrong, or even outdated, but because the citizens' rights came gradually to occupy a prominent place in plural and secular societies. (2016: 332)

In addition, there was also a concern, especially after World War II, that biotechnological developments might create an "interference with 'natural processes' which could destroy or could transform nearly every aspect of human life" (Wolstenholme, 2009: v). In that regard, the need to regulate these developments and to emphasize the role of autonomy in medical healthcare led to a necessity of a new field of study. Van Rensselaer Potter was one of the first to address this necessity for finding a bridge between "biological knowledge and human values," and he coined the term bioethics for this scientific endeavour (1970: 128). Therefore, a new field of study called bioethics was established.

The morpheme *bio* refers to life. Bioethics, from this aspect, has a broad scope in dealing with any initiation regarding "life-and-death issues" (Lewis and Tamparo, 2007: 4). Warren Thomas Reich defines bioethics as "the systematic study of the moral dimensions—including moral vision, decisions, conduct and policies—of the life sciences and health care, employing a variety of ethical methodologies in an interdisciplinary setting" (1995: xxi). Bioethics has two main aims. Its first goal is to "ensure that modern scientific and technological advancements have been primarily developed for the benefits of humankind" (Isa et al., 2014: 143). It also aims to provide people with "a greater voice in determining their own affairs" (Bosk, 1999: 64). For this to happen, bioethicists identify "ethical issues, propose procedures and institutions for coping with them, help private individuals and institutional actors think about moral issues in a constructive way, and produce reasoned defenses or critiques of actions and policies" (Buchanan, 2007: 295).

Bioethics deals with many controversial issues such as abortion, euthanasia, human enhancement, cloning, and gene modification. This necessitates decisions to be taken "by groups rather than by individuals" (Thompson, 2016: 2512). For this reason, it requires both the doctor and the patient to forge a "true therapeutic alliance" by being "active agents in decisions involving values and ethical dilemmas" (Nunes, 2016: 334). Moreover, it can be said that bioethics relies on the contributions of "philosophers, scholars in religious studies, lawyers, economists, physicians, sociologists, and many others" to provide different aspects to these dilemmas (Gorovitz, 1984: 17). However, as Samuel Gorovitz notes, "the interactions among them have been mutually enriching at times, and mutually baffling at other times" (1984: 17). For this reason, Nunes points out that "a set of guiding principles" was needed "to find a common platform for the resolution of certain conflicts in bioethics" (2016: 333). These bioethical principles are respect for autonomy, beneficence, non-maleficence, and justice.

2.1.Bioethical Principles

The idea of using principles in medical healthcare has a “short history that begins only in the later decades of the twentieth century” (Beauchamp, 2016: 1). Up to that time, the Hippocratic Oath was considered to be the common platform for physicians, but it was actually regarded as “more or less a series of religious vows” and believed to be neglecting “almost all of the problems of truthfulness, privacy, justice, communal responsibility, the vulnerability of research subjects, and the like that bothers us today” (Beauchamp, 2016: 2). For this reason, it was concluded that there was a need to establish a set of principles in medical healthcare. The first principle, respect for autonomy, appeared after the Nuremberg trials in 1947. In other words, it can be said that the Nuremberg trials, in which the corrupt Nazi doctors were found guilty and sentenced to prison for their criminal acts in the Holocaust, led to the emergence of bioethics and its principles (Annas, 2009: 101). After these trials, there was an agreement among the physicians that it is necessary to obtain consent before conducting an experiment on human beings (Nunes, 2016: 332). The Belmont Report followed by these trials coined the principle of respect for autonomy as well as the principle of beneficence and justice for the first time. In that sense, the Belmont Report was the first written document to present “ethical principles and guidelines for the protection of human research subjects” (Psek et al., 2015: 6). *Principles of Biomedical Ethics*, published by Tom Beauchamp and James Childress in 1979, added another important principle named nonmaleficence. Therefore, the four principles in bioethics were established.

Even though there is a tendency to suggest that “respect for autonomy should be first among equals” (Gillon, 2003: 307), it should be noted that each principle has importance on its own for the evaluation of any initiation from a bioethical perspective. In that sense, it is argued that “if a basic principle were dropped from this framework, the moral life would change dramatically” (Beauchamp, 2016: 4). As Beauchamp and Childress suggest, instead of prioritizing or disregarding a principle, “the better strategy is to appreciate both the contributions and the limits of various principles” (2013: ix).

2.1.1. Respect for Autonomy

Autonomy is the synonym for self-governance. In this sense, the principle of respect for autonomy in bioethics means “that a person should be presumed to have the right and the authority to make such decisions of practical importance to her life, for her own reasons, whatever those reasons might be” (Mackenzie and Rogers, 2013: 39). In other words, this principle requires “respectful and appropriate informational exchanges and actions that encourage and foster autonomous choice” (Beauchamp, 2016: 5). In that regard, the principle of respect for autonomy raises the awareness that suggests patients are not merely individuals that accept what their physicians prescribe for them; on the contrary, it urges physicians to inform their patients about what they are prescribed for and let them decide whether they want to receive the medical treatment or not. The role of physicians is to “tell the truth, respect the privacy of others, protect confidential information, obtain consent for interventions with patients, [and] when asked, help others make important decisions” (Beauchamp and Childress, 2013: 107). It can also be noted that this principle will be infringed if patients are misinformed and their choices are not taken into consideration (Maclean, 2001: 6).

It is possible to say that this principle has played a crucial role in some legislation and practices. The most significant one is that it prohibited scientific studies involving human subjects unless there is obtained consent and ethical approval from a committee of ethics (Ulman, 2009: 31). Yet there can be found other examples as well. For instance, it can be said that the principle of respect for autonomy paved the way for the right to have an abortion within twenty-four week of pregnancy (Marcia and Tampo, 2007: 202). In addition, respect for autonomy also enabled those with religious concerns to have the right to refuse blood transfusions (Turner, 2003: 109). However, it is also argued that providing an individual “with maximum liberty in devising their own lives and values” might cause some conflicts (Callahan, 2003: 289): Should drug-dependent patients also have the right to refuse to receive treatment? Can infants or mentally-challenged individuals make autonomous choices? What would happen if an individual’s autonomous choice might put others in danger? These questions represent the controversial side of this principle since they show that looking at an issue only from one perspective is not enough in bioethics. For this reason, Beauchamp and Childress argue that the evaluation of a bioethical concern by referring only to this principle is “indefensible” (2013: 141). In that sense, this principle should be applied with consideration to other principles such as beneficence and justice. Therefore, it can be said that one’s freedom and self-determination are important; however, those who do not have the competency to act for their own benefit must be prevented “from harm-causing conditions” and provided with “medical benefits” (Beauchamp and Childress, 2013: 108)

2.1.2. Beneficence

This principle’s origin can be traced back to the Hippocratic tradition in which it was expected of the physician to act for the benefit of the patient and restrain from causing harm (Maclean, 2001: 7). However, it became a well-established principle after the Belmont Report. Beneficence in ordinary English refers to the “acts of mercy, kindness, charity, love, and humanity” (Beauchamp, 2007: 5). In bioethics, the principle of beneficence is understood “as a principle requiring that physicians provide, and to the best of their ability, positive benefits such as good health, prevent and remove harmful conditions from patients” (Munyaradzi, 2012: 2). In order to act for the benefit of others, the physician needs to “protect and defend the rights of others, prevent harm from occurring to others, remove conditions that will cause harm to others, help persons with disabilities and rescue persons in danger” (Beauchamp and Childress, 2013: 204). In addition, it is also pointed out that the physician should “strive to create a positive balance of goods over risks of harms during the course of interventions” (Beauchamp, 2016: 7).

As is the case with other principles, the principle of beneficence has some limitations as well. An expert trying to provide a patient with medical healthcare might fail to do so because the patient may decline to receive the treatment or the risks may outweigh the benefits. For this reason, unlike other principles, this principle presents an “imperfect obligation” (Maclean, 2001: 7). However, it is still noted that experts have an obligation to act for the benefit of others when there is “little risk” and “a significant probability of some degree of success” (Beauchamp and Childress, 2013: 208). For example, a lifeguard who recognizes someone drowning at a close distance has an obligation to save that person. However, it can be said that a stranger does not have the obligation to put his/her life at risk to save a person drowning at a very long distance. Alasdair Maclean claims that just because doctors have an obligation to be beneficial to others, they should not be expected to

give their kidneys to their patients (2001: 7). Furthermore, for an act to be beneficial, it is also argued that there should not be a negative outcome for others.

Tom Beauchamp points out that since the physician has a duty “to do no harm,” it would be unethical and unjustifiable “to kill a dying patient in order to use the patient’s organs to save two others, even though benefits would be maximized, all things considered” (2007: 5). Moreover, the autonomy of patients should not be disregarded just because there are some benefits in the act. In that regard, a paternalistic approach in which the doctor decides what is best for their patients is “no longer acceptable” (Maclean, 2001: 7). As Douglas Olsen argues, instead of holding their patients against their will, experts should try to “establish trust” and “manifest respect” for their patients so that they can be beneficial to them (2010: 66). However, it can be noted that the principle of beneficence may receive “priority over respect for autonomy” when a patient is “at risk of a significant, preventable harm” and when “there is no morally better alternative” (Beauchamp and Childress, 2013: 222).

2.1.3. Nonmaleficence

The principle of nonmaleficence is known to be the foundational principle of the Hippocratic tradition in which the duty of a physician is expressed as “Above all, do no harm” (Shannon, 1997: 25). This principle in bioethics refers to the obligation of experts to avoid causing harm to their patients, “either intentionally or carelessly” (Holt et al., 2008: 2798). This principle finds its counterpart also in common morality rules since they instruct people to abstain from such acts that would lead them to cause pain to others. It is also noted that the principle of nonmaleficence differs from the principle of beneficence since “beneficence requires acting” while “nonmaleficence requires not acting” (Beauchamp, 2016: 7). For this reason, unlike the principle of beneficence, this principle is considered as “a perfect obligation” (Maclean, 2001: 8).

History shows many examples of experts causing intentional harm to others. For instance, because he was an opponent of the Bolshevik Government in Russia, Pyotr Chaadayev was labelled as mentally ill and put into a madhouse (Bloch and Reddaway, 1984: 16). Another example is the medical experimentation conducted by the Nazi doctors which resulted in the death of more than 7,000 people (Fischer, 2001: 411). For this reason, as studies show, it is believed that the most important duty of physicians is to avoid using their knowledge intentionally to inflict harm on others (Page, 2012: 6). However, it is also open to exceptions. There might be occasions when an expert has to cause harm to produce much more crucial benefits. A simple example can be given for the use of vaccines to prevent people from life-threatening dangers.

The principle of nonmaleficence can also be violated in a necessary procedure that saves a pregnant woman but causes the death of a fetus (Beauchamp and Childress, 2013: 165). Even though it remains highly controversial, the infringement of this principle can also be acceptable in physician-assisted death for those with intolerable suffering and with a desire for aid-in-dying “as a continuum of medical care” (Beauchamp and Childress, 2013: 185). All of these examples have one thing in common. It is that the patients should be the ones making “a proper balancing judgment” about receiving the treatment rather than experts deciding whether the patient should undergo the treatment or not (Maclean, 2002: 8). In that sense, it can be told that experts are expected to assist the patients in their decisions and respect the decisions made by their patients.

2.1.4. Justice

In society, justice is commonly associated with practices such as punishment and taxation. However, the principle of justice in bioethics is mostly associated with “the distribution of scarce health resources, and the decision of who gets what treatment” (Ulman, 2009: 6). It would be utopic to suggest a world in which “everyone everywhere has equal access to all goods and services available to anyone” (Beauchamp and Childress, 2013: 272). The health services in most countries are limited, and this creates a concern for a fair distribution of these limited sources. Having a lottery system to decide who gets the treatment might sound applicable to some since it provides a fair opportunity. However, this does not “cohere with conventional principles of justice” because it would disregard the “criteria of distribution such as achievement, education, merit, experience, contribution, need, deprivation, and effort” (Beauchamp and Childress, 2013: 249). However, allowing only the affluent ones who can afford such medical healthcare and depriving the indigent ones of health services would not serve justice either.

The distribution of health resources creates many dilemmas. For this reason, there are some theories developed to find a solution for these dilemmas concerning how these limited health resources should be distributed. There are three dominant theories regarding how medical resources should be distributed: utilitarian, egalitarian and communitarian. Utilitarian theories suggest that the distribution of such resources should “strive to produce as much overall happiness as possible” (Mill, 1987: 369). For instance, in this system, if there were an obligatory choice to be made between a child with more life expectancy and an old individual with a low life expectancy, the child would be chosen since it would contribute to more happiness in society (Maclean, 2001: 9). However, as Beauchamp and Childress point out, this theory would be difficult to “have a meaningful place” in the law system (2013: 254). Egalitarian theories argue that the distribution of health resources to people in need should be made by experts who “would not know their own race, sex, degree of wealth, or natural abilities” (Rawls, 1987: 457). John Rawls argues that this would enable the distribution of such resources “to be everyone’s advantage” (1987: 450).

Although this system might provide society with fair equality of opportunity, Moss and Siegler argue that this system would be unjust since it would not differentiate an alcoholic from “a child dying of biliary atresia” (1991: 1297). Communitarian theories, on the other hand, “have little sympathy with theories based on individual rights” and focus on the common good (Beauchamp and Childress, 2013: 257). For such a system, there would not be a problem in getting the organs of dead bodies even if there is no consent (Beauchamp and Childress, 2013: 258). Even though there would be many benefits of organ transplants, Mark Wicclair believes using the body parts of the dead without consent would damage “medical trust” (2002: 351).

From this perspective, it can be concluded that each theory has some valuable contributions although they still possess some drawbacks. For this reason, as Beauchamp and Childress argue, it seems better to have a “pluralistic theory of justice” in “framing public policies for different contexts” (2013: 253). To Beauchamp and Childress, the pluralistic theory would resort to the egalitarian theory and allow the resources to be distributed equally “for a decent level of health care,” but it would resort to the utilitarian theory for the distribution of resources for children’s health programs (2013: 253).

2.2.The Role of Literature in Bioethics

Bioethicists aim “to observe more than single case examples” to identify a bioethical concern and discuss it (Hurst, 2009: 441). In that regard, it can be said that literary works might be a great source for bioethicists since they can provide them with different ethical aspects concerning bioethical issues. It is because, as Peter Swirski points out, literary texts contain “the narrative and cognitive machinery for examining issues that challenged thinkers of yesterday, and will continue to challenge thinkers of tomorrow” (2007: 11). In addition, Thomas Murray argues that literary works can also be used for instructive purposes since he points out that “most people, most of the time, learn most of what they know about morality from narratives of one kind or another” (1997: 6). Furthermore, authors interested in bioethical concerns can find literature as a useful means to articulate their concerns as well because literature can enable them to see “all sorts of things through [the] eyes” of the characters they are writing about (Woolf, 1924: 11). From this perspective, it can be concluded that “literature is able to hold open a zone of exploration that other mediations (political, social, scientific, and economic) foreclose” (Squier, 2004: 22).

There can be found many literary works that raise bioethical questions, and they are commonly cited by bioethicists to refer to the bioethical concerns in society. Some of these literary works articulating bioethical concerns are Mary Shelley’s *Frankenstein* (1818), Herbert George Wells’s *The Island of Doctor Moreau* (1896), Aldous Huxley’s *Brave New World* (1932), and Kazuo Ishiguro’s *Never Let Me Go* (2005). Each of these works points out different types of bioethical concerns, and it is worth mentioning what types of bioethical concerns are addressed in these works. This brief bioethical examination of these works will provide insight into the role of literary works in bioethics.

The bioethical concern about the creation of a new intellectual being is articulated in Mary Shelley’s Romantic novel *Frankenstein*. In that regard, it can be said that bioethics can even find its reflections in the Romantic period since that period also reflected the dangerous side of technological and scientific advancements. In the novel, an ambitious scholar named Victor Frankenstein infuses life into an artificial being but starts regretting doing it immediately and abandons him. Therefore, the creature cannot find anyone to be a companion for him, so he finds his creator to ask him to create a female creature. When the creator denies his request, the creature kills the people the creator holds dearest in his life. Though it has been more than two hundred years since it was published, the novel still gets cited by philosophers to refer to the bioethical concern regarding the possibility of a new creation. Because he avoids scientific limits, some argue that Frankenstein is an “overridingly negative symbol of science” (Nagy et al. 2018a: 2). However, there are also others that suggest Frankenstein is not an “evil, indeed the very opposite” by noting that his original intention was to make human beings invulnerable (Davies, 2004: 33). Cambra Badii et al. share a different concern arguing Frankenstein’s major transgression was instead “the fact that he fled from [his creature], left it to its own fate, and was unable to control the consequences of his work” (2020: 2795).

Herbert George Wells investigates the vivisection of men and the creation of Beast People in his novel, named *The Island of Doctor Moreau*. Doctor Moreau is depicted as a mad scientist with no ethical concerns for his studies involving human beings and animals. His hubris to play God by changing the form of natural beings brings an end to his life and his studies at the end. The depiction of Doctor Moreau as a mad scientist desiring to play God is bioethically questionable.

Some assert that his end “should encourage ethicists and scientists to consider [...] species boundaries” (Brem and Anijar, 2003: 23). However, some others assert that because this representation of scientists leads them to be stigmatized as being “depraved,” “this cultural critique of science ought to change for the better” (Toumey, 1992: 435).

Aldous Huxley’s *Brave New World* (1932) raises some bioethical concerns about the possibility of human engineering. This sci-fi novel depicts a world in which human embryos are engineered in laboratories and their fates get decided before they are born. The engineered people in the novel do not experience any difficulties in their lives: they never ail, struggle, feel sad or get old. Huxley’s novel is cited by bioethicists concerned with human enhancement. Marianne Talbot argues that this world can “eliminate character” by eliminating suffering (2012: 267). Maren Tova Linett shares a different concern by pointing out that this world devalues “old age and old human beings” (2020: 26).

The bioethical concern about the possibility of human cloning is addressed in *Never Let Me Go* (2005) by Kazuo Ishiguro, a Nobel prize winner in 2017. This work depicts a dystopian world in which human clones are created as mere means of organ transplantation. These clones are not regarded as human beings but rather as creatures. For this reason, they are “kept in the shadows” so that people will not feel “uncomfortable” about their existence (Ishiguro, 2006: 263). In addition, they are deprived of some opportunities in life, such as procreation and occupation. Their sole purpose of existence as organ donors is questioned by bioethicists. Some assert that they might be valuable for biomedical research (Petrillo, 2014: 59). Yet some others believe this technology “will involve a series of problems” in the future (Xiao, 2021: 11).

It can be noted that literary works have been addressing bioethical concerns before bioethics as a field of study had emerged. In that regard, it can also be argued that bioethical concerns reflected in literature will appear in the following years. The rise of biotechnologies in society may lead to many literary works that address the bioethical concerns regarding these biotechnologies. This study will aim to address the bioethical concerns articulated in one of these recent literary works, Jeanette Winterson’s *Frankissstein: A Love Story*. Yet it can be said that there will be many to be examined from a bioethical point of view (Linett, 2020: 29).

