

**EXTROPIANISM, HUMAN CLONING AND  
THE ETHICAL QUESTION: A  
TRANSHUMANIST CRITIQUE OF THE  
CONTEMPORARY SCIENCE FICTION**

**BY**

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**NATIONAL UNIVERSITY OF MODERN LANGUAGES**

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# **Extropianism, Human Cloning and the Ethical Question: A Transhumanist Critique of the Contemporary Science Fiction**

By

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## ABSTRACT

### **Title: Extropianism, Human Cloning and the Ethical Question: A Transhumanist Critique of the Contemporary Science Fiction**

This research study has attempted to explore transhumanist, ethical, and societal concerns raised by human cloning in the novels; *The Lost Girl* by Sangu Mandanna and *Constance* by Matthew Fitzsimmons. I have applied Max More's extropian principles and Leon Kass' ethical theory as a lens to analyze the selected texts. The research method used for the analysis of selected texts is the textual analysis by Catherine Belsey. In 1997, with the birth of Dolly, the first cloned sheep came the inception of debate on the topic of cloning. Extropianism sees human cloning as a progressive step in improving the human condition, but this raises numerous ethical concerns that clash with their ideas and notions. Science fiction has produced numerous works based on human cloning which address both sides of the argument concerning the promotion and negation of human cloning. This study identifies several ethical and societal concerns raised by human cloning in the selected texts; man is playing at being God by trying to make replicas of human beings, no matter how much advancement science and technology make in cloning technology man can never make an exact replacement of a human being either dead or alive, several acceptance and identity issue arise that prove to be very disturbing for both humans and clones. This research inspires future researchers to address the serious threats related to ethical and moral issues posed by human cloning. This study will benefit and help future researchers as a stimulus in transhuman studies.

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## GLOSSARY

Clone: A clone is a human that has been produced artificially in a laboratory.

Cryogenic: It is related to the freezing of dead human bodies at very low temperatures, hoping that it may be possible to bring them back to life in future.

Echo: A word used by the writer of *The Lost Girl* for clone.

Extropianism: It is an evolving framework of values and standards for continuously improving the human condition.

Extropy Institute: It is a non-profit educational organization that pioneered the multidisciplinary discussions of future technologies and their social context.

Human Enhancement: It is described as the natural, artificial, or technological alteration of the human body to enhance physical or mental capabilities.

Loom: Manufacturing place of echoes in *The Lost Girl*

Palingenesis: Name of the clinic in *Constance* where the memories of a human being is uploaded in his/her clone.

Request for Removal/ Sleep Order: Death order for echoes in *The Lost Girl*.

Transhumanism: It advocates the enhancement of the human condition by developing and making widely available technologies that can greatly enhance longevity and cognition.

Weavers: Those people who make echoes in *The Lost Girl*.



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## **DEDICATION**

This thesis is dedicated to my father Dr. Muhammad Yaseen Aafaqi and my mother Naheed Kousar who have taught me to be unique, determined, consistent and self-assured.

# CHAPTER 1

## INTRODUCTION

Human cloning is one of the most debatable topics in the postmodern world. In 1997, with the birth of Dolly, the first cloned sheep, came the inception of debate on the topic of cloning. In this research, I have attempted to scrutinize the playing down of human cloning in the 21<sup>st</sup> century selected science fiction and its ethical and societal impacts. I have carried out a transhumanist critique of Sangu Mandanna's novel *The Lost Girl* (2012) and Matthew FitzSimmons' novel *Constance* (2021) based on Human Cloning. This research investigates selected science fiction from the 21<sup>st</sup> century and aims to examine the denouncement of human cloning in the selected texts. This study explores the depiction of transhuman themes in the selected works and discusses the notions of extropianism, human cloning, and ethics. This research is interdisciplinary in nature as it falls into two categories; literature and science because the literary texts are on human cloning which is a scientific method of creating genetically identical beings, and thus to analyze these novels involves gaining an insight into the scientific theoretical perspectives as well.

### 1.1. Background of the Study

Extropianism, a set of principles developed by Max More, refers to an “evolving framework of values and standards for continuously improving the human condition” (More). The main philosophy of extropianism affirms self-transformation, perpetual progress, intelligent technology, practical optimism, self-direction, rational thinking, and an open society. Extropians believe in the enhancement of intellectual abilities, emotional development, and physical capacities of human beings. The basic aim of extropianism is humanity and it suggests an essential framework for thinking about the human condition and human enhancement. The phrase extropy, was for the very first time used in 1967, in an educational volume debating cryogenics and later on in 1978 in another academic volume on cybernetics. In 1983, Diane Duane, an American science fiction and fantasy author, was the first who introduce the notion of extropy in her novel *The Wounded Sky* to suggest a possible transhuman fate for humankind (163). In the same year, J. Neil Schulman made use of the term ‘extropic’ as a kind of scale in visual music, in his award-winning novel *The Rainbow Cadenza* (1983). In 1988, Tom Bell invented the term extropy and Max More defined it as “the extent of a living or organizational system's intelligence, functional

order, vitality, energy, life, experience, and capacity and drive for improvement and growth” (93). Publication of *Extropy: The Journal of Transhumanist Thought* in 1988 provided a platform to like-minded thinkers with interests in life extension, artificial intelligence, mind uploading, nanotechnology, memetics, genetic engineering, space exploration, robotics, and the economics and politics of transhumanism. A few years later, More and Bell established the Extropy Institute for exchanging transhumanist ideas and information to make use of current scientific knowledge to describe a set of principles that would help make sense of new dimensions opening up to the human race.

Extropians being a subcategory of transhumanism are staunch supporters of human enhancement but they focus more on longevity while transhumanists focus on overall well-being of humans. They believe that the convergence of innovative technologies in the future will enable people to control and fundamentally change their minds and physiques. Human enhancement refers to any activity by which we improve our abilities, bodies, or minds, and there are numerous ways by which people try to enhance themselves. Activities such as exercising, reading a book, eating vegetables, etc. may count as life-enhancement activities, but all of these fall into the category of natural human enhancements. Natural enhancements are unproblematic because there is nothing unethical in improving ourselves through education, physical training, healthy diet, and so on (Allhoff and Lin). According to Norm Daniels (2000), human enhancement is all about boosting our capabilities “beyond the species-typical level or statistically-normal range” of functioning for an individual (314). Human enhancement is different from therapy because therapy is about treatments based on medicines that compromise health. In comparison to therapy, Greely (2005) believes, human enhancement changes the structure and function of the body (110). Transhumanists being the advocates of human enhancement do not believe that there is an essential difference between therapy and enhancement. Transhumanists think that people should try to find out ways for the development and availability of enhancement opportunities in the same way they make effort for treatment available for the protection and expansion of cognition, emotion, health and life well-being and also for other conditions that humans wish for the sake of improving their lives. James Hughes (2004) states that human enhancement deals with electronic, biological, genetic, or any other non-natural and non-organic interferences which can boost the abilities of human beings away from their natural ability (Hughes). He sees human enhancement as any