3. BIOETHICAL CONCERNS IN *FRANKISSSTEIN*

3.1. Transhumanism

The idea of overcoming human limitations has always been popular in literary works since *the Epic of Gilgamesh*. It can be said that *Frankissstein: A Love Story* is not different in that aspect since it covers this issue and uses it as a way to draw discussions on this contemporary concern. To analyse these transhumanist arguments in the novel from a bioethical perspective, it is better to have a basic understanding of what transhumanism is and what it aims for beforehand.

Transhumanism can be understood as a theoretical view that suggests “going beyond humanity in its present form [...] by attempting, now and in the near future, to transcend certain limits inherent in the human condition” (Birnbacher, 2008: 95). It is believed that this would allow people to cope with the predictable problems that might arise in the future and people can have a better way to experience the things around them (Bostrom, 2008: 135). Transhumanism can be linked with many different theories and practices that can make it possible for humanity to upgrade themselves. For instance, transhumanism supports practices such as “new cybernetic tissues, alloys, and other synthetic materials, including ones that make [human beings] cyborglike and robotic” (Istvan, 2013: 278). Transhumanists have two main aims: overcoming human biological limitations and enhancing human capacities. For achieving these aims and “for improving life,” transhumanists “emphasize and advocate the benefits of technology” (Benedikter and Siepmann, 2016: 47).

The desire of some people to make human beings more than human is not a new concept; however, this desire in the form of transhumanism has become an academic focus after the 1950s. Julian Huxley, the founder of transhumanist theories, asserted that humans should not be limited to going through a life that is miserable and short; on the contrary, he suggested that people can have much more lifespan and possibilities if they want (1957: 17). This urge of transcending human limitations led to many scientific studies in the field of transhumanism, and there have been many that suggest possible human enhancement technologies will be beneficial for the future of humanity.

It can be said that transhumanism offers humanity more than the enhancement of human biological forms. Its main goal is to enhance the human form by promoting scientific and technological advancements; however, it also proposes a life of equality. By overcoming biological limitations, it is argued that people will no longer consider “racial, ethnical or gender superiority” (Levchuk, 2019: 82). It is also argued that transhumanist practices will end “financial worries” because “money won’t exist anymore” (Lee, 2019: 854). In addition, it is believed that the achievement of overcoming biological limitations will be useful not only for the benefit of the human race but also for the Earth. Bioethicist James Hughes argues that “transhumans with longer lives and greater intelligence would be more likely to foresee and avoid ecological destruction, and to have the technological capabilities to repair the damage already done” (2004: 119).

There might be a lot of possible opportunities with transhumanist practices. However, it should be noted that transhumanism is still a theory, and there might be years humanity will have to wait to see whether these dreams are fulfilled or not. It can also be said that transhumanists do not want to make use of something that is not yet totally proven since they still share “ambivalence” about transhumanist improvements (Levin, 2017: 299). Nevertheless, transhumanists argue that there is less time left to wait for the hope to overcome biological limitations and become more than

a human because the proven practices like cosmetic surgeries that can help people look the way they want and technological advancements such as robots and artificial intelligence have been improving much faster than one might expect.

The improvements in the technological and scientific fields can be seen in favour of transhumanist theories. Yet this also leads to some worldwide concerns about transhumanism. Some are sceptical about the promises of transhumanism and find transhumanist theories “too reassuring” (Aydin, 2017: 304). It is argued that people have always dreamt of living in better conditions, but there have happened more failures than achievements in the technological field. It is also claimed that there will be no chance to undo what has been put into practice; therefore, these transhumanist practices might cause some “potential dangers” in a “larger spectrum” for all life forms (Arnall: 2003, 62). It is pointed out that since there is no law to regulate them, humanity is not ready for these practices. It is believed that the law system “has been notoriously slow in keeping up with ethical issues and technological advances” (Glenn, 2003: 6). There is also the fear that governments will take hold of some technologies to increase their military power over the others (Moreno, 2006: 54). Regardless of the counter-arguments and acceptable concerns towards transhumanist theories, transhumanists believe that their practices are necessary for the future of humankind. Nick Bostrom points out that there are many other “threats [that] could cause our extinction” besides the threat transhumanist practices might pose (2002: 1). For this reason, instead of disregarding them in total, transhumanists argue that these practices should be controlled and regulated; thus, the potential risks they might cause can be avoided.

One with a basic understanding of what transhumanism is can realize that *Frankissstein: A Love Story* provides some characters with different attitudes towards transhumanism so that these characters can have arguments about the transhumanist theories and get both the interlocutor and the reader to see that transhumanism is neither a solution to all problems in society nor is it a blasphemy that will cause the end of human existence. The most significant character in favour of transhumanist theories in the novel is Victor Stein, a professor of machine learning. He vigorously advocates technological and scientific advancements in transhumanism. In one of his speeches, in which he advocates these advancements and imagines the futuristic prospects, he suggests that once humans get rid of their biological limitations, there will be many more interesting opportunities for people. He explains his argument as follows:

Pay attention. Once you are pure data you can download yourself in a variety of forms. A carbon body will allow you all the independence you once enjoyed, but at super-strength and super-speed and without fear of injury. If your leg falls off we will fix you another one. If you prefer wings, we can give you a super-light shell and off you go. (F 177)

His enthusiasm for transhumanism is not only related to human enhancement. Victor also believes transhumanist practices will be inevitable for the sustainability of humankind in the future, and he argues:

We cannot live indefinitely in human form on this earth, and the only way we can seriously colonise space is by not being in human form. Once out of these bodies we can handle any atmosphere, any temperature, lack of food and water, distances of any kind, providing we have an energy source. (F 188)

Newton Lee, a supporter of transhumanist theories, seems to agree with this argument since he also believes humanity is not prepared “to deal with existential threats” that “could potentially wipe out millions of people” (2019a: 30). For this reason, Lee advocates transhumanist practices

since they can lead human beings to become “physically, mentally, and spiritually” ready for these possible threats (2019a: 37). It can be noted that Victor Stein in the novel is also well aware of these threats since he gives public lectures to get others to realize the need for transhumanism. In one of his lectures, Stein continues to support this movement claiming, “the future is not biology” (F 54). He believes that humanity is a big failure since they have led the Earth to many ecological disasters, and he argues that humans can no longer continue their existence if they insist on living this way.

However, in the novel, some characters refuse to believe in Victor Stein about the importance of transhumanist practices. The novel introduces these characters for two reasons: to avoid presenting Stein’s transhumanist ideas as a boring lecture and to have the reader see different aspects of transhumanism. One of these characters is Polly D., a journalist working for *Vanity Fair*, who interrupts Stein’s speech and asks Stein, “WHAT IS SO SMART ABOUT THE END OF THE HUMAN?” (F 56). The words are given in capital letters to get the reader’s attention to the existential risk that transhumanist theories might lead to. Ihab Hassan, a critic of transhumanist theories, seems to have a similar idea to Polly’s opinion. Hassan suggests that “five hundred years of humanism may be coming to an end” because he believes there might be radical changes in the human form after these transhumanist practices (1977: 843). However, Victor Stein believes that it is all just a misunderstanding. He believes transhumanist enhancements will not exterminate human existence; on the contrary, they will help humans become free of their biological limitations. For this to happen, he suggests that “we can enhance ourselves with smart implants to improve our physical and mental capacities” (F 81). It seems Polly refuses to believe in Victor because she continues to argue that she does not “trust the way” these types of technologies are “sold to us” (F 71). The other opponent of transhumanist practices is Claire, a zealous follower of Christ. She argues that she does not “hold with Man playing God” and refuses to accept transhumanist practices (F 26).

The arguments on transhumanism are not limited to the characters sharing opposing ideas. There are those accepting the advantages of transhumanist practices, although they cannot be sure that overcoming biological limitations is the ideal solution for humanity. These characters do not consider the human body as “meat,” and they do not focus solely on pure intelligence as Victor Stein does (Sim, 2020: 101). One of these characters with scepticism towards transhumanist theories is the protagonist named Ry Shelley, a transgender medical professional. Ry Shelley accepts that transhumanist practices such as “smart implants, genetic modification, prosthetic enhancement” can be helpful for people (F 75). This appreciation of transhumanism and the intimate feelings he has for Victor Stein lead Ry to help Stein with his research by providing him with the body parts of dead people.

However, Ry is not an enthusiast of living without a human form. Ry points out his concern regarding transhumanist practices by stating that “nothing we do to the body is without consequences” (F 204). For this reason, he states, “This one is my body, and I’d like to keep it” (F 188). Ry continues to disagree with Victor on his suggestion about the insignificance of the body. He does not believe that what matters is consciousness; on the contrary, he asserts that human bodies also matter. “We are our bodies” is the answer Ry usually gives to Victor when they argue about the importance of the body (F 102). Ry continues to support the importance of the body by arguing that people feel “intimate” towards one another because of their bodies rather than their consciousness (F 141). In that regard, it can be claimed that Winterson proposes that transhumanists

need to “think more about what the body brings to the table” instead of focusing only on intelligence (Lorrimar, 2019: 193).

Another character feeling uncertain about transhumanism is Ron Lord, an entrepreneur of sexbots merchandise. Ron does not share the same ideas with Victor about living without a body, but he also disagrees with Ry about the importance of the body. This seems very contradictory, but it can be noted that Ron Lord is not a man of “profound” opinions (F 152). He only focuses on making a profit with his products. His disregard for human bodies can be observed when he suggests producing “detachable” body parts to get people to buy more of his products (F 32). However, he does not want to have his brain uploaded and live without a biological form either. He asks, “What am I going to do all day?” (F 188). This question may seem simple; however, it poses an important concern towards transhumanism. Anti-transhumanists also argue that once people stop struggling and feeling pain, they will not be the same (Fukuyama, 2002: 6). Ron’s uncertainty about living with no biological form can also be related to his fear of being deprived of sexual intercourse, and his self-awareness that he is not a smart person. He articulates his fear by stating, “If I was just my brain I’d be really miserable” (F 188). Though Ry shows contempt for the comments Ron usually makes, he nevertheless believes Ron might be right about his suspicion towards transhumanism. It can be said that this type of contradictory conversation between the characters regarding transhumanist practices might be introduced by the author throughout the work to show that these transhumanist theories that claim to overcome all problems of humanity are not totally acceptable in their own right.

In theory, transhumanism presents many positive outcomes, such as independency from human limitations and a world with no race or gender differences; however, its reliance on the technological advancements that can be possible in the future makes transhumanism a bit ambiguous and its promises “too reassuring” (Aydin, 2017: 304). This ambiguity is also apparent at the end of *Frankissstein* when Victor Stein leaves his laboratory with “no trace” (F 220). Winterson does not give any clear information about what has happened to Victor Stein’s studies about transhumanism. Winterson might have provided this end intentionally in order to show the reader that transhumanist theories are still developing and contradictory.

The arguments concerning transhumanist practices in the novel bring many bioethical questions to the minds. Should transhumanist studies be abandoned since there is a chance that they might lead to a disaster? Or should transhumanism be insisted on because it might be one of the few solutions to sustain human existence? In the novel, it is observed that Winterson does not take a side, but she problematizes the issue of transhumanism, especially whether to quit transhumanist activities or not. For this reason, bioethical principles can be used to ascertain the true value of transhumanist theories within the perspective of Winterson’s novel. As the beneficence principle of bioethics suggests, transhumanists should focus on generating beneficial products.

From this point of view, it can be said that transhumanist studies should continue if they adhere to “a moral obligation to act for the benefit of others” and for the future of humanity (Beauchamp and Childress, 2013: 203). However, it can be argued that transhumanists might become the victim of their products by falling blindly into whatever their studies promise without balancing “benefits, risks, and costs” (Beauchamp and Childress, 2013: 202). This is the problem of Victor Stein in Winterson’s novel. He focuses too much on technological and scientific advancements, and he cares little about the future of humanity. His zealous focus on transhumanism and his little care about humanity bring a probable catastrophe to his studies in the end since Ry

notes that Victor Stein, once an ambitious scientist with futuristic ideas, abandons all of his research and leaves Manchester with no trace. Therefore, his desire to work for a world in which “humans and robots working together for a better life” eventually fails (F 59).

In addition to his zealous focus on his transhumanist studies, he believes that “things need to be done a little more circumspectly” (F 112). In that regard, Victor Stein is also faulty in keeping all his works secret. Bioethics suggests that any initiation should make a particular effort about nonmaleficence. It means that one’s action should not cause “significant risks, costs, or burdens” to others (Beauchamp and Childress, 2013: 207). From this point of view, what makes Victor Stein faulty is not his research on technological advancements but his little care for the human race which leads him to keep his studies unknown. In that aspect, Winterson’s Victor Stein has similar personality traits to Mary Shelley’s Victor Frankenstein. Frankenstein, Stein’s former counterpart, is also portrayed as an “ambitious scholar” who “desires to unlock the secrets of life” and “fails morally” at the end (Nagy et al. 2018a: 1148). For this reason, it can be said that similar to other technological and scientific movements, transhumanism has a lot to offer in theory, but the practice of this theory is still questionable, as Jeanette Winterson suggests.

3.2. Transgenderism

One of the themes *Frankissstein: A Love Story* considers is transgenderism regarding one of its narrators named Ry Shelley. Ry Shelley, a trans man working as a medical professional, comes across different kinds of discrimination and harassment by different characters in the novel. Here the work achieves something worthy of mentioning since it makes transgenderism one of its main concerns. There are not many literary works using a transgender character as a protagonist and a narrator of a story. It seems problematic because transgenderism is known to “exist before gender,” but there are few authors that use transgenders as a character in their work, let alone present them both as a narrator and a protagonist (Janssen, 2020: 1415). In this regard, the way Jeanette Winterson employs transgenderism as a theme in her work should be analysed in detail. There are also some bioethical concerns with regard to transgenderism in this analysis, and they will be addressed as well. However, an insight into what transgenderism is and what kinds of discrimination transgenders face should be introduced beforehand in order to make a better analysis of transgenderism and its bioethical ramifications in the novel.

As its name suggests, transgenderism, a term coined in 1965, refers to people who have decided to change the gender they were born with and have a different gender identity accordingly. It can be said that this transition is not limited to one’s sexual orientation. In that regard, transgenderism is more related to identity rather than what happens on the “bed” (Valentine, 2003: 124). For this reason, the term transgenderism should not be considered the opposite of heterosexualism, a term referring to people having a sexual interest in the opposite sex. On the contrary, the opposite term for transgenderism is cisgenderism, a term identifying people who have decided not to transition from the gender they were born with (Lennon and Mistler, 2014: 63). In addition, it should be noted that transgender people do not have to “seek sex/gender reassignment surgery” to be identified as transgenders either (Prince, 1976: 145). Some cannot afford this kind of medical surgery, and some prefer just being a cross-dresser. This does not make transgenders without medical surgery less transgender than the ones with medical surgery. In this sense, it can be stated that transgenderism is a term that can be used for “all identities or practices that cross

over” and for people who do not want to be confined to the gender identity they were assigned at birth (Stryker, 1994: 254).

This rejection of “conformity” to the assigned gender might be frowned upon by society since the transition from gender is considered an attack on social, cultural, and religious norms (Janssen, 2020: 1419). Foucault believes that power structures aim to “govern the deployment of sexuality” in society in order to control ideological mechanisms related to gender identities (1978: 106). In this regard, it can be said that this might be leading the power structures to discriminate against the ones that have decided to be identified with a different gender since transgenders are accepted as a failure for these power structures to take under control. However, as Judith Butler points out, this struggle of the power structures to control gender identities makes no sense since “true gender is a fantasy instituted and inscribed on the surface of bodies,” and this kind of gender description derives only from discourses that surround us (1999: 136).

Being falsely disapproved by most of society because they “feel the need to resist their birth-assigned gender,” transgenders have been coming across many problems in their daily lives: discrimination, harassment, inequality, inability to get physical and psychological help, and failure to get protection from the existing law system (Stryker, 2008: 5). A considerable number of transgenders have reported experiencing violence and discrimination from many people close to them such as their workmates and family members. Lombardi et al. assert that “once a person’s gender status becomes known, they may be fired, thrown out of their dwelling, or fall victim to any number of things” (2008: 99).

The laws in many states are not sufficient to provide protection against discrimination transgenders are experiencing on a daily basis because the existing laws are only “limited to insurance protections” and do not have any policy or regulations concerning “discriminations against transgender individuals” (Taylor et al., 2012: 76). In addition, it can be said that therapists might not be capable enough to provide mental help because “the majority of graduate programs” these therapists have taken “lack specialized course or formal training” to provide help and guidance for transgenders (Carroll and Gilroy, 2002: 233). This is a matter of concern because it is reported that transgenders “are more likely to attempt suicide than their heterosexual counterparts” since they feel more depressed and helpless because of the transphobia people have been reflecting towards them (Clements-Nolle et al., 2006: 54).

Discrimination towards transgenders is not restrained to daily life. It can be noted that transgenders have been excluded from literary and non-literary works as well. It is known that transgenderism is not a new phenomenon, and its origin can be traced back to ancient times; however, few accounts of transgenderism have been kept in non-literary works. It is reported that the descriptions of transgender people can be found in “an unsatisfactory differential diagnostic consideration of Herodotus,” who describes transgenderism as a “disease of Scythians” (Janssen: 2020, 1416). However, the historical backgrounds of transgender people were not kept with decent care up to recent times, and the “rarity of clinical description” of transgender people “makes it challenging to speak” about it (Janssen, 2020: 1423). It can also be said that transgenderism was mainly overlooked in literary works as well. It is argued that transgenderism was used as a theme of “parody” represented with “exaggeration and inversion of signifiers of sexual difference” in fiction up to recent times (Felski, 1996: 337). Even some literary movements, such as feminism which claim to be fighting for the visibility of minorities, disregarded transgenders for a long time. As Stryker and Bettcher argue, transgenders were considered “tools of a patriarchal conspiracy to

destroy feminism and harm girls and women” (2016: 12). Nevertheless, it can now be said that transgenders and their problems are more visible in society. Gillig et al. report that the media have been covering transgenders and their problems “with more supportive attitudes,” and this has led “the attitudes of more conservative viewers [to] bec[o]me increasingly positive as they [see] more media portrayals of transgender individuals” (2018: 515).

An insight into transgenderism gets one to recognize what kind of problems transgenders face because of their decision to change their gender identities. In this sense, Winterson’s *Frankissstein: A Love Story* aims to reflect on these problems with its protagonist, Ry Shelley. Ry is a trans person and does not want to be confined in the body of either a man or a woman. He argues that “doubleness is nearer to the truth for me” (F 84). Saying “When I look in the mirror, I see at least two people I recognize,” Ry explains the reason why he refuses to be identified with the gender constructed by society and aims to formulate his own truth in this regard (F 64). However, Ry comes across with people believing he is “the stupidest thing” after he tells them about his transgender identity (F 62).