... attempt to temporarily or permanently overcome the current limitations of the human body through natural or artificial means. It is the use of technological means to select or alter human characteristics and capacities, whether or not the alteration results in characteristics and capacities that lie beyond the existing human range. (Hughes)

Modern interventions in the research and advancements in the field of human enhancement deal with several categories: life extension, cognitive enhancement, physical enhancement, and reproductive enhancement. Transhumanists believe that an extensive range of enhancements should be developed and the general public should be allowed to use them to transform themselves in radical ways. Transhumanists advocate for longer and healthier lives. Most influential transhumanist thinkers have written on the subject of extending life through biotechnology, and many have done so extensively. Life extension is the idea of prolonging human life span beyond its normally settled limit of 125 years. It is believed that the extension of maximum lifespan in humans could be attained by decreasing the rate of aging damage by rejuvenation of weakened cells and tissues or periodic substitution of injured tissues. Some life extensionists are of the view that cloning and stem cell research could one day provide a near-immortal life. In past years, Japan with the help of social and technological advancements has achieved the highest life expectancy. To make further progress in life expectancy, it will be essential to slow down or reverse the process of human aging. It is believed that the aging process causes most of the deaths whereas some other causes include diseases like cancer, heart attack, etc. On the contrary, some philosophers like Bernard Williams (1973) are of the view that a considerable increase in human life span will result in a meaningless life. In his view, an eternal life will be worse than a mortal life because those ventures which make an individual's life meaningful would either be achieved or deserted leaving a person with countless years of life in which there are no more desires or missions to complete. It is also believed that life extension will lead to overpopulation and in addition to this old people will create an undesirable financial problem for the younger people.

Cognitive enhancement refers to the use of chemical substances and drugs for the enhancement of human cognitive abilities and performance. For instance, the use of Anabolic steroids to improve the performance of athletes and also the consumption of Nootropic drugs to enhance cognitive proficiency. Bostrom (2009) defines cognitive enhancement as “the amplification or extension of core capacities of the mind through

improvement or augmentation of internal or external information processing systems”. Cognition is the process of organizing information and it involves obtaining information, choosing, expressing, and recalling data, and utilizing it to control behavior. Interventions to make betterment in cognitive functioning might be focused on any one of these essential abilities. A cognitively improved person is not someone with specifically extraordinary cognitive abilities, instead, he is someone who has gained benefit from interference that improves the functioning of the cognitive system with no correction in some particular, recognizable disease. Cognitive enhancements also comprise psychological involvements and not just medicinal involvements, along with enhancements of external technical and organizational arrangements that maintain cognition. Ramez Naam (2010) assures that cognitive enhancement will bring a variety of benefits in the future because,

People with better memories and quicker minds will earn more money and produce more for others. Any technique that increases the human ability to learn, think, or communicate is going to produce economic returns. It will increase our ability to solve problems, make scientific breakthroughs, and build better products, and so on. (56)

However, critics like Agar (2010) believe that increasing intelligence can cause a negative impact on one's identity. Agar states, “the procedure that enhances your intellect will change the structure of your brain, leading to uncertainty about whether the person who emerges from the procedure is you” (183). While some others believe that cognitive enhancement is not a new thing, it already exists in some ways. Buchanan (2011) opposes Agar's stance on cognitive enhancement in a way as he says, “whether cognitive gains are achieved by learning to read and write or implanting a microchip in the brain is irrelevant; the term ‘enhancement’ is equally applicable” (2). The foundation of extensive learning should be seen as a significant improvement in the cognitive function of the masses.

Physical enhancement means the enhancement of physical capabilities which include power, stamina, strength, flexibility, sharpness, organization, conditioning, and alertness. This can be done by connecting machines to the human body, for example, brain implants, prosthetics, and organ replacements. These interventions are also beneficial for those people who love to do sports. Though, the matter of improving performance in professional sports is controversial. The Canadian athlete, Ben Johnson was stripped of the Olympic gold medal in 1988 after being disqualified for the use of steroids. Nowadays,

athletes are tested on regular basis for banned substances, with the chairman of the World Anti-Doping Agency (WADA) assuring to “level the playing field and protect the spirit of sport”. Even if the achievements of the athletes are spectacular they are penalized if found that they have been on steroids etc.

According to journalist, David Owen (2006) for some people physical brilliance can be remarkable even if it is attained through drugs. Some people advocate for the legalization of performance-enhancing drugs in sports. Julian Savulescu (2004) thinks that, in the early ages, the sport was all about finding “the strongest, fastest, or most skilled man” and it was also considered “a test of biological potential” (666). In her view, sports of these days are different because of the usage of performance-enhancement drugs,

We can choose what kind of competitor to be, not just through training, but through biological manipulation. ... Far from being against the spirit of sport, biological manipulation embodies the human spirit—the capacity to improve ourselves based on reason and judgment. (667)

Reproductive or genetic enhancement is about genetic therapy, embryo selection, and designer babies. Genetic therapy is a medical treatment in which instead of using drugs or surgery, doctors use gene therapy to treat an illness by changing a person's genetic composition. The latest research in this field has resulted in improvements in gene therapy approaches. Genome editing, a newer technology for correcting genetic variations, takes a different approach. Genome editing, rather than adding new hereditary material into cells, uses molecular tools to alter the cell's existing DNA. Embryo selection is another type of genetic modification available today for getting male babies, putting an end to Down syndrome pregnancies etc. Designer Babies is the next phase in the journey of genetic human enhancement. A designer baby is one whose genetic data has been chosen or edited, either to add a certain gene or to eliminate genes linked to diseases. Michio Kaku (2011) in his book, *Physics of the Future* predicted that around the middle of this century, the technological capability to build an unborn child's whole genetic portfolio will be available. He imagines a future in which parents would be able to choose their children's height, appearance, IQ, character, athletic ability, skin, eye, and hair color, among other things, at very little cost. Genetic enhancement is still a work in progress, but significant progress has already been accomplished, and the paradigms to thrust it ahead are now in place.

Nick Bostrom is considered to be a very strong advocate of human enhancement. In his essay, “Why I Want to be a Posthuman When I Grow Up” (2008) he states that enhancement is primarily supposed to amplify people's life span, and their emotional and mental strength. He asserts that it is also expected that enhancement will help out people to have delightful, healthy, and extended life with enhanced cognitive abilities which make them able to have a better understanding of the world they are living in.

John Harris in his book *Enhancing Evolution: The Ethical Case for Making Better People* (2007) calls human enhancement as good, good for individuals, good ethically, good as public strategy, and good for a genetic heritage that needs to be improved. Harris defends the probability of inspiring the pathway of evolution to give us improved cognitive and corporal abilities from thinking, awareness, strength, and memory. Similarly, Elon Musk and Ray Kurzweil maintain that enhancement is fundamental for the existence of humanity. Kurzweil (2017) has a strong belief that Artificial Intelligence (AI) will not take the place of humans but actually, it will enhance our lives and will provide us benefit in the same way that earlier technologies have.

Nigel Barber defines cloning as “the production of genetically identical cells or complete organisms as a result of descent from a single individual” (135). Cloning has been used recently in several fields of biology. The DNA molecules of cells that have the same genetic structure are known as clones. Human cloning is the production of a genetically identical copy of a human. The two most common types of human cloning are therapeutic cloning and reproductive cloning. Therapeutic cloning refers to the production of human embryos for research purposes and is also known as embryonic cloning. This type of cloning is mainly used for the cure in regenerative medicine. Whereas reproductive cloning involves making a completely cloned human.

In the 20<sup>th</sup> century, Joshua Lederberg (1966) started advocating cloning as a subject of speculation, while scientists started taking this possibility seriously. In November 1998, the first hybrid human clone was manufactured with the help of Advanced Cell Technology. The embryo was demolished after 12 days of its creation. In 2004, Panayiotis Zavos claimed that he had implanted a cloned embryo into a woman but this implantation was unsuccessful, even though in 1971 James D. Watson a prominent biologist exposed the possibility as well as the hazards of cloning



Extropians believe that human enhancement will bring a bright future for humanity. Whereas bioconservatives and bioethicists like Francis Fukuyama, Leon Kass, Murray have raised many ethical and social concerns on the subject of enhancement. They have given a ferocious warning that the sweeping developments in genetic engineering, biotechnology, and psychotropic drugs will act as a threat to the dignity of humans. According to them, it is quite possible that in the near future mankind will be transformed beyond recognition. Kass welcomes biotechnology for its potential in medicine but is concerned about its use in enhancement. Kass (2003) contends that biotechnology may ultimately be utilized as a replacement for virtue, diligence, hard effort, or love, to “fulfill our innermost human needs”, so limiting the scope of those desires to only those things that can be accomplished technologically.

“...the most significant threat posed by contemporary biotechnology is the possibility that it will alter human nature and thereby moves us into a “Posthuman” stage of history”. (Our Posthuman Future 7)

Fukuyama defines human nature as, “[T]he sum of the behavior and characteristics that are typical of the human species, arising from genetic rather than environmental factors” (130). When human enhancement technology will start changing human traits to augment them then we will no longer be recognized as humans and consequently, all social systems established on the beliefs of human rights and dignity will disintegrate.

Science fiction is a very significant genre in the current swiftly changing world, with its constantly advanced technology. Novels, short stories, and movies of science fiction have played an essential role in constructing a cultural, social, and moral discourse on how we as human beings should deal with present and future technologies. If we look at the history of representation of human cloning in literature, we come across writers like Mary Shelley, Aldous Huxley, Ira Levin, Nancy Farmer, Eva Hoffman, Kazuo Ishiguro, and Mur Lafferty who in their works have presented extropian agendas and have also addressed the consequences of human cloning.

In the contemporary science fiction, different aspects of human cloning have been depicted and have added to the debate on this topic bringing in the ethical and social concerns from time to time. These include concerns such as emotional and psychological problems, lack of identity, social and religious sensibilities, the issue of replicability of human beings, human dignity, risks and insecurities etc. The present study is the ethical

critique of transhumanism as it tends to explore and investigate how the selected science fiction texts deal with the ethical and social concerns regarding human enhancement through human cloning and how they advocate human values and human dignity. In the context of transhuman literary studies and 21<sup>st</sup>-century science fiction, this research is envisaged as an original contribution to the current body of knowledge.

## **1.2. Introduction and Rationale for selecting the Novels**

I have selected those novels which are thematically closer, address the same issues and are recent. A summary of the novels is given to make the readers familiar with the characters and plot.

*The Lost Girl* is a heart-wrenching tale of a clone named Eva, who discovers her own identity after realizing that she is only a duplicate, an echo of some human named Amarra who lives in India. She is living someone else's life. She is made by the Weavers, a company in England that makes clones, to be a copy of her 'other' i.e. Amarra. She is made so that if Amarra dies, then she would take Amarra's place. Eva follows the daily activities of Amarra like what she does and eats. She studies Amarra for fifteen years but even then she is not ready to replace her. To replace Amarra after her death Eva must leave behind everything she has ever known including the guardians who raised her and the boy Sean she is not allowed to love. On her arrival, Eva finds a grieving family, parents who are unsure how to deal with this echo of their daughter they thought they wanted, and Ray, Amarra's boyfriend who is intimately familiar with her. After fighting with Amarra's friends, Eva is given a choice either to stay and live out her life as a copy or go and risk it all to have the freedom to be an original. Eva decides to live her own life her way and this changes her existence forever.

*Constance* reveals the story of a girl Con D'Arcy, living in Washington DC in the year 2038, who receives a gift of a clone from her aunt Abigail stickling, co-founder of Palingenesis "the world's first and largest manufacturer of clones" (Mogsy). This downloads and transfers the consciousness along with all memories of their clients into an engineered clone that replaces them when they die. Con is a musician who is injured badly in a horrible car accident that has put her lover in a coma and taken the lives of her bandmates. She has become isolated and depressed as a result of the accident. Con visits Palingenesis to have her memory downloaded into her clone. She finds herself waking up 18 months later in a clone's body. When it comes out that the downloading process has not

followed the standard protocol, then lots of questions arise because memories of 18 months are missing. Con is now seeking a way to resolve the mystery of her murder, but she also needs to find a means to survive and acquire some of life's essentials for survival. Her quest for the truth leads her to distressing revelations that she is once more targeted for death, a repeat of a tragedy she's very determined to avoid.

### **1.3. Delimitation:**

The study is delimited to a transhuman critique of two 21<sup>st</sup>-century science fiction texts, *Constance* by Matthew FitzSimmons and *The Lost Girl* by Sangu Mandanna.

### **1.4. Thesis Statement:**

Extropianism sees human cloning as a progressive step in improving the human condition, but this raises numerous ethical concerns that clash with their ideas and notions. Science fiction has produced numerous works based on human cloning which address both sides of the argument concerning the promotion and negation of human cloning. Among them are contemporary sci-fi novels by Sangu Mandanna and Matthew FitzSimmons', namely *The Lost Girl* (2012) and *Constance* (2021) respectively. These contemporary novels provide the much-needed material to study the latest ethical and societal concerns caused by human cloning, and the strategies through which transhumanist concerns are depicted in works of literature, as well as to explore how and for what reasons human cloning is denounced.