In that regard, it can be said that transgenders are “often perceived as less than fully human due to the means of [their] embodiment” (Stryker, 1994: 238). For this reason, Ry Shelley, in the novel, gets overlooked and treated with disdain. For example, Claire, a zealous follower of Jesus Christ, comments on Ry’s transition by stating, “No one in the bible is trans” (F 162). She disregards transgenderism and condemns Ry for taking such a decision to change his gender identity claiming, “God makes us as we are and we should not tamper with it” (F 161). Mary Shelley, Ry’s former counterpart in the other part of the novel, asks some meaningful questions to those with a bigoted mindset. When her stepsister decides to have a different identity, she asks herself, “Why should she not remake herself? What is identity but we name it?” (F 47). However, Ry Shelley is not as confident as his former counterpart. He feels uncomfortable in this conversation and does not know much about how to confront this kind of discrimination about his transition. This makes him feel “liminal, cusp[ing], in between, emerging, undecided, transitional, experimental, [and] a start-up” (F 27).

The problems of transgenders are not limited to discrimination. Transgenders might also come across many people having some utilitarian intentions towards them since transgenderism has gained a significant amount of “popularity in the media” (Billard, 2016: 4195). Winterson portrays this concern with the use of some characters in the novel. Polly D., a journalist in *Vanity Fair*, attempts to have an interview with Ry Shelley merely because she believes “trans is hot right now” (F 71). Victor Stein also possesses some utilitarian intentions towards Ry since he uses Ry’s intimate feelings towards him to get help from him for his research. He also believes Ry’s transgenderism can be studied with a scientific view since he thinks Ry has “upset the equation already” (F 118). Although Ry is already aware of the fact that Victor only “love[s] the idea” of him and his “hybrid” body form, he cannot abandon Victor because Victor is the only one that shows interest in Ry and his uniqueness (F 107).

Many people can face sexual harassment in their daily lives, and transgenders are not different in that aspect. Actually, it can be said that transgenders might be coming across with more sexual harassment than cisgenders. A study on sexual harassment shows that transgenders have reported experiencing “physical attacks” and “forced sex” more than cisgenders do (Xavier et al., 2007: 32). Winterson exemplifies one of these harassments towards the end of her work. An unnamed bully at the restroom attempts to beat and rape Ry Shelley because he believes Ry is a

“freak” using the restroom belonging to men while he has no male parts (*F* 163). After a lot of struggles, Ry finds a chance to get rid of the bully. Ry luckily escapes from the restroom and tries to calm himself after the incident. He reflects on this crisis as follows:

It's OK. It's OK, I said to myself. I let myself slide down the rough wall of the outside shack. Knees under my chin. Folded into my own body. I was aching and sore. I needed a douche of disinfectant. Some cream. This isn't the first time. It won't be the last. And I don't report it because I can't stand the leers and the jeers and fears of the police. And I can't stand the assumption that somehow I am the one at fault. And if I am not at fault, then why didn't I put up a fight? And I don't say, try working on the Accident and Emergency unit for a few nights and see where putting up a fight gets you. And I don't say the quickest way is to get it over with. And I don't say, is this the price I have to pay for ...? For ... For what? To be who I am? Cry at night for what you can't understand in yourself or others. Cry at night. Don't you? The tears make my knees wet as I sit with my face on my legs as small as I can make myself. Make myself. This is who I am. (*F* 164)

This part might be introduced to the readers as an attempt by Winterson to make them recognize how tragic to be a transgender person. Though Ry Shelley is introduced as a character with a medical profession, therefore, with a certain attitude about the things going around him, he cannot show the courage to wage war against society and its unacceptable attitudes towards transgenderism. It is also ironic that as a medical professional he can cure physical illnesses of people; however, he can only end up crying because he knows that he cannot cure the hatred they spread. Still, Winterson proposes what Stryker argues that transgenders “must struggle to exist” (1994: 238).

Apart from facing social problems such as discrimination and harassment, transgenders are also in danger because of the medical treatments they receive. The ones having a transition might desire to have a surgical and hormonal treatment that can “produce irreversible changes to the body” such as being unable to have a child and being prone to early death (Coleman et al., 2012: 203). In the novel, Winterson also gets Ry Shelley to reflect on this problem. When Ry and the other characters get stuck in Victor's laboratory, Ry informs the others that he expects his life to be shorter than average because of the hormones he has been taking. He believes he will be more likely to get sick when he is older. He explains this problem by stating, “I keep my maleness intact with testosterone but my body knows it wasn't born this way” (*F* 205). He continues explaining it with an example: “If I were male-to-female, and I had lower surgery to remove my penis, my body would thereafter view my new vagina as a wound” (*F* 205). This creates a paradox on its own. Ry feels happy with her current body since he “had made it for” himself, but the body does not correspond well to the hormones and the medical surgery he has been receiving (*F* 86).

As can be seen in the attitudes of Ry Shelley, one's gender dysphoria may lead to having a transition in gender identity; however, it should be noted that being a transgender can have some negative outcomes due to one's social and medical conditions, and these might be “irreversible” (Coleman et al., 2012: 203). This creates a bioethical concern: Should people have the authority to decide their own gender identity? As the first principle of bioethics suggests, everyone should have the autonomy to decide what is best for themselves. However, Bizic et al. argue that “a multidisciplinary approach is necessary” and should be provided to those that seek help and guidance for this decision, especially the youth (2018: 6). In addition to that, the irreversible outcomes such as the inability to give birth and the probability of early death need to be addressed

because no one should have biological limitations just because they want to have a different gender identity.

In that regard, it can be said that transhumanist practices might mean a lot more to transgenders. Winterson's novel addresses this interest of transgenders in transhumanism. As a transgender, Ry believes "any-body is the wrong body" and reports that "some of [them] are transhuman enthusiasts" for that reason (F 75). In this sense, Winterson indirectly points out that it is not "surprising" that transgenders support transhumanism, a movement that suggests it is time to go beyond biological limitations (F 75).

3.3. Artificial Intelligence

Artificial Intelligence, or AI, in short, has been one of the most "exciting" terms around the world in the last decades (Russell and Norvig, 2009: 21). This popularity has led to many speculations with regard to how artificial intelligence might change the way people live. The focus on artificial intelligence has been dramatically increasing over the last two decades, and people have been bombarded with many speculations about what artificial intelligence is, how it works, how it can serve humanity, and how it might cause many dangers to the existence of humankind. These speculations are also used as one of the themes in Jeanette Winterson's *Frankissstein: A Love Story*. It is crucial that the arguments on the potential benefits and harms of artificial intelligence in this novel are analysed from a bioethical point of view. For this reason, it will be better to understand what artificial intelligence is beforehand in order to examine how it is handled in the novel and what kind of bioethical concerns it poses for the future of humanity.

Artificial intelligence can be defined as unnatural intelligence imitating the natural intelligence that humans and animals possess. It is known for its ability to perform a task much more quickly and precisely than a natural one. However, it can be noted that this was not meant to be when the field was established. When its academic discipline was established in the 1950s, artificial intelligence was meant to be a complete mimicry of natural intelligence and stimulate "every aspect of learning" similar to natural intelligence (McCarthy et al., 2006: 12). However, similar to any human invention, artificial intelligence has evolved, and it has become something different. It is now more associated with some particular techniques, such as statistical analysis and machine learning. Its first intended version, an intelligence that can perform "a variety of tasks in a variety of different contexts" rather than specific ones like artificial intelligence, is now a different branch of a study named artificial general intelligence. The goals for artificial general intelligence are still long-term since it is asserted developing intelligence with the ability to complete different tasks necessitates much more algorithms (Goertzel, 2014: 2). There is also another term that has been confused with artificial intelligence: superintelligence. Superintelligence is defined as intelligence that is theoretically much better than the brightest human mind can reach and have the ability to learn from its mistakes. It is thought that this ability will lead superintelligence to "become eventually powerful enough to improve itself without human intervention" (Omohundro, 2008: 3).

Although the definitions for artificial intelligence may vary, its efficiency and practicality make it inevitable for the daily life of humanity (Hassan, 1977: 846). What has made artificial intelligence one of the most preferred inventions of humanity is its ability to produce rapid and excellent results. This has become possible with the ideas of the developers who directed their focus to "simple several tasks" rather than a complete "mimic[ry] of human performance" (Nilsson, 1998:

33). Although there were predictions in the 1960s that in a few years artificial intelligence would be able to perform any tasks a human mind can do, what has led AI studies to popularity was its narrow focus. This narrow focus, also named weak AI, has led companies to “provide funding for the development” of new technologies (Nilsson, 2010: 295).

In the last two decades, artificial intelligence has evolved so much that it can perform “so many activities in so many subfields” within seconds, and this has led to some concerns about the role of AI in the near future (Russell, and Norvig, 2009: 48). For instance, there is a worldwide concern about the increasing risk of unemployment because it is thought that artificial intelligence will take over a lot of jobs. There is also a frightening claim that AI tends to be biased towards one’s race. For instance, it is reported that “African American English tweets are twice likely to be labelled as offensive compared to others” by the current AI algorithms used in Twitter (Sap et al., 2019: 1672). In addition, though Nick Bostrom is an enthusiast of technological and scientific advancements such as artificial intelligence and transhumanism, he puts forward a much more frightening belief concerning artificial intelligence, and he names this possible danger “the treacherous turn”:

While weak, an AI behaves cooperatively (increasingly so, as it gets smarter). When the AI gets sufficiently strong – without warning or provocation – it strikes, forms a singleton, and begins directly to optimize the world according to the criteria implied by its final values. (2014: 144)

It should be pointed out that Bostrom is not the only one to articulate the concerns with regard to how artificial intelligence may threaten human existence. The rise of science fiction has led to many narratives in which artificial intelligence is depicted as a possible threat. These narratives depict scenarios in which artificial intelligence “become[s] more intelligent than us, see[s] us as pets, and decide[s] to wipe us out” (Cave et al., 2020: 114). Even though it is noted that science fiction was “not coined until a century after Shelley’s novel was published” as a genre, *Frankenstein* (1818) can be given as one of the first examples of these narratives (Cambra Badii et al., 2021, 2). The story of *Frankenstein* exemplifies how an artificial being can become an enemy of its creator and kill all people his creator holds dearest in his life just because its demands are not fulfilled. This betrayal of the monster to his creator can be compared to Bostrom’s idea of the treacherous turn as both offer a scenario in which an artificial being decides to commit a crime just because it is superior to men and aims to get what it wants.

However, one should not think that all sci-fi works present a scenario in which artificial intelligence brings a catastrophic end to humanity. A contemporary adaptation of Shelley’s *Frankenstein*, Winterson’s *Frankissstein: A Love Story* provides different views of the characters arguing about the possible benefits and harms of artificial intelligence. As is the case with other technological and scientific advancements, Victor Stein is depicted as in favour of artificial intelligence in the novel. He believes AI will lead to a future with no division of race or gender. He makes his point by stating, “The world I imagine, the world that AI will make possible, will not be a world of labels– and that includes binaries like male and female, black and white, rich and poor” (F 58). It can be argued that Victor Stein is always imagining the future without focusing on the moment. This is because Victor is already aware of the fact that AI has not got much to offer at the moment. Yet Victor Stein does not lose his enthusiasm towards this advancement since he argues:

At present, computers are spectacular at number crunching and data processing. We can code programmes that feel as though computers are interacting with us, and that’s fun, but in fact they aren’t interacting in the way we expect a human being to interact. But what will happen when a

programme that has self-developed, that has its own version of what we call consciousness – realises, in the human sense of the verb ‘to realise’, exactly what/who is on the other side of the screen? Us? Us. (F 104)

However, as is the case with other technological and scientific advancements, the book also provides different opinions about artificial intelligence. A woman attending one of Victor Stein’s lectures shares her disagreement about the innocence of artificial intelligence and asks Victor whether women will be “the first casualties of obsolescence in [his] brave new world” (F 55). Polly D., a journalist with similar scepticism towards artificial intelligence, also makes a similar comment concerning how biased artificial intelligence might be. She states that “the race to create what you call true artificial intelligence is a race run by autistic-spectrum white boys with poor emotional intelligence and frat-dorm social skills” (F 56). She continues with her argument against artificial intelligence by asking, “In what way will their brave new world be gender neutral– or anything neutral?” (F 56).

This concern is not a new phenomenon since there are also studies pointing out that these so-called “unprejudiced computers can generate biased decisions” (Williams et al., 2018: 79). For this reason, even though the way Polly articulates her opinion might not be appreciated, her concern about artificial intelligence and its biased attitude towards some genders is worthy of consideration. In that aspect, even Victor Stein, despite his enthusiasm towards artificial intelligence, can admit that AI can lead to some problems. Yet, he believes this will not last since he argues that “the first upgrade by the intelligence itself will begin to correct such errors” (F 58). It can be stated that Victor Stein seems to agree with the ideas of Marcus Du Sautoy, a mathematician in favour of artificial intelligence. Du Sautoy also suggests that artificial intelligence can learn to “understand what it means to be human” and thus become “a powerful collaborative tool” for humanity (2019: 7). Whether artificial intelligence is as biased as a human can be, or it can learn to correct its mistakes is not an easy question to answer. For this reason, Winterson does not give an exact answer in the novel, but she provides the reader with two opposite views.

Apart from the characters who advocate or oppose artificial intelligence, there are also some characters that are hesitant to take a side regarding artificial intelligence. Ry Shelley might be the most apparent one with doubts about artificial intelligence. For example, when Polly and Ry are arguing about artificial intelligence, Polly restates her scepticism towards this technology by saying, “I don’t trust the way AI is being sold to us. People aren’t in the conversation, let alone the decisions” (F 71). However, Ry responds back to Polly and says, “I don’t believe the effects will be necessarily negative” (F 71). Then he makes his point by suggesting that artificial intelligence can even be a “mother’s little helper” (F 72). However, later on, he seems doubtful about artificial intelligence and asks Victor whether “AI is for our benefit” or not (F 103). His doubtfulness can also be observed when he asks whether humanity “could just go on as we are,” and whether artificial intelligence is a real necessity or not (F 81). This might remind the reader of the quote in which Ry defines herself as “liminal, cusp, in between, emerging, undecided, transitional, experimental, a start-up” (F 27). His indecisiveness, or scepticism, is observed in terms of his approach to artificial intelligence in this sense.

Being doubtful about artificial intelligence is not restrained to Ry Shelley. Even though he is a committed supporter of artificial intelligence, Victor Stein also has some doubts concerning artificial intelligence. When Ron Lord asks Victor about the future of artificial intelligence, Victor replies back with questions: “Who knows? What have humans ever created that

is perfect?” (F 176). It might be surprising for the reader to see Victor sharing a pessimistic attitude towards technological and scientific improvements because he always argues that these improvements will provide humanity with better conditions. In that aspect, it can be argued that his presented enthusiasm for the future of artificial intelligence is mostly for getting the approval of society for his questionable studies. In his live-streamed and public lecture, Victor argues:

The nearby world of AI will be a world where the physical limits of our bodies will be irrelevant. Robots will manage much of what humans manage today. Intelligence – perhaps even consciousness – will no longer be dependent on a body. We will learn to share the planet with nonbiological life forms created by us. We will colonise space. (F 54)

However, he becomes more unclear about the future of artificial intelligence when he only speaks to Ry. He questions the future with AI by asking, “When have things ever worked out great? In the human dream?” (F 59). He also shares his scepticism regarding AI by wondering how new technological advancements will “find ways to ruin themselves” (F 176).

Providing characters with unclear opinions about artificial intelligence, Winterson’s novel, *Frankissstein: A Love Story*, leaves the reader with more questions than answers concerning how artificial intelligence will shape the future of humanity. These questions, however, might be more important than the answers one can tell. On the one hand, artificial intelligence is thought to have a crucial role in the fate of humankind. On the other hand, as Newton Lee suggests, there is a risk that artificial intelligence will become “imperfect and dangerous” (2019b: 165). This is also what Victor Stein reminds the others by quoting I.J. Good and tells people that artificial intelligence might be “the last invention” of humanity (F 136). For this reason, from a bioethical point of view, it might be noted that artificial intelligence should not be underestimated and followed blindly.

Stuart Sim argues that artificial intelligence should not be mistaken with the creature in Mary Shelley’s novel since he believes that creature “is doomed to perish on the icecap after he springs from the ship” while “an AI Prometheus is unlikely to make things so easy for humanity” (2020: 101). In that aspect, Sim fears artificial intelligence might “decide there is nothing much to be gained from” humanity and this might lead it to “pursue outcomes which could be against humanity’s best interests” (2020: 102). Therefore, from a bioethical standpoint, it is crucial that studies on artificial intelligence are to be taken under control. As Mary Shelley in Winterson’s novel reminds the reader, “What we invent we cannot uninvent” (F 94).

Artificial intelligence poses many dilemmas with its prospects and possible threats from the bioethical perspective. Looking at the positive side, one can see that artificial intelligence has been useful for humanity so far with its ability to get things done much more accurately and quickly. However, this does not mean that it will continue serving humanity this way. As Bostrom argues, it does not have to possess a sense of “morality” and does not have to “represent a high degree of respect” for humanity (2014: 253). As Victor Stein in Winterson’s novel explains, “artificial intelligence is not sentimental– it is biased towards best outcomes” (F 55). From this point of view, artificial intelligence creates a bioethical concern: Should researchers abandon their studies on artificial intelligence? Though it might sound convenient for some to go back to old times and live the way they were used to, Bostrom believes humanity is beyond that chance since there are other possible “dangers that we will have to face” such as global warming and insufficient natural resources (2002: 24). Victor Stein in Winterson’s novel makes a similar comment by saying, “your alternative is the only one that is impossible” when Ry Shelley suggests the continuation of humankind without artificial intelligence (F 81).

From a bioethical point of view, it can be suggested that studies on technological and scientific advancements, like artificial intelligence, need to continue since they have many benefits for humanity. However, the studies on artificial intelligence need to be regulated according to the principles of bioethics so that both humans and other life forms can have a chance to continue their existence in the future (Ekmekci and Arda, 2020: 71). AI developers need to be reminded that their interest should be for the benefit of all life forms. For this reason, they should try to avoid maleficent factors in their work as much as possible. For this to happen, Ekmekci and Arda suggest that developers can “insert algorithms” that “can do ethical reasoning,” and this will enable the AI entities to “do X if it does not harm human beings” (2020: 75). Last but not least, it can be said that the developers should provide people with information that is “understandable and interpretable” for all instead of only providing the open codes for the algorithms that are not understandable for many people (Floridi and Cowls, 2019: 9). These considerations on bioethical principles can make the studies on artificial intelligence more helpful for the existence of humankind since they may reduce the risk of letting this technology become a work area of those that are “little concerned for humanity” like Victor Stein in Winterson’s novel (Sim, 2020: 101).