### **1.5. Research Questions:**

1. What are the strategies through which transhumanist concerns about human cloning are depicted in Sangu Mandanna's *The Lost Girl* and Matthew FitzSimmons's *Constance*?
2. What ethical and societal concerns are raised by the incidence of human cloning in the chosen texts?
3. How and why has human cloning been denounced in the selected novels?

### **1.6. Significance of the Study:**

The research on ethical and societal concerns of human cloning can add significant value to the existing body of knowledge in this field. Future researchers can gain insights into previous research, access primary data, learn about research methods, and develop new

conceptual frameworks that can inform their research and contribute to the ongoing discourse surrounding the ethical and societal implications of human cloning.

## **1.7. Chapter Breakdown**

My thesis includes six chapters and they all are coherently and logically arranged.

Chapter one provides a detailed introduction to my research project as it discusses transhumanism, human enhancement, and contemporary science fiction. It also includes an introduction and rationale of my selected texts, thesis statement, research questions, delimitation, and significance of this study.

Chapter two provides a critical and comparative review of the prior works in connection to the main concepts of this thesis. This chapter establishes the background for the study and identifies the research gaps that my research attempts to fill. I have divided this chapter into seven parts. First part is about development of human cloning in medical science, second part gives an overview of science fiction and human cloning, third part provides the transhumanist view of human enhancement and technology, fourth part discusses the ethics of human cloning, fifth part provides representation of human cloning in films, sixth part is about depiction of human cloning in literature and seventh part provides information about the selected texts.

Chapter three presents and explains the theoretical framework and methodology used for the analysis of the selected texts. In this chapter I have explained the transhumanist concepts of Max More and ethical notion of human cloning discussed by Leon Kass and also the research method of Catherine Belsey.

Chapter four and five comprise the critical textual analysis of the selected texts by using the theoretical framework and methodology discussed in the former chapter. These chapters try to address the problem statement and also answer the research questions introduced in chapter one.

Chapter six is the last chapter of this thesis and contains the conclusion of this research resulted from the analysis of the selected texts. This chapter also includes recommendations of the researcher for the further research.

## CHAPTER 2

### LITERATURE REVIEW

This chapter is divided into seven different parts for a methodical review of the available literary scholarship and also for the sake of convenience. The reviews of articles, books, essays, and dissertations have been done in the following sub-division.

1. Development of Human Cloning in Medical Science
2. Science Fiction and Human Cloning
3. Transhumanist view of Human Enhancement and Technology
4. Ethics of Human Cloning
5. Human Cloning in Films
6. Representation of Human Cloning in literature
7. Primary texts

#### **2.1. Development of Human Cloning in Medical Science**

The word ‘clone’ comes from the Greek word ‘klwn’ meaning branch or twig (4). American physiologist Herbert J. Webber first used it in a biotechnological context in 1903 for plants that were propagated through cutting or grafting. Human cloning in general is biotechnological duplication of human beings (3).

The American researcher Jacques Loeb's 1899 discovery of artificial parthenogenesis, a method that could be utilized to turn some species' egg cells into embryos without being fertilized by sperm, is one of the earliest examples of asexual reproduction in animals. Although this method could not be utilized to create genetically identical embryos, the discovery of asexual reproduction in animals sparked a controversy and excitement which led to Dolly's cloning a century later. In recent years, some well-known cloning scientists have advocated artificial parthenogenesis as a potentially beneficial source of human embryonic stem cells. The history of artificial parthenogenesis foreshadows key aspects of the history of cloning, particularly the way reproductive technologies evolved from sparking vague hopes for reshaping the human family to becoming just another instrument in an evolutionary scientific research programme.

Spemann in *Embryonic Development and Induction* (1938) suggested cloning technique as “somewhat fantastical”. In the beginning of 20<sup>th</sup> century, there was debate in the

fields of embryology and developmental biology regarding whether the differentiated types of cells in an adult animal's body all contained the same fundamental genetic information as the initial single-celled embryo or whether they had merely acquired the information required to carry out their specialized functions. To answer this query, the German embryologist Hans Spemann looked into the possibility of individual cells in a sixteen-celled salamander embryo developing into embryos on their own.

Initially it was a great challenge for Spemann to separate two embryonic cells that were stickier than sea urchin cells. To separate two cells of a salamander embryo, he created a miniature noose out of a baby hair strand. Each cell developed into a salamander adult. Using this technique, Spemann also attempted to divide more advanced salamander embryos, but he discovered that the cells from these embryos didn't develop into adult salamanders as successfully. This experiment demonstrated that embryos from more complicated animals can also be “twinned” to create several identical organisms, but only up to a specific developmental stage.

Most historians believe that developmental biologist John Gurdon's 1962 experiment on frogs, for which he won the Nobel Prize fifty years later, arise as the most important of these early cloning experiments. In his groundbreaking experiment, Gurdon transferred the tadpole intestine cell's nucleus into an unfertilized frog egg. He was able to produce tadpoles that shared the same genetic makeup as the frog from whom the intestinal cell was extracted. Despite prior failures, this technique demonstrated that the somatic cell nuclei of an animal that had fully grown could be used for cloning. Significantly, it proposed that even when cells divide and differentiate, they maintain all of their genetic information.

In 1984, Steen Willadsen isolated one cell from an eight-cell lamb embryo by using a chemical method. He then fused it to an enucleated egg cell with an electrical shock. Fortunately, the newly formed cell began to divide. By this time, in vitro fertilization (IVF) procedures had been effectively used to help couples in becoming parents. Willadsen thus implanted the lamb embryos into the surrogate mother sheep's womb after a few days. Three lambs were born as a result. This experiment demonstrated that cloning a mammal by nuclear transfer was feasible and that the clone could grow to adulthood. The experiment was regarded as a significant success even though donor nuclei were from early embryonic cells.

Neal, Prather, and Eystone produced two cloned calves in 1987 using techniques that are very identical to those employed by Willadsen on sheep. With the help of a nuclear transfer,

cows were now among the mammals that could be cloned. However, mammalian cloning was only possible with the help of nuclear donors were embryonic cells. It was still believed that it was impossible to clone using the nucleus of differentiated adult somatic cells.

Ian Wilmut and Keith Campbell in 1996 performed a groundbreaking experiment that resulted in the creation of a lamb by inserting the nucleus from an adult sheep's udder cell into an enucleated egg. A mammal had never been cloned before from an adult somatic cell. A complete set of genetic data can be found in every cell's nucleus. Differentiated adult cells have, however, shut down the genes that are not necessary for their unique functions, whereas embryonic cells are ready to activate any gene. Genetic information from an adult cell nucleus that is utilized as a donor must be changed to that of an embryo. Sometimes, the resetting procedure is not complete, which leads to the improper development of embryos.

Only one of the 277 efforts resulted in an embryo that was successfully brought to maturity in a surrogate mother. Dolly, a well-known sheep, helped cloning gain attention. Her birth sparked discussions about the consequences of cloning and brought debates regarding stem cell research and human cloning into the eye of the public.

Following the successes that led to the birth of Dolly, other researchers were interested in finding out if it was possible to clone members of other mammalian species using the same methods. Soon, a few more animals like cows, mice, and goats were successfully cloned from adult and fetal cells. Previously all cloned animals were female.

As the number of successfully cloned animals increased, researchers started looking at using cloning to produce animals from extinct or endangered species. The search for closely similar animals to act as egg donors and surrogates poses a barrier to the cloning of endangered and extinct species. The fact that the gaur and mouflon are related to domestic sheep and cattle, respectively, had a role in their selection. Another team of scientists succeeded in cloning the first extinct species, a Spanish mountain goat known as the bucardo, in 2009 by utilizing goats as egg donors and surrogates. Sadly, the only kid who survived the pregnancy passed away soon after birth from a lung abnormality.

In 2007, Shoukhrat Mitalipov and his colleagues removed a cell from an adult monkey and fused it with an enucleated egg cell. After giving the embryo some time to develop, the cells were cultured in a culture dish. These cells are known as embryonic stem cells because they can develop into any type of cell. After years of unsuccessful attempts, this experiment proved that nuclear transfer in primates was indeed achievable. It opened up the possibility of

therapeutic human cloning, which involves producing individual stem cells that can be utilized to treat or study illnesses.

Mitalipov and his colleagues were the first in 2013 to employ somatic cell nuclear transfer to make a human embryo that could be utilized as a source of embryonic stem cells after overcoming decades of technological difficulties. To collect eggs for the experiment, the researchers first sought out willing women. The majority of each egg's genetic content was then removed, and it was replaced with DNA from other people's skin cells. After much research, they eventually discovered the most effective way to activate each egg such that it would develop into an embryo without the requirement for sperm fertilization. Combining chemicals with an electric pulse turned out to be the solution. The scientists demonstrated that the resulting embryos could mature to the point at which they could generate healthy stem cells that contained the genes from the skin cells.

Due to ethical issues, Mitalipov's experiment immediately received criticism. However, Mitalipov dismisses those concerns. He claims that because the embryos he produced weren't fertilized naturally, they weren't the same as human beings. His research with monkeys also suggests that it is doubtful that they will ever be able to give birth to a healthy baby.

## **2.2. Science Fiction and Human Cloning**

Science Fiction is believed to be a genre of speculative fiction that talks about extraterrestrial life, time travel, technology, science, space exploration, and, parallel universes, etc. Isaac Asimov (1975) calls science fiction, "the branch of literature which deals with the reaction of human beings to changes in science and technology". Robert A. Heinlein (1959) while defining science fiction writes, "A handy short definition of almost all science fiction might read: realistic speculation about possible future events, based solidly on adequate knowledge of the real world, past and present, and on a thorough understanding of the nature and significance of the scientific method". Hugo Gernsback has been credited with first coining the term 'science fiction' in about the 1920s. Gernsback in his science fiction magazine *Amazing Stories* (1929) mentioned science fiction as 'scientifiction' and described it as "a charming romance intermingled with scientific fact and prophetic vision" (311).



Adam Roberts's *The History of Science Fiction* (2006) explores the origins and evolution of science fiction spanning thirty years, beginning with Ancient Greece and continuing through its resurgence in the seventeenth century to the present.

Roberts exhibits an in-depth understanding of the genre, as well as its foundations in deep history. He asserts that his opinion of science fiction has evolved. Initially, he believed science fiction was a creation of the nineteenth and twentieth centuries before this book. Now he believes it to be a subgenre of fantastic literature with roots in Greek romances as opposed to realistic writing. He contends that science fiction has two distinct types, independent of theme. The technological tale is the first one. Technology, according to Roberts, is more than mere tools, instead, he uses Heidegger as inspiration to argue that it refers to a wide range of objects and actions that influence how we perceive the world. As a result, technologies are dynamic and may evolve. The other type of science fiction tale is “Fortean” or “Feyerabendian”, which means that it explores the consequences of a science-related speculative idea (18).

Roberts's main argument is that the emergence of science fiction as a distinct literary genre occurred during the Protestant Reformation in the 17th century when Copernicus's sweeping latest worldview that the Earth revolved around the Sun took a grip in Europe. Giordano Bruno Nolan's execution was a significant event during this time. The Catholic Inquisition had Bruno executed at the stake for his philosophical, theological, and astronomical beliefs. Roberts contends that Kepler's *Somnium*, which was written in 1600, is “the first unambiguously science fiction novel”, in contrast to Brian Aldiss who contends that Mary Shelley's *Frankenstein* is the true beginning point of science fiction (3).

Some scholars are of the view that science fiction began in the 2<sup>nd</sup> Century AD. *A True Story* by Lucian of Samosata is considered one of the earliest science fiction novels because it contains themes like artificial life, travel to other worlds and alien life. Francis Bacon's *New Atlantis* (1627) and Johannes Kepler's *Somnium* (1634) are also believed to be the beginnings of science fiction by several historians. Bacon's *New Atlantis* is a utopian novel and deals with the creation of a perfect land where inhabitants will live with dignity and have public spirit and generosity. While Kepler's *Somnium* describes in detail how the Earth might look from the Moon. On the other hand, *Frankenstein* (1818) by Mary Shelley is acknowledged as the first science fiction novel. *Frankenstein* tells the story of a scientist Victor Frankenstein who successfully creates a monster from dead body parts by conducting different experiments. The

Monster kills everyone in his immediate vicinity, and causes havoc in the life of his creator. The genre of science fiction has thus been established by *Frankenstein*, and it continues to have an impact on readers and fans around the world.

H. G. Wells is regarded by many critics as one of the most significant writers of science fiction. Among his notable works of science fiction are *The Time Machine* (1895), *The Island of Doctor Moreau* (1896), *The Invisible Man* (1897), and *The War of the Worlds* (1898). Prominent themes of his science fiction works consist of biological engineering, space invasion, time travel, and invisibility. He foresaw the development of aircraft, space travel, military tanks, satellite television, nuclear weapons and something similar to the World Wide Web in his non-fiction futurologist works.

E.E. Smith's *The Skylark of Space* (1928) is often considered the first space opera. The year 1937 marked the beginning of the Golden Age of Science Fiction because of the stories praising scientific development and achievement. It is believed that as a genre science fiction was started by English writers like H.G. Wells and Mary Shelley but it got hype in the 1940's by American writers like Robert A. Heinlein and Isaac Asimov. Isaac Asimov began his *Foundation* series in 1942, chronicling the development and decline of galactic empires and presenting psychohistory. A few years later the series was awarded the Hugo Award for "Best All-Time Series". Robert A. Heinlein's *Rocket Ship Galileo* (1947) follows three teenage boys who take part in a first-ever flight to the moon. Robert's idea of going to the moon was initially rejected because at that time publishers found it unrealistic but soon he found a publisher.