3.4.Cryopreservation

It is hard to speculate whether humanity will ever be able to achieve immortality or not. Technological and scientific advancements such as cryopreservation and mind uploading aiming to make life forms immortal might end up being a failure in the end. However, one thing people can be sure of is the fact that the studies on this goal will not be given up because avoiding death has been one of the most focused issues for humanity. Realizing humanity has not got many opportunities to continue its existence in this world because of existential risks such as global warming and insufficient natural resources, scientists have been looking for ways such as making colonies in outer worlds to prolong the existence of humanity. In addition, they are also looking for possible methods to make humans immortal and have them experience the prospects of the future. However, instead of focusing on ideas such as mind uploading and making humans independent from their bodies that seem rather far away from the current technologies, there is a focus on cryopreservation.

Cryopreservation, a process of having the body preserved with the use of ice formation, has been used since the 1960s with the hope of attaining immortality. It is believed that technological and scientific advancements in the future will allow these cryopreserved people to be brought back to life, even though most scientists are sceptical about the prospect of “resuscitating” dead people (Andrade, 2018: 15). These possibilities and doubts are also expressed in Jeanette Winterson’s novel, *Frankissstein: A Love Story*. It seems feasible to have a look at these possibilities and doubts together with an insight into how cryopreservation works and why it is frowned upon within the mainstream scientific community so that this theme can be analysed better from a bioethical point of view.

Cryopreservation can be described as a procedure of having the bodies of patients frozen within minutes of death and storing those bodies at very low temperatures with the use of some technologies. This process is arranged with the use of two different techniques: cooling the body slowly to avoid crystallization or vitrifying the body with ultra-rapid cooling. Though both techniques can be very damaging for the internal cells, it is hoped that the body can be

cryopreserved at low temperatures long enough to allow the possibility of having it brought back to life (Best, 2008: 495).

Believing these cryopreserved bodies can be revived back to life with the help of technological and scientific advancements that might be possible in the future, “more than 1500 people in the United States” have applied for having their bodies cryopreserved when they die (Moen, 2015: 677). The number of applications for cryopreservation can be fewer than one might expect. This is because of the facts that there are only four facilities for cryopreservation in the world, it requires “considerable expense,” and the suspicion towards the credibility of cryopreservation among the scientific community is still dominant (Shaw, 2009: 515).

There are many reasons why cryopreservation is frowned upon among the mainstream scientific community. First, it is still unknown whether freezing the human body can make human beings immortal or not since the reliance on technological and scientific advancements on this point might end up being a total failure (Doyle, 2012: 13). Cryopreservation is also doubted because the process might leave irreparable damages to “internal cells,” which might prevent the body from functioning again (Karrow and Webb, 1965: 101). David Sanders Stodolsky also points out that keeping the bodies at low temperatures long enough to expect technological and scientific improvements can be very costly, which might lead these companies to declare bankruptcy and “disappear in less than a hundred years” (2016: 3). For this reason, it is argued that “long-term stability is an unknown phenomenon for organizations” performing cryopreservation (Stodolsky, 2016: 3). These doubts might lead people to have a “lack of confidence in the possibility that revival will someday become available,” and this feeling may lead them not to invest in this technology as well as to perceive it as “weird” (Minerva, 2018: 13).

Apart from the scientific community, cryopreservation is not appreciated much in society due to its ethical and religious concerns. In addition to the argument that suggests the practice of cryopreservation is an impossible way to prolong the existence of human lives, bioethicist Francesca Minerva points out that the bodies frozen are believed to be “wasted” because it is thought that the parts of these cryopreserved bodies could instead be “used for transplants” and the financial resources required to keep the body frozen can instead be “used for donation to an effective charity” (2018: 27). It is also believed that this practice is against nature since “to die is part of the natural cycle of life, hence we ought to die” (Minerva, 2018: 13). Moreover, cryopreservation is also disregarded because it is thought that it should not be up to people to assume the role of God by “tampering with death” (Minerva, 2018: 15). Finally, cryopreservation is criticized because it would create an “inequality” between the rich and the poor since the poor “will not be able to afford” it while the rich will (Minerva, 2018: 18).

These suspicions and dilemmas on the credibility of cryopreservation are the basis of the arguments for cryopreservation in Winterson’s novel, *Frankissstein: A Love Story*. The work generally seems to get Victor Stein, an enthusiast of technological and scientific advancements, to support these advancements. Yet he argues uploading the consciousness “to a substrate not made of meat” is more feasible than having the body cryopreserved because he believes “no one will want their diseased body back” (F 78). In this sense, the novel presents a new character here named Max More, the CEO and director of the facility known as The Alcor Life Extension Foundation in Phoenix, as the supporter of cryopreservation. It is noted that this character is clearly named “after the founder of the Extropy Institute and transhumanist Max More” (Ferreira, 2019: 69). Being the CEO of a foundation for the practice of cryopreservation, Max More believes “the time will come”

and “reheat[ing] the body without destroying it” will be possible in the future (*F* 75). He uses Leonardo Da Vinci and his ability to think ahead of his time as an example and states that Da Vinci also “made drawings of helicopters before powered flight” to prove his point (*F* 75).

However, as with the other technological and scientific advancements, Ry Shelley is again suspicious of the practice of cryopreservation. He thinks it is still “crude” and believes “all those preserved bodies in their sleeping bags and nitrogen” will not be “coming back to life” (*F* 128). Even though they seem to disagree with each other when the conversation is about the possible benefits of technological and scientific advancements, Victor seems to agree with Ry at this point and suggests that “cryopreservation is likely to be an interim technology” (*F* 128). Yet Victor Stein thinks it might still be “worth pursuing” because he believes the practice of cryopreservation can become a valid technology before scientists can find other technological and scientific advancements for the “purposes of life extension” (*F* 128). However, he suggests a particular focus on neuropreservation rather than cryopreservation and asks Ry to read a text about it on Alcor’s website and gives him his phone to do so. Neuropreservation is defined with a quotation from this website as follows:

Cryopreservation that is focused on doing the best possible job to preserve the human brain is called ‘neuropreservation.’ The brain is a fragile organ that cannot be removed from the skull without injury, so it is left within the skull during preservation and storage for good ethical and scientific reasons. This gives rise to the mistaken impression that Alcor preserves ‘heads’. It is more accurate to say that Alcor preserves brains in the least injurious way possible. (*F* 78)

Yet, this does not convince Ry Shelley about the practice of cryopreservation or neuropreservation. It is because his doubts about this practice are not limited to its possibility. He shares some other reasons why cryopreservation should be questioned. Even though he is a medical professional, and thus, “dedicated to the preservation of life” and “not dedicated to the inevitability of death,” Ry disregards the practice of cryopreservation and states “the invitation” he receives from Alcor Life Extension Foundation is “a mistake” (*F* 75). Ry Shelley believes “it would be horrific” if technological and scientific advancements would make it possible to reheat the bodies of the ones cryopreserved to bring them back to life (*F* 128).

Ry fears that this technology would allow “millions of Bible-belt hellfirers and homophobes living to 969” years old (*F* 204). Ry also believes there might be some negative outcomes of this practice if the ones cryopreserved are reheated and revived back. He argues “nothing we do to the body is without consequences” (*F* 204). He continues to question it by wondering “how our bodies will respond to any therapy that reverses its process of gradual dissolution” (*F* 204). From a bioethical point of view, these questions are worthy of consideration because humanity can totally become something different if scientists can figure out how to reheat the cryopreserved bodies without damaging them. Winterson gives the claims of some scientists that cryopreservation will not only provide life extension, but it can also help human bodies stay young forever, thus, the notions like aging will no longer be a concern. However, she gives a suspicious point of view at the same time. Even though this kind of practice can be viewed with an optimistic perspective since it can provide life extension and help people stay young as long as they want, Ry believes these prospects may not be what humanity actually needs. He thinks there can be only progression when “the hate-filled old white guys die off” (*F* 204). To Ry, taking this hope away may also stop progressiveness because he believes what has led humanity to unlock the secrets of life is the youth,

and there will not be such young people trying to be more progressive if this technology proves to be valid.

Ron Lord, the sexbot manufacturer, seems to agree with Ry Shelley's opinions on the possible problems of cryopreservation and neuropreservation. However, he approaches this problem from some other significant perspectives. He argues that this practice can be problematic since there are "murdering bastards, child molesters, thugs, [and] nutters" that serve as bad examples for humankind (*F* 153). He believes this practice might put humanity in danger by allowing these people to live longer. For this reason, he asks, "Where do you draw the line?" to the practitioners of cryopreservation (*F* 152). When Ry Shelley informs him that more than 50 million people die every year, Ron questions whether "we would want them all back" or not (*F* 152). He also points out some political concerns by asking Max More whether they would "defrost" political figures such as "Hitler" and "Donald Trump" (*F* 153). The reader might be confused to see Ron Lord, "the most vulgar character" in the novel (Botting, 2021: 194), making historical references and talking about important issues. At this point, the author makes an interruption here with a note: "THIS IS THE MOST PROFOUND THING RON HAS EVER SAID" (*F* 152). This statement might have been introduced with full capital letters in order to make the readers pay particular attention to what Ron is saying at that moment. It might have also been introduced to inform the reader that these statements do not belong to Ron; instead, they reflect the opinions of the author. No matter why this note is introduced, it nevertheless points out that the practice of cryopreservation is not as innocent as it might seem. For this reason, Ry also starts to "look at Ron with new respect" because of his "thinking about the nitty-gritty of the future" (*F* 153). However, it should be noted that after a while Ron goes back to normal and asks Max whether he would think of having a "subscription plan to include a sexbot" (*F* 154).

These arguments on the possibility of cryopreservation are also crucial within the perspective of theology. David Shaw, a bioethicist who has several studies on the ethical aspect of cryopreservation, draws attention to the theological aspect of this practice as well. He argues that this technology can also help people find an answer to one of the most prevailing conflicts in the existence of humankind: "the probability of God's existence" (Shaw, 2009: 520). For this reason, though it might be argued that the number of people believing in the possibility of this technology is very limited, this probability can even lead a character like Claire, who is a zealous follower of Christ, to consider this practice. It might make Claire a hypocrite since she believes "God makes us as we are and we should not tamper with it" while she is working at Alcor Life Extension Foundation, a company that aims to tamper with the role of God by putting a stop to death (*F* 161).

Still, she supports her duty there since she states, "my current job at Alcor is to ascertain whether Christian people should get themselves vitrified so that when they return to this Tormented Land of Sin, they can testify, without a doubt, that while their heads were on ice, their Soul was with Christ" (*F* 156). Shaw seems to agree with Claire's point on the use of this technology to prove the existence of God since he believes that it "sounds quite plausible" to wager on "the eternal existence of an omnipotent deity" by cheating death with the practice of cryopreservation because "there is no actual cost other than financial" for the ones deciding on having their body frozen within minutes of death (2009: 520). Even though the credibility of cryopreservation is still doubtful, Shaw argues that this might be tempting for many, and "it might be imprudent not to use this technology" (2009: 515).

With its characters sharing different feelings towards the practice of cryopreservation, Winterson's novel might play a crucial role in ascertaining the true value of cryopreservation from a bioethical point of view. It is because this work gets the reader to ask, for example, whether it would be ethical to freeze or unfreeze evil people, and it is not frequently stated by mainstream concerns. In that regard, the acceptability of cryopreservation from a bioethical perspective should be questioned again with regard to the arguments provided in this novel. Four principles in bioethics can be applied to find an answer to it. First of all, it is crucial that this practice does not limit the autonomy of one's ability to decide their own fate. It can be pointed out that even people like Ry Shelley, a medical professional determined to extend people's life, might refuse an "eternal life" since they may think that "this life is trouble enough" (F 188). Furthermore, it can be noted that cryopreservation causes many financial and environmental problems. It is argued that this technology is "the least environmental way of dealing with one's body" and it might seem "unethical to spend one's life insurance on cryonic storage" (Shaw, 2009: 518).

However, it can be suggested there is a chance that cryopreservation might prove useful in the future, and this may provide many benefits such as life extension, immortality, and knowledge about the existence of an omnipotent being. For this reason, it can be argued that its possible benefits might outweigh the risks; therefore, cryopreservation might be worthy of funding. Yet there can be found other maleficent factors in cryopreservation. For example, this type of technology might cause problems like overpopulation. Ron Lord in the novel refers to this problem by asking, "where are we all going to fit?" (F 153). In that sense, as Ron argues, there should be a bioethical consideration in drawing "the line" for such practices (F 152). Last but not least, as Ry points out, this technology is not very available for all since it can be "very expensive" (F 153).

Based on these reasons, from a bioethical point of view, it can be said that cryopreservation presents both benefits and harms; therefore, it is not easy to find an answer to the acceptability of this practice. Similarly, Winterson also avoids taking a strict side in the novel; instead, she problematizes this practice by only presenting the potential benefits and harms such practice might lead to. In that regard, Winterson proposes that there is still a necessity to discuss the acceptability of cryopreservation from a bioethical perspective within different dimensions.

3.5. Sexbots

What makes Jeanette Winterson's novel, *Frankissstein: A Love Story*, different from its former counterpart, Mary Shelley's *Frankenstein* is its approach to different ways of experiencing love. As its name suggests, Winterson's novel can also be regarded as a love story, but it is not a typical love story involving a male falling in love with a female. It can be noted that this type of typical love story can also be found in the novel where the fictional character Mary Shelley talks about her intimate relationship with Percy Shelley. However, there are found some different love stories in the other part of the novel. For example, the reader is introduced to a love story of a transgender person in the novel. In addition, the reader is introduced to a much different type of love: love with a sex robot.

This type of experience may seem peculiar to some. Indeed, it is questionable whether having intimacy with an artificial being should be regarded as a love experience. An intimacy is argued to "be acceptable if it reflects the reciprocal of the parties to that union" (Benatar, 2002: 192). Yet, sex robots, or sexbots, in short, are mostly accepted as nonsentient beings; therefore, it is asserted

that a relationship with a sexbot should not be regarded as real intimacy. For this reason, its production and use are also a matter of discussion. It is believed that this type of product can provide some benefits, but it can also lead to ethical concerns. These arguments on the beneficial and harmful sides of sexbots are also handled in Winterson's novel, and they should be examined from a bioethical perspective. However, before making a bioethical examination of such products in the novel, it seems better to have a look at what sex robots are and what kinds of benefits and dangers are claimed to be causing beforehand in order to make a better examination of Winterson's novel.

Studies on sex toys show that humans have always looked for a tool to transfer their sexual energy. For instance, an object was found – “estimated to be 28,000 years old” – that can be identified as “the world's oldest dildo” with a size and shape that “led some to speculate that it may have been used for sexual stimulation” (Danaher, 2017: 3). It is also known that “sailors on long voyages” had a type of doll “made from cloth or old clothes” that was used for similar purposes (Ferguson, 2010: 16). Yet, Anthony Ferguson believes these rudimentary tools were not much of a necessity because he thinks “life was cheap, prostitution was more widespread and less controlled than it is today, and a majority of the destitute could be bought for a few pennies” (2010: 15). However, times have changed, and because of the improvement in the rights of women and the new restrictions introduced in the law system, people have started looking for these types of tools more than they did in the past.

With the rise of technological advancements in the twenty-first century, new types of tools for sex have come into existence. One of these tools, though debatable because today it exists in “primitive and unsophisticated forms,” is an artificial being called a “sex robot” or “sexbot” (Danaher, 2017: 12). It can be defined as “a robot that is designed and manufactured primarily for the purpose of being used for sexual gratification” (Sterri and Earp, in press: 2). What makes them different from their former counterparts is their artificial intelligence which enables them to make its owner have an experience much more alike to the experience with non-artificial beings. Even though this type of product is not common nowadays, it is argued that “in 2050, it will be perfectly normal for women and men to experience love and sex with robots” (Döring et al., 2020: 1). For this reason, it raises many questions since this type of product may totally change the way people experience love and intimacy once and for all.

Despite the fact that these technological tools are still in the process of development and their forms are rather unsophisticated, sexbots and their possible threats to society have already been investigated in academic studies, and it is reported that there are “98 academic publications on sex robots” (Döring et al., 2020: 14). One of the main concerns that can be found in these publications is the degradation of women. It is believed that manufacturers of such products represent “a strong Eurocentric male gaze” aiming to appeal to the fantasies of men by producing robots that look like “large-breasted Barbie dolls with glimpses of artificial intelligence” (Kubes, 2019: 3). It is also noted that manufacturers of sex robots can even think of producing a sexbot designed for “rape,” called “Frigid Farrah” (Brown, 2019: 112). It is argued that representing women as nothing more than a plaything via these products can be “objectifying, degrading, or even physically injurious” (Eaton, 2007: 682). Such products are frowned upon because having intimacy with them is thought to “reveal [the user] to be sexist, intemperate, and cruel” (Sparrow, 2017: 473). These products are also criticized because they represent a false idealization of women's appearance. Geert Gooskens argues that women might wish to have a similar appearance to these products just to be appreciated

more (2010: 66). For this reason, Kathleen Richardson believes sexbots “will further reinforce relations of power that do not recognize both parties as human subjects” (2015:292).

In addition to the problematic representation of women, sexbots are also perceived as unacceptable ways of experiencing love. Thomas Nagel believes “if the object is not alive, the experience is reduced entirely to an awareness of one’s own sexual embodiment” (1969: 14). Sinziana Gutiu makes a similar point and states that “sex robots eliminate the need for communication, mutual respect, and compromise in the sexual relationship” (2012: 2). For this reason, this type of an experience with such products can be argued to be problematic since it does not represent a true one. Finally, Maras and Shapiro note that there are different models of sexbots, such as child sexbots, believing that these products represent “the utmost embodiment of the reduction of children to a sexual object for the gratification and pleasure of their owner/user” (2017: 12). Suzanne Ozt shares a similar concern since she believes these products may represent “children as sexual objects or resources for unbridled exploitation” (2009:105).

On the other hand, there are also studies that focus on the positive aspects of sex robots. Firstly, some argue these products can help people have a better experience in their sexual relations. For example, Neil McArthur asserts that sex robots can be helpful for “people with severe anxiety surrounding performance or body image, an incidence of sexual trauma (such as rape or incest), adults with limited or no experience, or people who have transitioned from one sex to another” (2017: 40). Nagel also points out to this advantage of sex robots by stating “even if perverted sex is to that extent not so good as it might be, bad sex is generally better than none at all” (1969: 17). Moreover, it is argued having sexual intimacy with these products may “result in feelings of general benevolence” and make one feel more affirmed and validated in the “community” (Settegast, 2018: 388). Finally, it is pointed out that these products can be used for educational purposes since they can “provide an opportunity to understand and correct violent and demeaning attitudes towards women” (Gutiu, 2012: 22).