In the 1960s and 1970s, there was a science fiction movement known as the New Wave that was distinguished by a high level of innovation in both form and content. The New Wave was intended as a conscious departure from the traditions of pulp science fiction that most of the writers involved believed outdated and unambitious. The writers of the New Wave generally viewed themselves as part of the modernist heritage in fiction, which is why they valued literary quality and stylistic innovation over scientific fact and prediction.

Developing themes and trends in the late 20<sup>th</sup> and early 21<sup>st</sup> century science fiction comprises biotechnology, nanotechnology, biopunk, and steampunk. Biopunk is a subgenre of science fiction that concentrates on biotechnology. Generally, it explores the dark side of genetic engineering and characterizes the negative aspects of biotechnology. A common trait of biopunk fiction is the "black clinic", which is usually a clinic, laboratory, or hospital that carries out illegal or unethical biological transformation and genetic engineering techniques.

In 1997, the birth of Dolly, the cloned sheep, sparked a heated bioethical debate. Additionally, it triggered long-standing cultural and mythological concerns about the feasibility of human cloning. Cloning, and particularly human cloning, has been a recurring theme in science fiction. Bokanovsky's Process, which appeared in Aldous Huxley's dystopian novel *Brave New World* in 1932, was an early example of cloning in fiction. Huxley's novel does not depend on cloning, but the vision of humans being copied that he provided has become a prominent theme in subsequent ethical discussions. In 1953, after the rise of interest in cloning, Poul Anderson investigated the topic further by portraying a technology termed “exogenesis” in his short story “UN-Man”. Later on, in 1963, Gordon Rattray Taylor's book *The Biological Time Bomb* popularized the term “cloning”.

In fiction, the cloning process is portrayed in a variety of ways. Numerous fictional works depicted the process of cultivating cells from a tissue or DNA sample to create humans artificially. The reproduction might happen at once or gradually, as a human fetus grows in artificial wombs.

### **2.3. Transhumanist View of Human Enhancement and Technology**

Transhumanism as a philosophical and intellectual movement promotes improvement of the human condition by creating and making widely accessible advanced technologies that can significantly increase the average lifespan and improve cognitive function. Nick Bostrom (2005) asserts that transcendentalist impulses have historically been reflected in searches for the Fountain of Youth, the Elixir of Life, and other means of preventing aging and death, at least as far back as the quest for immortality in the Epic of Gilgamesh (1).

The Transhumanist Longevity Party, an international organization of those who support the advancement of scientific and technical means to significantly extend life, was founded in 2012 and currently has more than 30 national organizations around the world (Stambler).

FM-2030 in *Are You a Transhuman? Monitoring and Stimulating Your Rate of Growth in a Rapidly Changing World* (1989) is a personal calculator that may be used to assess one's progress in the rapidly evolving field of technology. The author's name was changed to reflect his optimism for the future. The name 2030 represents a future in which there is a good likelihood that people will have the ability to become eternal. According to him, creative people are those, “who fantasize and allow their fantasies to materialize in the real world” (66). Going beyond constraints and long-term planning are the main topics of his discussion on creative

people and inspiration for creativity. Future planning for FM-2030 involves innovation. He claims that in addition to creativity and imagination, one needs knowledge of several fields to make plans. He considers creativity to be something that helps people overcome their constraints. He refers to emotions as “low-grade intelligence” (70) while discussing them. Emotions are a result of evolution and have assisted humans in surviving, but as there is no complete or eternal truth, what was once regarded as important or necessary might not have the same worth now. He dismisses the necessity for emotions and asserts that they are not an indication of intelligence in the modern world.

Towards the end of the book, he refers to transhumans as the innovations of the late 20th century and provides a scoreboard to assess self-growth. He thinks that while they may not have modern lifestyles, they are unquestionably the first signs of “evolutionary beings” that cannot be classified as mere humans and who may evolve into posthumans in the coming century (149). He discusses resources, the transition from natural to artificial reproduction quickly, innovation, a boundless future, globalization, space exploration, the quest for physical immortality, and the search for extraterrestrial life. He claims that while the concept of immortality has been a barrier to excellence, biologists and scientists have discovered techniques to delay the aging process.

Ray Kurzweil in, *The Singularity is Near: When Humans Transcend Biology* (2005) has expressed a positive outlook on technological development. He discusses the mixing of people and technology. The technological singularity, according to Kurzweil, will be brought about by the rapid development of technology like genetic engineering, nanorobots, artificial intelligence, and robotics. In the future, a synthetic form of human intelligence will replace the biological one and become extremely effective. This period is known as the singularity. Humans will be able to transcend themselves and overcome biological limitations thanks to the advancements of this period. He discusses the civilization of the future and asserts that it is challenging to imagine a generation with a level of thinking that is significantly higher than ours. A better understanding of the relationship between fantasy and reality can be gained from Kurzweil's explanation of technology and magic. He emphasized how people have always thought about going beyond their biological boundaries. He refers to his teenage fascination with magic tricks and claims that he substituted it with technical things since technology still has transcendental power even when its secrets are revealed (20).

According to Kurzweil's concept of singularity, people will eventually transcend their biological origins and combine human intelligence with technologies that are more efficient and effective than those we have today, all the while being fully human. He predicts that technological advancement will occur so quickly and have such a significant impact on people that they will undergo an irreversible shift. Information-based technology will eventually encompass human intelligence and develop to the point where it can understand morality and feelings in people (23). Human creativity can be exceptional, yet the human mind has its limitations. Singularity will eliminate this restriction by enabling people to transcend their physical and mental limitations and take control of their fate, including their own lives and deaths. After the singularity, there won't be any more real or virtual, machine or human distinctions (25).

Jacob Shatzer in *Transhumanism and the Image of God: Today's Technology and the Future of Christian Discipleship* (2019) provides an explanation of the origins and impact of the transhumanist movement, which advocates for a subsequent stage in human evolution. By investigating subjects like robotics, artificial intelligence, medicinal technologies, and communication tools he looks at how daily technical advancements have already changed and are still changing the way we relate to one another and see the world. He aids us in better understanding the correct use of technology in the life of the disciple and avoiding the empty promises of a posthumanist vision by delving into the doctrine of the incarnation and its implications for human identity. Technology use today is inextricably linked to who we will be in the future.

The central idea of Shatzer's book is that we shape technology first, and subsequently technology “shapes us. And shaping people, after all, is just another way of talking about discipleship” (8). Therefore, “part of responsible, wise, faithfulness of tools is analyzing the ways that certain tools shape us to see the world in certain ways and then to ask whether those ways are consistent with the life of a disciple of Christ” (7). He argues that to combat the ways that modern technology tends toward a transhuman future, Christians must embrace it creatively and critically.