This insight into what sexbots are and what kind of criticisms they get make one conclude that the use and production of sexbots can be contradictory. Winterson attributes this contradiction since she gets the characters in the novel to offer different arguments with regard to the production and use of such products. In this way, she gets the reader to think ethically about both benefits and harms of sexbots. The novel presents Ron Lord, an owner of a company manufacturing sexbots named XX-BOTs, as the supporter of such products. Even though this fictional character can be considered “the most vulgar character” in the novel, he seems to provide the reader with profound opinions about how sexbots can be useful in society (Botting, 2021: 194). For instance, he believes that lonely people can feel much happier and healthier with the use of such products:

We all need something. That’s life. So why not a robot? My first bot was there for me when I got home from work and there was none of the usual where have you been what time do you call this? She was ready in bed for a cuddle, and I was getting sex every night. No warm-up. Straight in. Slept with my arm across her. I felt better. Stopped the Xanax. My rash cleared up. (*F* 158)

His belief that the use of sexbots can make people become much happier, therefore much healthier overall, gets the other characters to conclude that “Ron has something after all” (*F* 158).

Despite being an opponent of such products and believing they are “disgusting” at the beginning, Claire starts to appreciate them and decides to become Ron’s business partner after all (*F* 157). This immediate change cannot be observed in the other characters. It can be said that the author might not want to put a stop to these bioethical arguments by letting them change their

feelings so easily. However, Claire is different in that regard because she can “change [her] mind when the Lord tells [her] to” (*F* 162). She states that Ron Lord, an ironic surname, was sent to her by God to help her change her mind. Additionally, she relates the change in her opinions about sexbots to a feminist perspective:

I don’t need a human being in the old-fashioned way. And you know, a bot is never gonna leave me to raise the children on my own. Never take my cash to clear his gambling debts. I won’t be tiptoeing round the house trying to keep out of his way. Cleaning up after him. Worrying about him. Worrying about what he’ll do next. Let me tell you this: love has many faces – but none is bruised. Love has many lives – but none is beaten to death on the stairwell. This gentle thing of circuits, silicon and wires will suit me very well. (*F* 205)

Claire is not a favourable character throughout the novel with her transphobic comments uttered to Ry; however, she presents a very significant perspective on the prospects of sexbots here. This part might also be introduced by Winterson to articulate the less-heard story of Claire’s former counterpart, Claire Clairmont, whose life was full of misery and sorrow. Scholar Bradford Booth reports that Claire Clairmont is not known much because she was regarded as a “despicable creature, and not worth acknowledging” (1938: 67). For this reason, Winterson might have thought to present Claire Clairmont, Mary Shelley’s stepsister in real life, as a fictional character in the other part of the novel and have her sorrows told to the reader by Mary Shelley as a fictional character. Mary Shelley, in the novel, informs that Claire Clairmont and Lord Byron had a child, and Byron “took the child away and left her to die in a convent” (*F* 191). For this reason, it is not surprising that Winterson introduces a new character with the same name in this part of the story and gets her to articulate the significant problems women face today. In this regard, Winterson argues that today’s women have similar problems to the women in the past: violence, abuse, and murder. In this sense, by getting Claire to suggest that sexbots would be better partners than men because at least they would not resort to violence and abuse, Winterson reveals the oppressive and even destructive attitudes towards women.

However, it should be noted that just like the treatment of the other technological advancements in the novel, sexbots are not treated with full advocacy either. Polly D., the journalist, expresses her concern for privacy that these products may invade. She reports that the product she has been using, named the Intelligent Vibrator, “accidentally posted pictures” of her on her social media account (*F* 29). Polly calls this “privacy infringement” because she was not informed that “it would remotely upload [the photos] to [her] default app” (*F* 30). As a feminist, Polly also believes that these products are tools for spreading the degradation of women in society. She points out this concern by arguing that in China “men grow up learning to disparage women” with the use of such products (*F* 56). For this reason, she believes the production and use of sex robots are just “gross” (*F* 66).

Another concern towards sexbots is the possible free will of such products. An unnamed woman in the novel expresses this concern in a lecture given by Victor Stein. She points out that these products can “never say no” (*F* 55). Victor seems to agree with her since he also suggests there is a necessity for “machines that will learn to think for themselves” rather than being a product that can only “call you Big Boy in eight languages” (*F* 55). Yet he encourages the production of sexbots because he thinks people will “have nothing to do all day” in the future and suggests they can be “diversions and soporifics” for them (*F* 67). Believing sexual intimacy with a sexbot “isn’t sex,” Ry Shelley shares his disagreement with Victor at that point (*F* 67). Ry points out another

concern regarding the use of sexbots since it is also debatable whether having sexual intimacy with such products should be regarded as a true union or not (Nagel, 1969: 14).

Ron Lord's idea of producing and manufacturing "boy-bots" for "the clergy" is another dimension of bioethical discussion (*F* 175). He suggests there could be a sexbot "behind the altar" and this would prevent the clergy from abusing "orphans and choirboys" (*F* 158). Though this idea is a satiric comment to the clergy, it also causes another ethical concern. Eileen Hunt Botting argues that manufacturers of these products are "someone without a backbone" and fears that they may sell these products to the "paedophiles" (2021: 197). Maras and Shapiro share a similar concern since they argue that the manufacturers of sexbots can provide paedophiles with child sex robots "to enable [them] to act on their impulses to rape and abuse children" (2017: 11). It is also argued that these robots can "normalize sexual assault" and paedophiles might turn back to the "sexual abuse of the real child" since these products "will eventually not be able to satisfy paedophiles' perverse sexual desires" (Maras and Shapiro, 2017: 12).

When the Czech writer Karel Čapek coined "the word 'robot'" (Roberts, 2006: 168), he probably had not thought about the production of sex robots. However, as Döring and Pöschl report, today, "sex robots are openly marketed on the Internet" even though they exist in rudimentary forms (2018: 51). This necessitates a bioethical analysis of the production, distribution, and use of these products in daily life. The bioethical arguments about sex robots in the novel can lead the reader to ask a question at the end: Should the production, distribution, and use of sex robots be allowed? Winterson's novel clearly depicts that such products can have both positive and negative aspects. For this reason, the question of whether the authorities should ban the use of such products can be answered with the use of the principles in bioethics. Bioethics suggests that any initiation should have some beneficence, and one with a positive point of view towards the use of such products can find many benefits. For example, it can be argued that the production of "sex robots could help to reduce prostitution" in society (Richardson, 2015: 291). In addition to that, Kate Devlin suggests that such products can be used for "therapeutic" aims (2020: 239). Sexbots present many positive aspects from this point of view.

However, bioethics also suggests that any initiation with the aim of being beneficial for humanity should also ensure that there is nonmaleficence in any sense. Looking at the negative aspects of sexbots, one can point out that such products degrade women, eliminate the need for mutual respect, and normalize the ignominious acts of paedophiles. For this reason, Moen and Sterri suggest that such products should not "be sold over the counter" (2018: 378). In addition, Litska Strikwerda argues that "child sex robots encourage or seduce pedophiles to commit child abuse" (2017: 146). From this perspective, it can be said that Ron Lord, arguing that he is not the one to "judge" people's preferences, represents a bad example of the manufacturers of sex robots (*F* 41). Ron Lord is not interested in ethically positive aspects of sexbots, but in anything profitable. However, a bioethical responsibility is required for the manufacturers, which will make them judge and try to avoid malevolent factors in their products. For instance, Devlin argues that the manufacturers of sex robots might advocate the idea of selling these products to those in need of therapy (2020: 239). In addition, it is also suggested that sexbots could be sold to those "who are appropriately licensed in their use" (Sterri and Earp, in press: 13). Although some solutions are tried to be presented about this issue, there is much to discuss regarding the acceptability of sex robots in society. For this reason, Winterson avoids taking a side in the novel for the acceptability

of such products; instead, she problematizes this technology so that there can be more bioethical discussion in that regard.

3.6. Mind Uploading

It is hard to speculate what possibilities the future holds for humankind in the next 30 or 40 years. However, it is easy to argue that people will no longer continue living the way they are used to. It is obvious that the world human beings have been occupying for a long time will not be sufficient enough to provide them with natural resources and sustain their existence anymore. For this reason, many technological and scientific theories have been investigated to cope with the probable problems that may arise in the near future. Among these theories, what might appear to have little plausibility is the idea of having people's minds uploaded to computers in order to make it possible for them to continue their existence for an indefinite amount of time. Though its plausibility can be questioned, it is reported that "mind upload technologies are currently being developed by private companies in Silicon Valley, and similar technological developments have received significant funding in the EU" (Laakasuo et al., 2018: 1). In that sense, though it is argued that there are many limitations for mind uploading technology, it is expected that "perhaps in the not-too-distant future" these limitations "will be overcome" with the current rapidness that can be observed in the development of new technologies (Andrade, 2018: 16). For this reason, the bioethical concerns such technological advancements would pose should be investigated beforehand (Bancroft, 2013: 415). Jeanette Winterson's novel, *Frankissstein: A Love Story*, reveals many arguments in that regard, and they can be examined with the intention of contemplating what kinds of benefits or harms mind uploading technologies would pose from a bioethical point of view.

Sandberg and Bostrom define mind uploading – they prefer to call it "brain emulation" because they find the term uploading "informal" – as a futuristic technology that will try "to take a particular brain, scan its structure in detail, and construct a software model of it that is so faithful to the original that, when run on appropriate hardware, it will behave in essentially the same way as the original brain" (2008: 7). Simply put, it suggests technological advancements will allow one's brain to be transferred into a computer. It is thought that this process will be similar to the process of transferring some data from one computer to another. The ones working on this type of technology rely on the assumption that "man is just a complex machine" and "the brain is just a computer" rather than believing that it is the soul that runs one's consciousness (Keiper, 2006: 40). Even if the assumption that the brain is responsible for commanding one's behaviour, and thus can be transferred is true, mind uploading should not be mistaken for the simple data transfer process on a computer. This data transfer can be conducted within seconds, but mind uploading will be much more difficult because it will necessitate devices with lots of "CPU" and "memory" (Sandberg and Bostrom, 2008: 79-80). For this reason, some believe that this type of technology "has a non-zero chance of appearing during the next century" (Eckersley and Sandberg, 2013: 170). However, philosopher Maartje Schermer is more optimistic about the availability of this technology in the near future since she states, "within two or three decades, our brains will have been entirely unravelled and made technically accessible: nanobots will be able to immerse us totally in virtual reality" (2009: 217). Regardless of when mind uploading will be available, it is suggested that there is a need "to begin considering the ethical aspects" of such a technological revolution (Bancroft, 2013: 415).

It is very natural to raise ethical questions about such a transformative idea, and mind uploading should not be an exception in that regard, even though the possibility of its coming into existence seems highly doubtful in the near future. Looking from the positive sides of such futuristic technology, one can see that mind uploading can bring so much to the table. It can be argued that mind uploading might provide humans with “a sort of immortality” (Cheshire, 2015: 135). In addition, it is believed that uploaded minds will be “about one billion times more powerful than all human intelligence today” (Kurzweil, 2005: 136). Gabriel Andrade suggests that this technology can be used as a method to create “a backup copy” of one’s brain, and this might allow retrieving the “mental contents” of that brain (2018: 15). From this point of view, mind uploading can mean a lot for human existence.

Though these benefits might sound exciting for many, some do not share the same eagerness towards mind uploading, and they share some valuable opinions that should be taken into consideration. Victoria Lorrimar believes the notion of mind uploading reflects “disdain for the body” and urges the developers of such technology “to think some more” about what the body means for humans (2019: 193). Nicholas Agar argues that the efforts put into mind upload technology will prove to be void since he claims computers on which the mind of a person will be uploaded “not only cannot, but could never think” (2011: 432). To Agar, “there is a significant chance that the procedure will be fatal” (2011: 436). Anders Sandberg approaches this issue from a different perspective, and he questions “how obligations, rights, and other properties carry over from originals to copies and whether the existence of copies changes some of these” (2015: 450). In that sense, it can be argued that a possible mind uploading scenario will change the law system entirely since there will be more than one copy of one’s identity. It is also pointed out that files on a computer are “ultimately easy to steal” and “computer insecurity is deep and unavoidable” (Eckersley and Sandberg 2013: 170). For this reason, Eckersley and Sandberg argue that there will be possibly thieves to try to steal a copy of people’s minds, and “the agent would face the risk that someone might make non-autonomous, enslaveable copies of their mental states” (2013: 174).

Even though it is still debatable whether technological advancements like mind uploading will ever come into existence, it can be argued that “these technologies may also change some elements of our common morality itself, just like the birth control pill once helped to change sexual morality” (Schermer, 2009: 220). For this reason, what bioethical implications these technologies might have needs to be addressed beforehand. This might also be what Winterson aims to achieve in her novel, *Frankissstein: A Love Story*, since she provides the reader with the discussions of the possible benefits and harms of technological advancements in mind uploading. Her characters show different attitudes towards the promises of mind uploading. As a transhumanist, Victor Stein is presented as a character full of admiration and hopes for technological improvements, one of which is mind uploading. He explains his enthusiasm towards such a transformative technology as follows:

Humans will learn how to halt and reverse the ageing process; we will all live healthier and longer lives. We’re still biology but we’re better biology. Alongside that, we can enhance ourselves with smart implants to improve our physical and mental capacities. Alternatively, because biology is limited, we abolish death, at least for some people, by uploading our minds out of their biological beginnings. Do you think Stephen Hawking, whose body was useless to him, was ‘just’ a mind? He was a mind, certainly, and the closest thing we have seen to an exceptional and fully conscious

human mind trapped in a body. What if we had been able to free his mind? What would he have chosen, do you think? (F 81)

It can be observed that Victor disregards the body since he believes the body is nothing but “meat” (F 177). What he mostly focuses on is “pure intelligence” (F 59). However, he is also aware of the fact that transferring one’s mind to a computer machine is not available at present. He also acknowledges that there is a risk that “the operation to scan and copy the contents of [his] brain” might kill him (F 78). Philosopher Neil Levy seems to share a similar attitude towards this possible technology since he also suggests that “by uploading ourselves, we risk death” (2011: 364). Agar also points out this concern by arguing that “an eliminable risk that mind uploading will fail makes it prudentially irrational for humans to undergo it” (2011: 23). His disdain for technological advancements like mind uploading comes from his belief that these advancements “will never lead to a thinking computer” and they will only produce machines incapable of conscious thought (Agar, 2011: 24). However, Victor Stein seems to disagree with this belief. Victor continues to advocate the possible benefits of mind uploading by stating, “If we were to succeed at brain emulation, the uploaded brain could run at different operating speeds – much faster than ours, or much slower, depending on the task to be completed” (F 185). Even if these benefits of mind uploading were true, this technology might also cause some problematic situations. Annas et al. argue that there is a risk that nonenhanced people might “see the posthumans as a threat, and if they can, may engage in a preemptive strike by killing the posthumans before they themselves are killed or enslaved by them” (2002: 162). For this reason, mind uploading is not always explained as a possible technological advancement full of promises and benefits without mentioning its risks.

Winterson avoids presenting technological and scientific advances full of promises, and mind uploading is not an exception. Therefore, she presents some characters that share ambivalent feelings towards the use of such technology. In the novel, Ry Shelley is the first to be mentioned when it comes to the expression of ambivalent feelings because he is always sceptic towards technological and scientific advancements, unlike Victor Stein. His scepticism can be observed when he imagines how different it would be to make copies of oneself:

My mind idled around the difference between desire for life without end and desire for more than one life, that is, more than one life, but lived simultaneously. I could be me and me too. If I could make copies of myself – upload my mind and 3D-print my body, then one Ry could be in Graceland, another Ry at the shrine of Martin Luther King, a third Ry busking the Blues in Beale Street. Later, all my selves could meet, share the day, and reassemble into the original self I like to believe is me. I said, mostly to myself, I don’t want to live forever. (F 27)

One might feel confused to see how different feelings Ry has at the same time since he sounds eager to mind uploading at the beginning but ends up deciding it is a bad idea at the end. However, Ry is not the only person who feels doubtful about making different copies of one identity. There are other theorists questioning possible mind uploading technology since they think that this practice might problematize one’s identity and autonomy. Eckersley and Sandberg argue that one’s autonomy will be problematized because “many copies of [one] could be run” by others (2013: 181). They also suggest that this might lead those searching for the power to “exploit the advantages of emulations” and “use [the uploaded minds] to gain significant power” (Eckersley and Sandberg, 2013: 181).

Kamil Muzyka has a similar argument since he also argues that “the acquisition of human statues and personhood rights by emulated human identities is an unlikely scenario due to our

anthropocentric view of personhood” (2013: 168). These arguments can be extended; however, their conclusion is the same since they all argue that such a technology may problematize human identity. For this reason, as Sven Ove Hansson argues, the regulators should be urged to “reconsider our criteria for personal identity and personality changes” (2005: 523). Ry Shelley, in the novel, has a similar point since he believes that mind uploading can lead to many problems, and society is not ready for it at this moment. He argues:

Do you really want augmented humans, superhumans, uploaded humans, forever humans, with all the shit that comes with us? Morally and spiritually, we are barely crawling out of the sea onto dry land. We’re not ready for the future you want. (*F* 187)

As with the other technological and scientific advancements, Victor Stein disagrees with Ry about the future of mind uploading since he is not so pessimistic about the potential this kind of technology may offer to humanity. Suggesting “heart transplants weren’t possible fifty years ago,” Victor believes “in fifty years from now, brain emulation will be the new normal” (*F* 187).

Victor Stein might be right to expect that the availability of such technology is not so futuristic anymore. Famous futurist Ray Kurzweil also expects that “such an ‘uploading’ technology” will be available “around the 2040s” (2012: 141). However, Victor Stein might be wrong to assume that people will accept this technology just like they have accepted surgical operations like heart transplants. Even though it can be argued that there are still many that do not advocate these surgical operations, mind uploading is more controversial in that sense. The controversy lies in the belief that this type of technology can “literally change the characteristics of the human species” and lead to “more subspecies or subspecies of humans” (Annas et al., 2002: 173). In that regard, it can be said that “people who value purity norms” might have a tendency to “condemn mind upload” (Laakasuo et al., 2018: 1). For this reason, even the characters like Claire, who believe that “Christ will embrace long life” might object to mind uploading (*F* 204). This might be because of the belief that these technological advancements employing computational mechanisms “can be used by the devil to undermine the sanctity of being human” (*F* 156). Ron also states that he “won’t like it” because he might not be considering death as something to be avoided (*F* 177). He continues to make his point by stating that he will not know whether he is dead, and thus, he refuses the idea of being “a file on [Victor’s] computer” (*F* 177). Nicholas Agar also has a similar point to Ron since he states that this technology will produce computers “no more capable of thought than is a dead human body” (Agar, 2012: 432).