Once we design a technology, there is a persistent drive to maximize its use. He contends that our moral development is impacted by how our technology instruments shape us. These influence our interactions with others and our surrounding environment. They influence how we feel in control of the world and how we see our abilities. With the rise of

transhumanism, this is taken a step further as we consider employing technology to increase our mental capacity, physical stamina, and sensory perception. As technology advances, transhumanism gives way to posthumanism, which holds out the possibility of overcoming the restrictions of our physical bodies, as well as the restraint of death. He describes the progression of a transhumanist future. The first is the notion of morphological freedom, which holds that we have the right to change our physical characteristics to better realize our potential. The second is the notion of “hybronauts” or those who use technology to enhance their perspective of existence, whether via wearable devices or even certain smartphone features. Human beings and artificial intelligence are merging, based on the premise that our minds are a complicated network of data that may be stored biologically or digitally. The writer has not provided an insight into the perils of technology for humanity while I have tried to address all the possible dangers posed by technology in my research project.

Newton Lee in *The Transhumanism Handbook* (2019) provides a perspective of how we as humans might overcome existing dangers and the escalating global catastrophe. To prevent our planet and its inhabitants from being obliterated by human activity and natural disasters, transhumanism creates innovative existing technologies and supports policies. Transhumanism predicts the future of humanity through re-evaluating and reappraising humans from the past to the present. It addresses truth, knowledge, and existence and provides a cultural appreciation of how people have used technology in their lives. It offers methods for monitoring how technology is reshaping society and explores the ethical ramifications, challenging societal conventions. Lee believes that everyone uses science and technology to improve or change their body chemistry to maintain good health and have more control over their lives. To varied degrees, all of us are transhumanists (5).

It is believed that aging can be stopped and death is not inevitable. The human situation is improved by the usage of artificial intelligence. Environmental risks can be eliminated using nanotechnology, and diseases can be controlled by genetic engineering. Lee gives details that there are restrictions on these claims, such as those imposed by law, rules, and religion, and goes on to say that people are natural explorers who relish challenges to solve issues and discover the unexplored to get over these specific restrictions.

## **2.4. Ethics of Human Cloning**

Lane P. Lester and Fleming H. Revell in *Human Cloning: Playing God or Scientific Progress?* (1998) discuss their opinion on the ethical issues and scientific advantages of human

cloning. In the beginning, the authors provide a chronology of cloning, from the 1952 creation of frogs from asexual tadpole cells through the more recent cloning of Dolly the sheep by Scottish researchers. Lester and Hefley describe the biological process of cloning and make the bold assertion that in the future, cloning will take the role of human sexual reproduction. The writers contend that God created mankind in his image and that this act was a necessary component of God's plan for humanity. The authors contend that cloning humans would be like playing God. They also talk about artificial reproduction, scientific breeding, and genetic testing in addition to cloning. They argue that scientists can be classified as mechanists, theists, or agnostics. According to this classification, theistic scientists contend that God designed the universe and instructed others that life is holy and that God's creation of the universe serves some higher purpose.

Dan W. Brock (1998) in his research paper, "Cloning Human Beings: An Assessment of the Ethical Issues Pro and Con" has put forward his viewpoint that the ethical arguments in favor and against human cloning are adequately balanced and ensure that there is not an ethically critical case either for or against allowing it or performing it. Brock is certain that the approach to human cloning can be brought within a moral right to freedom of reproduction, but the conditions in which its usage would have noteworthy advantages emerge at this time to be insufficient and intermittent. It is not an essential constituent of a moral right to reproduce with freedom, and it provides no main individual or social desires. The researcher is of the view that human cloning does not violate any moral or human rights. But it does risk some substantial individual or social troubles, even though most are established on common public misperceptions about human identity, genetic determinism, and the effects of human cloning. Because most ethical reasons against human cloning remain unpredictable, they seem to be inadequate to permit a thorough legal ban on either research on or the use of human cloning.

Loredana Terec-Vlad and Daniel Terec-Vlad (2013) in their research paper, "Ethical Aspects within Human Cloning" have tried to draw attention to several risks that humanity may face if reproductive cloning is permitted to enjoy the rights that would result from both universal legalization and general consent. Researchers are of the view that all social spheres have objected to the concept of creating a person who is genetically similar to another. The following ethical dilemmas are brought up by this contentious topic: Will science be able to produce a superhuman with superior intelligence and consciousness? and will man employ science to subjugate the entire human species, raising the possibility of a return to the era of slavery? Cloning people includes a variety of varying factors related to legal, ethical, scientific,

medical, and religious concerns which differ from one culture to another. For instance, in regions with a majority of Christians, the belief that “God created man in his own image” (922) is invoked, and any attempt to produce a human being in a laboratory violates this belief is considered blasphemy and disrespect to God. Researchers have concluded that human beings should not be viewed by genetic engineering researchers as study subjects under the disguise of “improving the quality of life” (923), but rather as Subjects themselves. Also, both therapeutic and reproductive cloning should be viewed as immoral from a bioethical, legal, and religious perspective.

## **2.5. Human Cloning in Films**

Cloning is a controversial topic, but there are some films about clones that have been produced over the years that have presented some interesting issues and can help people decide whether or not they want to support it. Clone movies are an extremely popular subgenre of science fiction that shows what it will be like to live with someone who looks perfectly like us. The most common theme of cloning movies is what exactly it means to be a human. Others use clones to convey narratives about identity and how our genetic makeup shapes who we are as persons. Clones are instead used in other movies to examine the moral and legal consequences of scientific research.

Bob Wynn’s science fiction movie *The Resurrection of Zachary Wheeler* was released in 1971. Even though the concept wasn’t used officially, this movie was among the first to show the misuse of cloning for medical purposes. Zachary Wheeler, a US senator, is nearly killed after a car accident. Television news reporter Harry Walsh witnessed this accident. Wheeler is reportedly on a fishing trip the entire time, and Walsh reports the accident on that evening's newscast and is fired for telling the fake tale. When Walsh discovers that Wheeler has been sent to an undisclosed medical center in the New Mexico desert, he decides to continue his investigation. In the meantime, Wheeler has been brought back to life with the assistance of Dr. Layle Johnson and discovers that his life was saved by a top-secret cloning procedure used by numerous highly powerful individuals in the US government who create such Clones for organ harvesting.

Wheeler shows disgust after knowing about the cloning and questions the ethics of the procedure with Dr. Johnson, who ultimately deceives him when he tries to make the situation public. Walsh’s attempts to disclose the project are unsuccessful, and he is eventually



kidnapped and appears to have died. It is not quite apparent from the ending of the film if Senator Wheeler himself survived or was replaced by a clone of him.