All these arguments on the possible benefits and harms of mind uploading may lead to a bioethical question in the end: Should humans should abandon “the option of mind uploading” since the arguments on this technology do not “deem it prudentially to do so?” (Agar, 2012: 436). Nicholas Agar concludes that people “have much to lose should mind-uploading fail and little to gain should it succeed” (2012: 436). However, from the bioethical standpoint, it can be argued that this transformative technology should not be disregarded so easily because it can be one of the few possibilities for “prolonging human existence” (Alfsvåg, 2015: 107). For this reason, the four major principles in bioethics can be applied to ascertain the true value of mind uploading. First of all, it is argued that this technology might problematize the autonomy of human identities because it is believed that mind uploading may allow more copies of one’s identity instead of “creating an anatomically precise digital computer simulation of the person’s brain” (Goertzel, 2012: 177). In addition, it can be argued that the human bodies through which people identify one another will be a concern since the biological forms will be disregarded as being nothing more than “meat” when

one's mind is uploaded to a computer (Gibson, 1984: 6). Seeing this might cause many problems in terms of autonomy, Ray Kurzweil concludes that "a reinstated mind will need a body" (2005: 199). Philosopher Andy Clark seems to have a similar conclusion to Kurzweil since he also points out the necessity of "brain-body-world systems" (1997: 215). From this point of view, human bodies mean a lot to humankind, and these suggestions urging a focus on the human body might help sustain autonomy.

Yet there is still a necessity for more focus to ensure the sustainability of autonomy with a possible mind uploading technology. Nevertheless, regardless of the problems such technology poses in terms of autonomy, mind uploading has a lot to offer. Michael Cerullo reports that "brain emulation is successfully demonstrated in mice" and argues that "it would be a tragedy not to take advantage of these technologies when they become available" (2016: 99). The advantages of such technology lie in the notion that it might not only enable people to prolong their existence but can also provide them with "greater intelligence" and a chance to get rid of "the limitations of the biological, degenerating brain" (Lorrimar, 2019: 192).

However, similar to other initiatives to make things better, mind uploading technology might have some maleficent points like security problems that might be found worrisome from the bioethical point of view. In order to decrease these maleficent factors and make it "safer," Eckersley and Sandberg suggest postponing these technologies to some "later dates," which will provide the developers of this technology with the opportunities for "prioritizing work on computer security" and "ensuring that brain emulation research occurs in an open scientific environment, with published datasets and free/open source code" (2013: 190). Even though these suggestions sound valid, it is noted there is a risk that this technology will be limited to the privileged few. Victor Stein also points out this concern by stating that there will be very few people with the chance to live "forever" (F 188). From this point of view, the bioethical problems regarding biotechnologies like mind uploading may not be solved just by postponing it, as Eckersley and Sandberg suggest. In this sense, Winterson discloses the arguments about mind uploading by not only problematizing its ethical side but also questioning its pragmatist dimension.

3.7.Bioconservatism

There might be many technological and scientific advancements for human enhancement that can become available for the use of humanity in the near future. However, one cannot help but wonder whether all these advancements will be beneficial for the continuation of human existence since they might be one of those things like the industrial revolution that seemed to be for the benefit of humanity at first but led to many ecological problems later on. Indeed, even transhumanists think that such a radical transformative change in the human form might cause "a shriek" in society, and there would be no way to undo these changes and go back to the former state once "some form of posthumanity is attained" (Bostrom, 2002: 13). Furthermore, it can be noted that not only they might put the future of humanity in danger because of their unpredictable attempts to remake nature, but it is also argued that the forthcoming human enhancements can also deprive humanity of the fulfilment of some basic feelings. It is believed that humans are "creatures of need," and human enhancements may remove these needs, and thus, remove the fulfilment of these feelings (Kass, 2003: 27). In that regard, these bioconservative concerns need to be addressed since the technological and scientific improvements have been emerging with so much rapidness.

Even though there are many literary and non-literary contents with regard to how human enhancements might make a difference in the way one experiences the world, it is still argued that “many humans in the early years of the twenty-first century will feel somewhat alienated by the quantum of enhancement” (Agar, 2012: 436). For this reason, there is still a necessity to discuss these bioconservative concerns against the possible human enhancements that can come into existence in the near future in order to assess the validity of these concerns. Winterson’s novel, *Frankissstein: A Love Story*, is a valuable work in that respect since it provides the reader with both transhumanist and bioconservative arguments. For this reason, the analysis of these arguments in the novel can be made from a bioethical perspective since this might enable one to see whether these bioconservative concerns are acceptable or not. However, it seems better to have a look at what bioconservatives claim and why they are against transhumanist practices in order to make a better examination of these concerns reflected in the novel.

To define bioconservatism, it seems more feasible to define firstly what it opposes and why it emerged. Kahane et al. note that “the prospect of emerging biotechnologies that would enable us to enhance and even radically transform our natural human capacities has generated significant ethical controversy” (2016: 406). These controversies have created two different sides: bioliberals and bioconservatives. Bioliberalism is a view that suggests that “enhancement should generally be permitted” claiming “enhancement is desirable” (Roache and Clarke, 2009: 2). On the other hand, bioconservatism argues that “our given human nature possesses a great and distinctive value that would be violated by enhancement technologies, particularly normality transcending enhancements that would radically alter our natural capacities” (Kahane et al., 2016: 407). For bioconservatives, humans should not be enhanced with the use of biotechnologies since they believe the attempt to enhance human life forms is wrong and can be dangerous.

In short, “bioconservative authors tend to dwell on the risks” while “transhumanists tend to elaborate on the benefits” (Heinrichs and Stake, 2018: 330). Even though bioconservatives might have a valuable thing to say with regard to the reason why human enhancement is wrong and can be dangerous, Roache and Clarke believe that the arguments bioconservatives make are more of a “gut-feeling reaction to the prospect of enhancement than the outcome of a process of reasoned evaluation about it” (2009: 3). For example, Steve Clarke reports that there is not an empirical study proving that humans will not be happier if they are cognitively enhanced (Clarke, 2016: 384). To Browne and Clarke, “the objection that the use of technologies is liable to wrong” and the idea “that humans possess severe and permanent limitations which cannot be overcome” are just misleading information (2019: 241). Even Leon Kass, one of the pioneers of bioconservatism, admits that there is no definite reason on which they base their arguments since, he states, “initial repugnances are hard to translate into sound moral arguments” (2003: 17). For this reason, bioliberals argue that “eventually the bioliberal position will win increasing acceptance, and bioconservatives will become – like the Amish – an isolated minority, their views occasionally interesting but neither appealing nor influential to the majority of people” (Roache and Clarke, 2009: 8). Even if it is the case, bioconservatism and its arguments should not be devalued. Even though their arguments mostly rely on their “intuitions,” they share some valuable concerns (Levin, 2003: 59).

There are some noteworthy reasons why bioconservatives aim to preserve human life forms as they are and why they argue against any initiation for human enhancement. Gerald Cohen believes that people are born with “a package” involving some good and bad traits, and he thinks it would be wrong “to eliminate all of our bad features” since “negative traits are part of the package

that makes human beings the particular valuable creatures” (2011: 209). For this reason, even if human enhancements might provide humans with better intrinsic values, Cohen believes natural values are “worth preserving” because they are the ones that make us who we are (2011: 209). Francis Fukuyama has a similar argument believing that “biotechnology will cause us in some way to lose our humanity” (2002: 101). Michael Sandel also points out this concern claiming “what the drive to mastery misses, and may even destroy, is an appreciation of the gifted character of human powers and achievements” (2007: 27).

There are some other important points that are shared by bioconservatives who are sceptical about human enhancement. Michael Gazzaniga believes biotechnologies seem like “cheating” (2005: 73). Allen Buchanan opposes human enhancement because he believes the human life form is a “stable, completed masterpiece that can only be ruined by any human attempt to improve it” (2011: 156). In addition, philosopher Jürgen Habermas believes any attempt to enhance the biological form of a person will make the autonomy “slip away” since the fate of the person would have already been decided by others in that case (2003: 60). Even though they are criticized because of their “pessimistic” point of view and “ungrounded claims” (Kahane et al., 2016: 420), bioconservatives point out some valuable concerns in that respect, and they should be taken into consideration. Heinrichs and Stake note that “the enhancement debate is a newcomer even in bioethics,” but “it also has the potential to challenge and maybe inform traditional ethical thinking” (2018: 340). For this reason, these arguments do not deserve to be discarded just because they base their arguments mostly on traditional beliefs.

Agreeing with the idea that bioconservatism includes interesting ideas, Winterson provides bioconservative characters with bioconservative concerns in the novel. It can be argued that Ry Shelley, the protagonist of one of the stories in the novel, holds bioconservative concerns. This might be confusing for the reader since Ry Shelley is a medical professional and he devotes his life “to the preservation of life”; however, it can be noted that he also objects to dedicating himself “to the inevitability of death” (*F* 75). Even though notions like life extension and immortality might seem similar, Ry believes they are different. Bioconservative Leon Kass has a similar attitude since he relates life extension to “therapy” and immortality to “enhancement” claiming the former is applied to people with diseases while the latter is provided to people with no health problems (2003: 12). He believes there should be funding “for treatment of disease, but not for enhancements” (Kass, 2003: 13).

There are some reasons why Ry Shelley objects bioenhancement technologies. He believes that people with evil personality traits might also have the opportunity for these technologies. He objects to notions like immortality because his “hope has always been the hate-filled old white guys die off and young people are more progressive” (*F* 204). Kass also makes a similar suggestion since he argues that “our flourishing as individuals might depend, in large measure, on the goodness of the natural human life cycle” and he believes “a world of longevity is increasingly a world hostile to children” (2003: 26). For this reason, bioconservatives like Kass argue that one should embrace death as a part of the life cycle instead of pursuing different ways to extend life.

Another concern related to bioconservatism Ry Shelley shares is that there might be risks involved in the initiation to change the human form. He points out that “nothing we do to the body is without consequences” and starts to “wonder how our bodies will respond to any therapy that reverses its process of gradual dissolution” (*F* 204). Fukuyama also suggests that the attempts for human enhancement might lead to “unforeseeable harms” because he believes human beings

possess complex and unique genetic structures (2002: 74). Heinrichs and Stake make an exemplification of these possible harms, and they state that there might be the risk of being unable to forget something once the individual is cognitively enhanced (2018: 342).

Ry Shelley articulates one of the most prominent arguments in bioconservatism and states that “we are our bodies” (F 102). Bioconservatives tend to state their concern with regard to how an attempt to enhance human biology might make human beings turn into a different species by referring to Huxley’s *Brave New World* (1932). That novel depicts a world in which babies are predestined and conditioned. In addition, the characters in that novel consume a product called “soma” to feel happy instead of working for it (Huxley, 2000: 45). Fukuyama believes this world in which “everyone gets what they want” and feels happy all the time can be worrisome because he believes this does not reflect human traits (2002: 5). Kass has a similar concern with Fukuyama since he believes there is an “intrinsic threat of dehumanization” in the attempts for “the use of biotechnical powers to pursue perfection” as it is depicted in Huxley’s novel (2003: 10). In that regard, Fukuyama argues that the people in Huxley’s novel “no longer have the characteristics” that can be associated with “being human” (2002: 6). For this reason, it can be said that a society in which “no one is hurt” may not be as beautiful as it is meant to be (Fukuyama: 2002: 5).

Believing biotechnologies are not as innocent as they are meant to be, the other characters in Winterson’s novel also state their bioconservative concerns with regard to how the use of these biotechnologies might pose some concerns in the future. Asking, “where are we all going to fit?” if these biotechnologies can eliminate mortality, Ron Lord shares his concern about a possible risk of overpopulation. Social philosopher Steve Fuller has a similar argument since he also points out the fact that the world is in danger because of “increased carbon emissions” that have relatively become a concern with the excessive rising of the population after the 1950s, and he indirectly suggests it would be more feasible if “in the future, there are not so many of us wanting so much” (2011: 231).

On the other hand, Claire in the novel possesses some religious concerns regarding human enhancement technologies since she believes these biotechnological attempts to enhance the human form are sinful intentions of “Man playing God” (F 26). Even though this may sound like a religious concern, the desire to play God is also found worrisome from a bioconservative perspective. It is believed that humans do not have “the necessary knowledge and abilities to execute enhancement reliably and justifiably”; therefore, it is advised that one should have “the virtue” to “restrain from playing God” (Heinrichs and Stake, 2019: 361). Victor Stein also addresses a very concerning issue about the possible difference in human conditions after a possible change in the human biological form. He argues that these human enhancements will lead to a society in which people will find “nothing to do all day” (F 67). This is also worrisome from a bioconservative perspective. It is believed that what makes human beings different from other beings is the ability to “struggle, aspire, love, feel pain, make difficult moral choices, [and] have families,” and enhanced humans will not probably “do any of the things” that are attributed to human beings; therefore, they will “no longer have the characteristics that give [them] human dignity” (Fukuyama, 2002: 6).

In this respect, Winterson provides the reader with a very interesting character who adopts bioconservative concerns in the other part of the story: Victor Frankenstein. In the other part of the story, in which Mary Shelley’s life after the writing process of her famous novel is fictionalized, Victor Frankenstein appears towards the end of the book and asks Mary Shelley to “unmake” him (F 144). He believes he exists in the form of both the monster and the ambitious scholar at the same

time. He wants Mary Shelley to help him disappear because he believes his monstrous side might create havoc in society. He explains this by stating that there “waits one whose fiendish, pitiless cunning will instruct others to experiment as [he] did – without any care for the human race” (*F* 145). Therefore, Frankenstein points out that scientists like him can be instructed to follow any ill attempts to change human life forms without considering what would happen thereafter. Although this part is interpreted as “one of the necessities of a postmodern fiction: entertaining the reader” (Gürova, 2021: 237), there can be found some important messages related to bioconservatism.

It should be reminded that the novel does not totally support these bioconservative concerns. It also provides the reader with other characters that believe human enhancement can be beneficial for the future of humankind, as mentioned before. Victor Stein comes to mind when the advocacy of biotechnologies for human enhancement is in discussion in the novel. He thinks humans should not be limited to the biological form they are born with since human enhancement can bring so many desirable “options” in the near future (*F* 81). Stating that things like race and gender make him “impatient,” Victor believes one should put “an end to it all” (*F* 135). For this to happen, his solution is human enhancement since he believes biotechnologies will enable one “to choose any form” (*F* 82).

In addition to Victor Stein, Mary Shelley can also be pointed out as a character with an objection to bioconservative concerns in the novel. Her support for the use of possible biotechnologies comes from her grief after the deaths of her children. She argues:

What if my Willmouse had been a spirit, able to put his body on and off as he pleased? No infection could have taken him. Our bodies could be like suits of clothes, while our minds run free. Where, then, would death find a home, if not in us? In my dreams my children call to me to come with them, just one turn more down the dark corridor. And I would go but for this life I carry. (*F* 170)

As a mother that has lost her three children, Mary Shelley is represented as an indirect advocate of biotechnologies since she believes they might provide one with immortality.

This might be interesting for the reader as well because the arguments on the possible benefits and harms of biotechnologies do not seem to be authentic for the period in which Mary Shelley lived. However, it should be noted that Winterson’s postmodernist novel does not limit itself to the boundaries of the period. For example, it gets the characters of the 1820s to “question whether artificial intelligence is possible” (Bağırlar, 2021: 706). This independence of reflecting the period realistic enables Winterson to “give a parallel fictional account of Mary Shelley and others” (Basu, 2021: 47). This also enables Winterson to get them to discuss the bioethical ramifications of possible technological advancements from their point of view regardless of the period in which they are living. For example, a character in the 1820s can be as transhumanist as a character in the 2020s. Mary Shelley and Victor Stein can be good examples of that because both seem to value human enhancements. On the other hand, the same is true for bioconservatism since both Percy Shelley in the 1820s and Ry Shelley in the 2020s believe that one needs to “die” for the sustainability of balance in the world (*F* 18).

Though bioconservative concerns that suggest human enhancement is “against human nature” are believed to be “vague and far from self-explanatory,” they deserve to be taken into consideration since the ones articulating these concerns are the voices of many that are sceptic about the use of possible biotechnologies (Rüther and Heinrichs, 2019: 175). However, the bioconservative arguments on the possible risks of human enhancement and their counter-

arguments that suggest people can have more options with human enhancement might leave the reader with more questions than answers. This is what Winterson aims for the novel. Instead of taking a side, she presents the arguments and expects the readers to find one on their own. In that regard, one can refer to the main principles in bioethics to evaluate these concerns on their own. First of all, as Roache and Clarke assert, it seems that bioconservatives violate the right of autonomy since there might be “individuals who wish to enhance themselves,” but bioconservatives aim to “prevent [them] from doing so” (2009: 5). Fukuyama’s claim that “there is something unique about the human race” and it should not be tampered with might be true (2002: 160).

However, from a bioethical standpoint, it can be said that people should not be restrained from their right to decide their own fate. From this point of view, it can be suggested that the studies on biotechnologies like the ones Victor Stein in the novel aims to realize should not be disregarded or banned as long as these studies are conducted within the limits of ethical committees of research. These studies on biological enhancement may produce results beyond the understanding of the human mind. For instance, apart from making people cognitively enhanced and providing them with an extended lifespan, Mark Walker argues that biotechnologies can help people be “better equipped to learn how to be virtuous” (2009: 39). Bostrom makes a similar argument since he suggests that biotechnologies “could amplify human intelligence, increase emotional well-being, improve our capacity for steady commitment to life projects or a loved one, and even multiply the range and richness of possible emotions” (2009: 396).

Regardless of their positive aspects, there are some noteworthy reasons why bioconservatives do not abandon their “suspicious” manner towards the use of these biotechnologies (Kass, 1997: 20). For example, Marianne Talbot argues that human enhancements might make people “abnormal” (2012: 267). She also emphasizes that it is still not known whether these enhancements will cause problems “in the long term” or not (Talbot, 2012: 256). In addition, as Victor Stein in the novel argues, there is a risk that “the sales pitch of augmented humans living young and beautiful will be for a very few” (F 188). This argument also seems to refute the suggestion that human enhancement might provide justice in society (Heinrichs and Stake, 2019: 367). In that sense, it can be said that although human enhancement promises many opportunities for the future of humankind in theory, there still might be found some aspects that can raise questions from a bioethical point of view. For this reason, bioconservatism is a valuable view since it can remind these problematic issues concerning human enhancement.

4. THE REASONS WHY SCIENTISTS NEGLECT THEIR BIOETHICAL RESPONSIBILITIES

4.1. The Image of Mad Scientists

The depiction of scientists as mad characters is a well-known concept in literary works, and there can be found many in that regard. To give a few examples, one can point to the scientists in such literary works as Goethe's *Faust* (1790) and H.G Wells's *The Island of Doctor Moreau* (1896). However, it can be noted that what makes these characters to be recognized as mad is not their insanity in terms of their cognitive status but the methods they take and the motivations they have in their pursuit of knowledge and inventions. This concept may be interesting for both the author and the reader since the portrayal of scientists as mad characters allow the possibility of dwelling on many different issues. However, it can be worrisome from a bioethical point of view. Brem and Anijar argue that this depiction causes some bioethical concerns since it represents scientists with "no ability or desire to behave ethically" (2003: 23). It is also believed that this leads to inevitable accusations of science that deals with biological forms (van den Belt, 2009: 257). At the same time, it is argued that the description of scientists as mad characters might lead scientists to "evade the question of responsibility" (Cambra Badii et al., 2020: 2793). In that sense, there is a bioethical concern that their inappropriate actions are sometimes tolerated by referring to their eccentric personalities.

For this reason, instead of referring to their madness as an evasion of taking responsibility for their questionable scientific endeavours, their motivations for conducting these scientific activities and the risks should be investigated from a bioethical point of view. Although they are the works of different periods, both Mary Shelley's *Frankenstein* and Jeanette Winterson's *Frankissstein* can be analysed from this standpoint since both provide the reader with mad scientists similar to each other. Their similarities are not limited to their names. There can be found other similarities and also some differences regarding the reasons for their so-called madness in these two works. However, it seems more applicable to discuss first the reasons why scientists are depicted with this type of personality trait, and then look at the depiction of mad scientists in these two literary works from a bioethical point of view.

It is argued that "it is the inherent nature of science to push boundaries, discover new things, and commit overreach" (Nagy et al., 2018b: 10). However, as the International Council of Science notes, there is no approval of any motivations of scientists to conduct research that evades the responsibility of science to be beneficial for society and work with transparency and respect (2014: 1). Nevertheless, it should be noted that these questionable motivations should not be approached with "punitive" intentions (Cambra Badii et al., 2020: 2806). Instead, they should be approached with an intent to understand what lies behind them since this might provide one with a valuable discussion about scientific boundaries from a bioethical point of view.

When analysed, it can be seen that scientists are commonly depicted with madness in fiction because of their goal to "play God" (van den Belt, 2009: 257). A good example of the portrayal of a mad scientist desiring to play God is H.G. Wells's Doctor Moreau in *The Island of Doctor Moreau*. This character is defined as a notorious scientist desiring to play God by experimenting with the vivisection of men and attempting to reshape their biological form. He acknowledges that

his studies are beyond limits; however, he states that he has “never troubled himself about the ethics of the matter” (Wells, 2004: 93). There are many other examples of scientists in fiction desiring to play God and thus becoming “insane in their pretensions to transcend the human condition and the limits of ‘permitted’ knowledge” (Haynes, 2003: 245). It can be said that this insanity is commonly used as a reminder that “knowledge and expertise, in the wrong hands, and with no structures of social accountability, can be dangerous, and as such present a risk to society” (Hammond, 2004: 192).

There are also other reasons why scientists are depicted as mad ones. Mad scientists in fiction are also motivated to experiment over the boundaries for power and glory. In Goethe’s *Faust* (1790), Faust’s bargain with the devil to attain supreme knowledge and fame can be given as an example in that respect. Faust’s portrayal as a mad scientist also makes it clear that even though the word “scientist” had not been coined until the 1850s, the use of this stereotype is not very recent (Hindle, 1990: 29). In that regard, it can be said that making use of this stereotype keeps up its popularity since fears of new technologies have become a particular concern after the “post-war era” (Fraser, 1998: 2). From this perspective, it can be claimed that authors will continue to find the use of a mad scientist as a stock character appealing for dwelling on different topics in modern society and providing the reader with possible scenarios of a dystopia.

Among the works in which scientists are depicted as mad, Winterson’s novel, *Frankissstein: A Love Story*, employs a very particular character: Victor Stein. It can be noted that the author clearly wants this contemporary character to be compared with its former counterpart, Mary Shelley’s Victor Frankenstein. Both share similar names, but their similarities are not limited to their names. Both Stein and Frankenstein are depicted as enthusiasts of science as well. Frankenstein shares his enthusiasm for his studies by stating:

It was the secrets of heaven and earth that I desired to learn; and whether that was the outward substance of things, or the inner spirit of nature and the mysterious soul of man that occupied me, still my inquiries were directed to the metaphysical, or, in its highest sense, the physical secrets of the world. (Shelley, 1998: 38)

On the other hand, Stein is described as a scientist aiming to develop “brain software” and studying other scientific advancements to overcome biological limitations (*F* 54). In that aspect, it can be argued that both Frankenstein and Stein have interests in human nature though they take different paths in their studies. This difference mostly results from the period they were created by their authors.

Frankenstein is a character of the 1800s focusing on alchemy to study the mysteries in nature while Stein is a contemporary character focusing on artificial intelligence and machine learning to achieve success in his studies. However, it can be argued that even though they are specialized in different fields of scientific research, they have similar problems about the ethical values of society. Frankenstein states that he “pursued nature in her hiding places” because he did not want others to know that he “tortured the living animal to animate the lifeless clay” (Shelley, 1998: 60). Hammond states that Frankenstein’s “intended experiment is potentially dangerous and ethically flawed” since he believes Frankenstein’s “rush to develop the technology is motivated by the anticipation of his own reward over and above due care and caution” (2004: 130). It can be argued that the same is true for Stein based on his speech below:

Medical ethics don’t allow any experiments on the human brain; the scanning technology is so invasive it results in death – but what if the person will die in any case? The terminally ill making

a sacrifice for humanity. Why can't I work on that brain? The killer on Death Row could be offered the chance of a final act of reparation. I could scan his brain. What loss to the world is a serial killer? There is always loss, always failure. Don't you think these experiments are going on in secret, in other parts of the world? Where human life is cheap? And if a hostile power were to achieve this ... Jesus – they have already modified an embryo in China. Without any oversight or protocol at all. Don't you think they are working on other things too? (*F* 138)

His scientific stance that disregards the death of human beings makes it very hard to approve of his studies. Yet he is already aware of this probable disapproval since he conducts his research "behind closed doors" (*F* 112). In that regard, it can be argued that his urge to avoid his ethical responsibilities and keep his studies unknown clearly serves the image of the mad scientist stereotype.

It is clear that both Frankenstein and Stein are depicted as mad scientists who have the enthusiasm to work on human biology. However, the reason why they appear with such madness is not directly stated in the novels. Yet there can be found some hints that might be pointed out as the reasons for their desire to conduct dangerous experiments. It can be argued that both have the desire for playing God, and this desire might have led them to the dangers of messing with nature. Frankenstein states that he "had worked hard for nearly two years, for the sole purpose of infusing life into an inanimate body," and he admits that he "had deprived [himself] of rest and health" for this aim (Shelley, 1998: 64). In that regard, Holmes believes Frankenstein is "blindly ambitious" and "simply insane," and this insanity makes him desire to play God and mess with nature (2016: 492).

The same is also true for Stein since he tries "returning [his professor] to consciousness" by using his transhumanist studies (*F* 138). In that sense, his transhumanist studies can also be considered a desire to play God. He explains his intent for conducting such studies as follows: Valhalla is burning and the white male gods are falling into the fire, but the Rheingold is what it always is – pure and untainted – and it will be found again, like a second chance, like a new beginning, and these will be the bad old days, when humans ruled the earth – which, by the way, will be restored as a nature reserve because AI won't need shopping malls and automobiles to satisfy its desires. (*F* 59)

Both Stein and Frankenstein aim to create new forms of life and return the dead back to consciousness, and these aims can be regarded as attempts to play God. There is also another reason why they attempt to experiment on human nature: power and glory. Frankenstein believes his studies will bring him glory. He admits his dream of glory by stating, "A new species would bless me as its creator and source; many happy and excellent natures would owe their being to me. No father could claim the gratitude of his child so completely as I should deserve theirs" (Shelley, 1998: 59). Even though Frankenstein begins his studies with the aim of finding a way to make human beings "invulnerable" to diseases (Shelley, 1998: 39), later he becomes preoccupied with his desire to be worshipped like a God.

In that regard, Frankenstein is moved "by a desire for social gain and glory" in his "obsessive alienated drive for success" (Hammond, 2004: 193). However, the same drive cannot be found in Stein's studies. Instead of desiring to be worshipped like his former counterpart, Stein wants to put "an end to human stupidity" (*F* 135). In that regard, Stein does not want anything from humanity, including fame or glory. Stein focuses on transhumanist studies because he wants to be physically powerful. For example, he states that he "wants to be without his body" and attain immortality (*F*

105). He also has a dream to enhance himself and “have wings,” in real terms, if possible (*F* 107). Apart from his desire to enhance himself, Stein also focuses on artificial intelligence so that he can “develop bots as a completely separate life form that remains sub-par to implant-modified humans” (*F* 103). In that regard, his desire to make artificial beings his “helpers and caretakers – not [his] equals” makes it clear that he wishes for nothing but more physical power (*F* 103).

It is clear that both Frankenstein and Stein are depicted as mad scientists because they mess with nature to play God and to earn power and glory. This attitude creates a bioethical concern. Should scientists restrain from messing with nature? Or should they follow any studies blindly just because there is hope for scientific advancement? Van den Belt argues that it is wrong to “accuse” scientists “whenever culturally sanctioned boundaries are breached” (2009: 259). O’Malley et al. point to the famous statement by Richard Feynman, “What I cannot create I do not understand,” to explain the reason why scientists have to mess with nature (2008: 61). In this sense, the depiction of these characters as mad ones because of their attempts to mess with nature can be questioned from a bioethical point of view.

It is believed that scientists have to be motivated by the “seductive excitement of scientific discovery” (Davies, 2004: 33). From this point of view, Frankenstein and Stein cannot be held responsible for their attempt to deal with biological studies since both characters start their experiments with good intentions. For example, Frankenstein wonders “what glory would attend the discovery if [he] could banish disease from the human frame and render man invulnerable to all but a violent death” (Shelley, 1998: 39). The same is also true for Stein since he intends to figure out a possibility in which “humans and robots working together for a better life” (*F* 59). For this reason, Frankenstein’s statement, “how dangerous is the acquirement of knowledge and how much happier that man is who believes his native town to be the world, than he who aspires to become greater than his nature will allow” (Shelley, 1998: 58) is questionable from the bioethical point of view. Therefore, Frankenstein’s urge to put a stop to scientific studies related to human biology is problematic from a bioethical standpoint since it condemns scientific inquiries that can provide humanity with better living conditions (Campbell, 2003: 348; Toumey, 1992: 411). As Stephen Jay Gould argues, “Victor Frankenstein is guilty of a great moral failing, but his crime is not technological transgression against natural or divine order” (1996: 54).

In that aspect, what makes both Frankenstein and Stein problematic is not their research on human biology but the way they conduct their experiments. For instance, both characters do not consider their responsibilities towards their society since they keep their studies secret instead of informing their colleagues and society. Ellen ter Gast argues that “if only scientists would better inform and educate the public about science and technology, the public would be more likely to accept or even embrace the monsters that scientists create” (2007: 130). However, these characters do not consider “to visualize the practical consequences” of their experiments, which leads to irreversible problems in the end (Banerjee: 2011, 7). In that regard, although they might be applauded because of their beneficial “intentions” at the beginning of their studies (Bingham, 2002: 186), their carelessness in their research should be questioned.

4.2. Lack of Responsibility

Mary Shelley’s Frankenstein has been considered “a symbol of the risks of scientific activity” (Cambra Badii et al., 2020: 2795). Furthermore, Frankenstein as a character is described

as a “potent and overridingly negative symbol of science and the figure of the scientist” (Nagy et al., 2018a: 2). For instance, Gaylin used the term “Frankenstein Factor” to refer to the public fear of scientific advancements (1977: 665). There have also been other terms such as “Frankenfood,” “Frankencells,” “Frankenlaws,” “Frankenswine,” and “Frankendrugs” to refer to the supposedly “monstrous creations” (Cohen, 2018: 148). In that regard, it can be said that Frankenstein is a common reference to discuss the potential harms of scientific advancements. One cannot help but wonder what makes Frankenstein to be recognized as a figure of fear in the eyes of society since it is also acknowledged that Frankenstein’s “intentions were relatively good” at the beginning (Koren and Bar: 2009: 156). Koren and Bar report that Frankenstein is also recognized as a thoughtful scholar since he “tried to fix” the problems he had caused (2009: 156). In that respect, it can be argued that Frankenstein does not only possess a personal trait of an evil person.

Therefore, the reason why Frankenstein is labelled as a negative symbol of science is questionable. It can be said that even though Frankenstein is recognized as an ambitious scholar with good intentions and good personality traits, his lack of responsibility for his scientific endeavours has led him to be pointed out as a common figure of scientific misconduct. The same can be argued for his modern counterpart, Jeanette Winterson’s Victor Stein. Even though Victor Stein is arguably more open to society than his former counterpart, he also neglects his scientific responsibilities towards his society. For this reason, from a bioethical point of view, it is valuable to discuss the scientific responsibilities these characters neglect, the reasons why they neglect them, and what kind of risks these neglects lead to. In order to discuss these responsibilities within the perspectives provided in Shelley’s and Winterson’s works, an insight into scientific responsibilities will be introduced beforehand.

Andrew Tudor reports that only 11% of scientists are represented as heroes in movies, while they appear to be villains 33% of the time (1989: 590). Seeing it as a problem from a scientific point of view, Roslynn Haynes asks a crucial question:

Why has a society, which is so dependent on its scientists for infrastructure, wealth and lifestyle, for medical breakthroughs and repair of environmental damage, and which provides vast sums of money for scientific research, continued to condemn them [...] as harbingers of horror and terror? (2014: 2)

She concludes that scientists in literary works appear with personality traits of their “alchemist ancestors” and they do not work within the limits of scientific responsibility (Haynes, 2014: 5). In that regard, it is crucial that scientists should take the necessary lessons from literary works and give these scientific responsibilities much more importance.

International Council for Science (ICSU) states that scientists have the responsibility “to carry out and communicate scientific work with integrity, respect, fairness, trustworthiness, and transparency, recognising its benefits and possible harms” (2014: 1). For this to happen, ICSU urges scientists to follow a set of principles including “promot[ing] science for the benefit of society,” “minimising the potential dangers,” and “showing respect for human rights, animal rights and the environment” (2014: 19). In addition to the principles for scientific responsibilities promoted by ICSU, another set of principles promoted in the Singapore Statement can also be mentioned. The Committee on Freedom and Responsibility in the conduct of Science (CFRS) had a world conference in 2010 and declared this statement. This Singapore Statement focuses on four principles: honesty, accountability, courtesy, and stewardship (2010: 1). It can also be argued that this set of principles is similar to the ones in bioethics.

The common point is that scientists in fiction, especially the ones that are depicted as characters with madness, have a tendency not to follow any of these principles. Instead, these scientists are “driven by arrogance, greed, impetuous, and self-absorbed creativity” (Brem and Anijar, 2003: 22). The mad scientist Doctor Moreau in Wells’s *The Island of Doctor Moreau* can be given as an example of an irresponsible scientist since he argues:

You see, I went on with this research just the way it led me. That is the only way I ever heard of true research going. I asked a question, devised some method of obtaining an answer, and got a fresh question. Was this possible or that possible? You cannot imagine what this means to an investigator, what an intellectual passion grows upon him! You cannot imagine the strange, colorless delight of these intellectual desires! The thing before you is no longer an animal, a fellow-creature, but a problem! Sympathetic pain – all I know of it I remember as a thing I used to suffer from years ago. I wanted – it was the one thing I wanted – to find out the extreme limit of plasticity in a living shape. (Wells, 2004: 93)

Scientists like Doctor Moreau, who have no desire to follow their scientific responsibilities, can cause fear in society. It is argued that scientists in fiction represent scientists as the ones who “want to engineer the world according to their notions of what is right, important, and good” (Brem and Anijar, 2003: 23). For this reason, as ICSU suggests, for “a world in which science is used for the benefit of all, excellence in science is valued, and scientific knowledge is linked to policy making,” scientists have the duty to be responsible for their actions and open to scientific communications (2014: 3).

Mary Shelley’s Victor Frankenstein is an example of a scientist avoiding his scientific and social responsibilities to his society. It can be said that what makes this character faulty in the eyes of society might be his devotion to playing God with the use of technology. However, Halpern et al. argue that people can “have better lessons to learn from *Frankenstein* than the deterministic fear of technology as inherently evil or corrupt, or that danger awaits when humans become overly ambitious” (2016: 56). In that regard, it can be suggested that Frankenstein should not be held responsible for his devotion to scientific studies. Still, he should be held responsible for his inconsiderate manner in conducting such a risky scientific experiment. Suggesting Frankenstein could have “assembled a panel of bioethicists and theologians” and “applied for a Swiss government grant” for his research, van den Belt argues that “Frankenstein could have saved himself a lot of trouble, had he conducted his affairs in [a] smart way” (2009: 261). Gast believes it might have been better “if Victor had openly discussed his experiments with colleagues” (2007: 132). However, the story does not unfold this way, and Frankenstein ends up being “alone” and “miserable” (Shelley, 1998: 307).

Winterson’s Victor Stein is similar to his former counterpart since he also avoids his scientific responsibilities towards his society. He states that he does not want to ask “evaluators, assessors, [and] committees” to review his studies and deal with “forms” that he has to fill in to get their approval (*F* 112). His rejection of communicating with his colleagues and trying to make use of a technology that is not yet ready for use leads his studies to a probable failure in the end. Stein appears as an ambitious scientist trying to work for the benefit of his society without considering practical consequences; however, this might not be the case since he argues:

And what if you were one of the millions of human beings who will have no place in the automated life that will soon be reality? Cars, trucks, buses, trains will drive themselves. Stores and supermarkets will use smart tracking for your purchases. Your home will use repair diagnostics.

Your fridge will order its own food. Bots will take care of the housework and entertain your children. What will you do all day? (F 67)

Victor Stein acknowledges that people will have no function in the future. For this reason, he believes that “there must be diversions and soporifics” (F 67). The society Victor imagines seems similar to the one in Huxley’s *Brave New World* (1932) in which people consume a product called soma to satisfy all of their desires without doing anything. Talbot suggests that people need to “experience[e] adversity” so that they can “grow in psychological strength” (2012: 267). In that regard, it can be argued that Stein’s studies do not aim to be beneficial since it aims to “eliminate suffering” and thus “eliminate character” (Talbot, 2012: 267). For this reason, it can be said that Stein avoids his scientific responsibility to benefit society just like he avoids being honest and accountable to the public.

Halpern et al. point out that the morality presented in literary works in which scientists deal with technological advancements “is not a warning about ungodly technoscientific creation; it is a warning against taking a position that does not consider matters of care and concern for those technoscientific creations” (2016: 53). This statement applies to Frankenstein and Stein. However, the responsibilities Frankenstein and Stein avoid are not limited to scientific ones. These characters can also be blamed for avoiding their responsibilities towards their creatures. To Cambra Badii et al., “Frankenstein’s major transgression was not merely creating a creature, rather it was the fact that he fled from it, left it to its own fate, and was unable to control the consequences of his work” (2020: 2795). In Shelley’s novel, it can be said that “the creature approaches the world with curiosity, innocence, and a strong desire to be a part of humanity”; however, Frankenstein turns away from “his responsibility for the creature’s well-being and its future behaviour” (Halpern et al. 2016: 54). Gast believes Frankenstein “should have taken time to educate the monster in order to make him fit for our society” instead of abandoning it in a cruel world (2007: 116). However, as Brem and Anijar point out, even though this creature is not “less intelligent” than his creator, “he is not pretty to the European eye, and he lacks a proper pedigree” (2003: 23). Arguably, this might have led Frankenstein to abandon his creature when he realized the beautiful features he had selected resulted in a catastrophe.

Stein, Frankenstein’s modern counterpart, can also be blamed for avoiding his responsibilities to show care for his inventions. After conducting a dangerous experiment, Victor Stein walks on from his friends and his studies with “no trace of himself” left behind (F 219). Ry Shelley searches for him for a while, but his efforts turn out to be fruitless. Ry finds out that his laboratory is cleared out too:

The giant generators, Jane and Marilyn, were clean and silent. And everything else had gone too. The concrete rooms were empty. No jumping spiders. No lurching hands. No busy bots slicing brains, no heads in jars, no computers. (F 223)

Ry informs that he could not find the creatures like jumping spiders and lurching hands in Stein’s laboratory when he visits it after the experiment. This ambiguous end might lead the reader to assume that Stein might also have left his other creatures after he failed to realize his goal in his studies. This assumption might justify the argument of Brem and Anijar stating, “Human beings force the chimera into the world to satisfy their intellectual curiosity or to serve their master plan, only to abandon or torture their creation” (2003: 23).

It can be argued that Frankenstein and Stein avoid their responsibilities towards their friends and families. Frankenstein neglects to keep in touch with his friends and family because of his

“pursuit of knowledge” (Shelley, 1998: 61). His neglect arguably costs the death of the people he holds dearest at the end (Harrison and Gannon, 2015: 1154). The same is also true for Stein. He uses his friends, including his lover Ry Shelley, to get help for his research, but he abandons them in a laboratory without “saying goodbye” (F 199). Yet it should be noted that this does not lead to the death of any person in the novel, unlike in Mary Shelley’s novel.

The arguments on the lack of responsibility of these two characters towards their society, their friends, and their creatures can also be questioned with the use of bioethical principles. According to these principles, everyone should have a right to “take actions based on their values and beliefs” (Beauchamp and Childress, 2013: 106). However, it is also asserted that “others can justifiably restrict our exercises of autonomy” if “our autonomous choices endanger the public health, [and] potentially harm innocent others” (Beauchamp and Childress, 2013: ix). From this point of view, Frankenstein and Stein have the right to devote themselves to these types of scientific studies, but they should be held responsible for their lack of consideration for the practical consequences of their works. Roslynn Haynes argues that Frankenstein’s desire to be “the first to discover something” and “to complete a project whatever the human cost” makes him forget his responsibilities (2003: 249). Stein has a similar problem to his former counterpart. His desire to be an “enhanced human” and to become “unlimited by biology” leads him to conduct an experiment that puts his friends and society in danger (F 198). In that regard, from the bioethical standpoint, it can be said that scientists like Frankenstein and Stein need to be reminded that their pursuit of knowledge should be for the benefit of humanity. Furthermore, their studies should be investigated from a bioethical point of view so that they can be urged to avoid maleficent factors in their research.

4.3. Disregarding the Dead

Cambra Badii et al. report that the studies on *Frankenstein* mainly focus on “Frankenstein’s personality and scientific research rather than on ethical aspects related to his research” (2021: 2). One of these ethical aspects that have not been discussed much is the disregard for the dead. Frankenstein admits that he has visited “unhallowed damp of the grave” and collected many materials, including eye-balls and bones to “bestow animation to lifeless matter” (Shelley, 1998: 58). Victor Stein in Winterson’s novel follows his former counterpart in his questionable act of collecting body parts of the dead people. However, instead of doing it by himself, he gets Ry Shelley to be “a grave robber” for him and provide him “with body parts” (F 63). Since there is no harm to a living person in this conduct, one may wonder whether this is a genuine problem or not. It can be thought that since “the dead can no longer think or feel,” it would not be unethical to conduct an experiment on them (Wilkinson, 2014: 286). T.M. Wilkinson also points out that “some people may think we have no such ethical obligation” towards the dead because they might believe “dead bodies are no different from furniture” (2014: 287).

In that regard, what Frankenstein and Stein do in the graveyard is not a problem. However, in a different study, Wilkinson points out that there are some others arguing that using body parts without “consent” would be unethical by stating that “even if people do not know what happens to them, what happens can still matter” (2012: 446). It is because it is believed that people have an “obligation to respect the wishes of the deceased” (Wisniewski, 2008: 289). Therefore, conducting an experiment without their consent would be unethical. From this point of view, it can be said that

Frankenstein and Stein violate ethical principles since they evade their responsibility to get consent for the body parts they use in their research. However, this issue is very controversial. For this reason, it is not easy to determine whether what Frankenstein and Stein do is ethically wrong or not. Some ethical questions can be asked concerning their misconduct. Why is the use of body parts of the dead without consent considered unethical? And how can a scientist get consent for the use of the body parts of the dead? Even though these questions do not have simple answers, it seems better to try to answer them beforehand since this will help analyse Frankenstein's and Stein's disregard for the dead from a bioethical point of view.

Arguing "dead bodies are not persons," Wilkinson asks, "Do the living owe the dead when it comes to using their bodies?" (2014: 286). To answer this question, he refers to an example. He states that "it is against people's interests and a violation of their rights to be sexually assaulted while unconscious even if they never find out and the assault has no further effects" (Wilkinson, 2014: 286). In that regard, he concludes that "people have rights over their bodies" even if they are dead (Wilkinson, 2014: 286). Wicclair has a different argument concerning the consent of the dead. He believes requiring consent for the use of body parts of the dead in research can "protect [the family] from additional distress" and "maintain public trust in the medical profession and medical research" (Wicclair, 2002: 351). For this reason, having consent to use the body for research should be given importance. For this to happen, Uniform Anatomical Gift Act (UAGA) suggests that a patient over 18 can be asked whether he wants "to make an anatomical gift" before or near the time of death (2006: 23). However, getting consent from the patient may not be enough either.

Wilkinson points out that consent from family might also be necessary for honouring "the relationship in life between the deceased and family members" and protecting anatomical studies "from litigation" (2014: 288). Yet, it can be noted that this may not be possible all the time. Burns et al. report that only 10% of the studies requiring the use of parts of the dead could get "either verbal or written consent from the patients' families" (1994: 1652). In that regard, it is argued that unclaimed bodies are significant for this type of research since it is believed that "unclaimed bodies cannot be ruled out on grounds of missing consent" (Wilkinson, 2014: 289). However, some disagree with this suggestion as well by pointing out that the attempt to solve "the problem of grave robbing" by using unclaimed bodies "can be seen as a form of exploitation" (Jones and Whitaker, 2011: 246). For this reason, it can be said that the ethical aspect of using bodies for research remains controversial. Nevertheless, it is still suggested that insisting on consent from both the family and the individual is "prudential" (Wilkinson, 2014: 289).

The bioethical ramifications of using dead bodies without consent can be examined within the perspectives provided in Shelley's *Frankenstein* and Winterson's *Frankissstein*. In Shelley's novel, Victor Frankenstein admits that he "collected the instruments of life around [him], that [he] might infuse a spark of being into the lifeless thing that lay at [his] feet" (Shelley, 1998: 63). He informs that this was a "secret toil" (Shelley, 1998: 59). Therefore, it can be said that Frankenstein has not bothered himself about the consent for the use of dead bodies. Harrison and Gannon believe that the novel aims to focus on "moral consequences rather than the scientific premises of Victor's experiment" (2015: 1141). In this sense, the reason why "the novel is notoriously vague about the scientific principles" is understandable (Harrison, and Gannon, 2015: 1140). Yet, unlike its former counterpart, Winterson seems to directly address this concern in her novel. Ry Shelley is given as a grave robber supplying Victor Stein with body parts. Ry argues that there is nothing wrong with this conduct, for he believes "burial is a waste" (F 63). There have been others already suggesting

that “burial is a waste of land resources” (Lu, 2018: 758). However, Ry has a different argument. Ry believes that “every lab needs its body parts” to conduct scientific studies and argues what he does is merely supporting these scientific studies (F 65). Yet, with an inner thought, Ry acknowledges that what he does “looks wrong because it is wrong” (F 63). Winterson does not provide the reader with an explanation with regard to the wrongness of this conduct. It can be said that the reader is left with a bioethical question that is hard to answer easily.

Both works present their scientists as grave robbers without dwelling much on the wrongness of this conduct. There is not any easy explanations bioethics could offer to why grave robbing is unethical. As Kass argues, “repugnances are hard to translate into sound moral arguments” (2003: 17). In that regard, bioethical principles may serve to find out the problems in grave robbing. First, it can be said that using bodies in the graveyard without consent is an attack on respect for autonomy. As Wilkinson argues, society has an “obligation to respect the wishes of the deceased” (2014: 289). In that sense, the body parts of the dead in the graveyard are not “just things” to move around (Wilkinson, 2014: 286). For this reason, it can be argued that “in a community of moral personalities and just institutions, we are not only permitted to give the dead their due, but we are [also] morally required to do so” (Partridge, 1981: 264). However, as Ry Shelley in Winterson’s novel argues, scientists “will need a body” because they “can’t learn anatomy from textbooks and videos” (F 63). In that respect, using the body parts of the dead for research might have beneficial aspects. However, any initiation should consider its possible risks. Using the dead without consent can “offend the family and undermine generally held faith in physician fidelity” (Berger et al., 2002: 776). What could scientists requiring the use of body parts of the dead for their research do then?

In that regard, Harrison and Gannon believe there should be a focus on “the importance of training in research ethics” (2015: 1156). They use the example of *Frankenstein* and suggest that “had Victor Frankenstein had to submit an IRB proposal, tragedy may have been averted” (Harrison and Gannon, 2015: 1156). From this perspective, it can be argued that both Frankenstein and Stein could have applied to the research committee for the necessary body parts. Therefore, their studies might have been approved, and they could have been provided with the appropriate body parts for their research. In this way, they could have worked within the limits of scientific research. However, it can be said that their hubris to reject being “monitored, peer-reviewed, [and] collaborated on” (F 112) serves as their downfall from a bioethical standpoint. In that respect, Davies argues that Shelley’s *Frankenstein* provides the reader with an exploration of “the problems consequent upon medical experimentation” (2004: 35). The same is also true for Winterson’s *Frankissstein* since it also portrays these problems regarding the story of Victor Stein.

5. CONCLUSION

It was seen that the Hippocratic tradition, which regulated medical ethics for a long time, could not respond to the concerns created by the biotechnological developments that arose in the mid-twentieth century. This tradition did not respond to “almost all of the problems of truthfulness, privacy, justice, communal responsibility, the vulnerability of research subjects, and the like that bothers us today” (Beauchamp, 2016: 2). For this reason, new understanding for the study of ethics that can respond to the requirements of the modern era was required. V.R. Potter coined the term bioethics for this scientific endeavour; thus, bioethics was established as a new field of study. This field uses four main principles to ascertain the true value of any initiation for humanity: respect for autonomy, beneficence, nonmaleficence, and justice.

Bioethicists have referred to literary works to discuss the positive and negative consequences of biotechnological developments. Philosophers interested in bioethics have been expressing their bioethical concerns by citing these works. This study shows that Jeanette Winterson’s *Frankissstein: A Love Story* could also be one of these literary works since it presents many bioethical concerns that exist in society. These concerns are related to transhumanism, transgenderism, artificial intelligence, cryopreservation, sexbots, mind uploading, and bioconservatism.

Transhumanism is a movement that suggests human beings should go beyond human limitations via technological advancements. This movement has caused many bioethical concerns. Some assert that transhumanism is a valuable movement that can help human beings sustain their existence. However, there are some others arguing that transhumanist studies can put humanity in danger. Winterson’s novel contributes to this discussion by providing ideas for both criticisms. On the one hand, Ry Shelley, in the novel, points out that there could be negative consequences in an attempt to change human biology. On the other hand, Victor Stein argues that people can have what they desire, including immortality, with the help of transhumanist practices. Yet, the novel does not make an explanation about the future of Stein’s studies at the end. This ending shows that it is still uncertain what transhumanist studies will lead to. Winterson might have intentionally presented this ending to show that transhumanism and the ethical concerns regarding it are still questionable.

Transgenderism is also examined from a bioethical point of view in the novel. It is a well-known phenomenon that transgenders face a lot of discrimination in their daily lives. In addition, having a surgical operation to change gender identity leads to irreversible problems such as the inability to have children and being prone to early death. Winterson’s novel presents a transgender person named Ry Shelley to reflect on these problems. Ry is discriminated, abused, and physically harassed because she is a transgender person. He also acknowledges that the hormones he is taking will lead her to a shorter life. This creates a bioethical concern for the readers since it is pointed out that being transgender can lead to many health problems. Yet bioethics suggests that people should have the autonomy to decide what is best for themselves. In this sense, Winterson’s novel indirectly suggests that transhumanism can be a solution for transgenders who are in danger of early death and other irreversible outcomes. Believing “any-body is the wrong body,” Ry reports that “some of us are transhumanists” for that reason (F 75).

Winterson’s novel also problematizes artificial intelligence from a bioethical point of view. Victor Stein argues that artificial intelligence will provide people with a world free of “labels” (F 58). Yet, Polly D., a journalist in *Vanity Fair*, expresses her doubts regarding artificial intelligence

since she does not “trust the way AI is being sold” (F 71). Polly believes there is no way artificial intelligence that is programmed by developers with sexist thoughts can provide such equality. The other characters are also doubtful about Victor Stein’s belief that artificial intelligence will save humanity. Winterson’s portrayal of artificial intelligence, just like the other technological advancements, is contradictory. Similarly, bioethics does not totally approve of artificial intelligence either. For this reason, although the benefits of studies on artificial intelligence are not totally ignored, they are expected to focus more on autonomy, beneficence, nonmaleficence, justice, and transparency.

The novel also mentions bioethical concerns regarding cryopreservation, a practice of having the body frozen within minutes of death so that one can be revived back to life with possible technological advancements in the future. Max More, the CEO of Alcor Life Extension Foundation, is presented in the novel as a supporter of this technology. He points out that Da Vinci also made drawings of helicopters centuries before helicopters were built, and he argues this technology will also become real in the future. However, as is the case with other technological advancements, Ry is sceptical about this technology believing it is crude and far from being possible. In addition, even though he is a medical professional aiming to extend life by taking care of his patients, he argues that immortality is not desirable for all. It is also pointed out that this technology is very costly and may lead to problems such as overpopulation. This makes the practice of cryopreservation very questionable from a bioethical perspective.

The future of robots is taken into consideration in the novel. However, the novel interests itself more with the discussion regarding a particular product: sexbot. Sexbots, products used for sexual gratification, have both positive and negative aspects in terms of bioethical claims, and Winterson’s characters address both of them. As a manufacturer of such products, Ron Lord argues that sexbots can help people become happier and healthier. Claire also argues that these products are much better than human beings whose actions are unpredictable. However, Ry believes that an experience with sexbots is not equal to the real one. In addition, Polly D. points out that these products degrade women and infringe on the privacy of their users. These types of contradictory ideas concerning sex robots are also expressed by bioethicists. For this reason, the acceptability of such products is still a matter of discussion from a bioethical point of view.

The bioethical concern regarding mind uploading is another significant issue discussed in the novel, even though this technology seems very futuristic. Victor Stein believes this technology will provide humanity with many opportunities, including immortality and greater intelligence. Yet, Ry Shelley is not as eager as Victor Stein towards this technology since he believes humanity is not ready for such a transformative technology, both mentally and spiritually. There are others arguing that being a file on a computer is not ideal for human beings. Bioethicists also have contradictory ideas about mind uploading. For this reason, there seems much to discuss regarding this technology from a bioethical perspective.

In the novel, Winterson also addresses bioconservative arguments that suggest any attempt to change human biology should be banned since it may problematize human values and cause unpredictable problems. In this sense, Ry Shelley is depicted as one of those bioconservatives. He argues that human bodies are not less significant than their minds and points out that it is hard to speculate the consequences of such attempts in the long term. Some bioethicists are also sceptical about these attempts and support bioconservatism for this reason. Yet there are some that suggest some changes in human biology are necessary for the continuation of human existence in the future.

Victor Stein, in the novel, is one of those believing that a change in human biology is an obligation for the future of humanity. Thus, Winterson shows that there are different valuable ideas concerning these attempts from a bioethical point of view.

Apart from these bioethical concerns, Winterson's novel also addresses the bioethical responsibilities of a scientist by presenting an interesting character, named Victor Stein. It is clear that this character is a modern counterpart of Mary Shelley's Victor Frankenstein. These two characters share not only similar names but also similar personality traits. Furthermore, it can be said that both characters have problems adapting to the bioethical responsibilities of scientists. It is concluded that there are three reasons why both Frankenstein and Stein cannot adapt themselves to the bioethical responsibilities that a scientist should follow: their image of madness, lack of responsibility, and disregard for the dead.

Both Stein and Frankenstein are involved in questionable activities that lead them to be pointed out as mad scientists. Even though they have the desire to be beneficial to their society, they start to be identified as mad scientists due to their desire to play God and earn power and glory. Although it may be compelling for authors and readers to dwell on some different issues about science through the use of mad scientists, this image causes wrong accusations towards critical biological studies. For this reason, bioethicists suggest that the responsibilities of scientists should be emphasized instead of their personality traits.

In addition to proposing scientific responsibilities such as honesty, accountability, courtesy, and stewardship, bioethicists ask scientists to follow four principles: respect for autonomy, beneficence, nonmaleficence, and justice. Yet both Stein and Frankenstein do not follow their scientific responsibilities. They conduct their experiments behind closed doors and engage in dangerous activities without taking necessary cautions. Furthermore, they neglect their responsibilities towards their families, friends, and inventions. For this reason, instead of only identifying these characters as mad scientists, their lack of consideration for their responsibilities has been examined in terms of bioethics, which would hold them responsible for their carelessness.

Scientific studies require consent for the use of body parts of the dead. However, both Stein and Frankenstein make use of the body parts of the dead without consent. For this reason, it is concluded that they leave their responsibilities for the dead from a bioethical point of view. In that regard, instead of being a grave robber, Frankenstein should have considered his bioethical responsibilities in his research. The same is also true for Stein. However, he does not want to be "monitored, peer-reviewed, [and] collaborated on" (F 112). Eventually, this hubris serves as his downfall.

In this sense, Winterson presents many bioethical concerns that are not very different from the bioethical concerns presented by Shelley. Both novels point out that science in the wrong hands can be catastrophic for society. The difference is that Winterson's novel adapts and improves the bioethical concerns and places them in a contemporary context. By doing so, not only does Winterson's novel adopt the narrative of Shelley's novel, but it also provides the reader with the current and significant bioethical concerns. Yet, it can be noted that the novel does not introduce these bioethical concerns with a single and narrow perspective; on the contrary, it makes use of different characters with different points of view who share different aspects towards these bioethical concerns throughout the novel. In this regard, it can be concluded that *Frankissstein: A Love Story* is a bioethical narrative that presents many bioethical concerns and focuses on the questions rather than the answers in doing so.

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