In 1978, Franklin J. Schaffner directed the thriller movie *The Boys from Brazil*. *The Boys from Brazil* shows concern about human cloning even though all it produces is a baby with a similar appearance and different tendencies. The Nazi survivors start a huge project to create new Hitlers, cloning 94 embryos from the German dictator's cells and carrying them to delivery by volunteers. They set out to provide the care in hopes that the children will have Hitler's nature. They give the infants to families that resemble Hitler's. Mengele gives the order to kill all 94 dads to mimic Hitler's upbringing and leave the little proto-Hitlers fatherless at the same time as their ancestors. The Nazis are trying what they can to recreate the environment that produced Hitler, but without subjecting the new Hitler to trench warfare, poison gas, and economic collapse, their efforts are likely in vain. Towards the end of the movie, the moral is delivered by Liebermann to the furious leader of an organization to whom he has refused to hand over a list of clones for extermination: "Killing children, any children's wrong. Jews didn't 'let' it happen Nazis made it happen."

It is not possible to find any dinosaurs today because they became extinct millions of years ago. A dinosaur might, however, be created and cloned using materials or species that were available when dinosaurs were alive. The concept of breeding and cloning dinosaurs by fixing their DNA and bringing them into the twenty-first century is explored in the movie *Jurassic Park*. In the film, dinosaurs were cloned by scientists who discovered dinosaur blood in mosquitoes that had been preserved in amber. They cloned the dinosaurs for their park using the DNA found in the blood.

Steven Spielberg directed the science fiction action movie *Jurassic Park* in 1993. The movie takes place on the fictitious island of Isla Nublar, which is situated off the Pacific coast of Central America close to Costa Rica. There, a group of genetic scientists and wealthy businessman John Hammond have built a dinosaur wildlife park. A small group of guests and Hammond's grandchildren battle to survive and flee the dangerous island after industrial sabotage causes a catastrophic collapse of the park's electrical facilities and security measures. However, *Jurassic Park* is about more than simply dinosaur-related disasters; it's also about whether or not people have the authority to act as deities. When our scientists interfere with nature's business, nature responds by fighting back.

*Moon* (2009), directed by Duncan Jones, takes viewers to the year 2035, where Sam Bell has just three weeks remaining on a three-year contract after living in total solitude in space. He has not had any company except for an AI, and he is desperate to get home. Most of the time he talks to himself and his plants because he hasn't had enough communication with Earth. After an incident, he starts to ponder that he might not be the only one in the space station. On the verge of going insane, he finds a clone of himself in the station with him. He makes a remarkable discovery that teaches him they are both clones of an original Sam.

Sam's cloning in *Moon* was unethical for several reasons. Firstly his dignity was threatened because he was denied access to basic human rights and information about the entire scenario. Secondly, he was not able to develop a distinctive identity. He was given a minimum amount of autonomy by Lunar Industries, which lied to him and was unconcerned with his well-being. Lastly, he experienced isolation because of not having a real family.

## **2.6. Representation of Human Cloning in Literature**

Aldous Huxley's *Brave New World* (1932) is set in a dystopian World State whose inhabitants are organized into an intelligence-based social order through environmental engineering. The novel foreshadows significant scientific developments in psychological manipulation, reproductive technology, and classical conditioning that when combined, establish a dystopian society. Huxley depicts a highly advanced society where people can be cloned or grown in a lab because natural birth is no longer practiced. In the novel, the caste system governs society that places Alphas at the top, followed by Beta, Gamma, Delta, and Epsilon at the bottom. Each class has a distinct goal, and its participants are conditioned accordingly. Alphas, for example, are the most prominent citizens and intellectual leaders, while lower classes are forced to live simple lives and work menial labor. During the conditioning process, even their physical proportions are changed, resulting in, for instance, adult Alphas being taller and much more physically appealing than other classes. All these modifications are made by feeding various drugs to lower-class embryos to adversely affect their development. All classes other than the Alphas and Betas are being cloned. Accordingly, the facility is capable of generating up to 100 identical twins from a single human egg.

In Kazuo Ishiguro's *Never Let Me Go* (2005) clones are deprived of their freedom from the moment of their birth, lacking any sense of identity, family, or even belonging. From the moment of their birth, these clones' true identities have remained a mystery due to the absence of any biological relatives, which causes identity confusion. Clones are informed at a young

age that their purpose in life is to donate organs till death. They never decide to flee from an inevitable fate, instead choose to accept the situation in silence. In this way, throughout their adult life, they are constantly aware of their impending demise. Their brief existence after learning of their fate is accompanied by stress and fear of insecurity.

The *House of the Scorpion* (2002) by Nancy Farmer is a coming-of-age story about Matteo Alacran, a clone whose DNA is taken from the ruler of Opium, a country situated somewhere between Mexico and the United States. He strives to discover his place in the world and his unique personality apart from that of a clone. In Opium, clones have only one function and that is to extend the lifespan of the humans whose DNA they contain by acting as a source of replacement parts. The brains of most other clones are destroyed at birth, but El Patron instructs that Matt's brain should not be harmed. At the beginning of the story, Matt is unaware of any of these things. But when he moves to El Patron's mansion, where he is treated more like a beast than a person, he recognizes for the very first time that he is unique from other people.

Because of medical developments, Dictator El Patron can live for almost 140 years, but only at the expense of lying and constantly fearing death. The widespread misuse of science in Opium shows how, when one ignores the underlying morals and ethical costs of progress, scientific innovations can have terrible results. Opium makes clones solely for the goal of extracting their organs. As a result, powerful individuals like El Patron can enjoy lengthy lives, but the clones suffer greatly and eventually pass away.

## **2.7. Primary Texts**

There hasn't been any significant research done on *The Lost Girl* by Sangu Mandanna and *Constance* by Matthew FitzSimmons because they are very recent. For this reason, I could not find any research on them only book reviews.

### **2.7.1. *The Lost Girl* (2012)**

Wendy Darling (2012) in her review of *The Lost Girl* says that it is a thoughtful, impactful story about the worth of human life while addressing some intriguing ethical issues. Many books address cloning, but what makes this one so unique is the psychological aspect because Eva's entire self and identity, rather than just her organs are being taken. One of the best things about this book is the way the science-fiction components are handled. The people who create these echoes are known as Weavers in the novel, and they are depicted in a magical

and enigmatic way. It has a similar tone and feels to the movie “Children of Men”, and the book is written similarly to some of Bradbury’s futuristic novels in which ordinary people are presented in unusual situations rather than a magical, technologically advanced setting with some ordinary people in it. From Eva herself to her strict guardian Mina Ma to her brother Nikhil to her classmates, every character left a lasting impression. This book is a magnificent elegy for individuals who have passed away, a lament for those who have been abandoned, and a sad cry for the people whose very existence has been denied.

### **2.7.2. *Constance* (2021)**

Sarah Lyall in her review of *Constance* has labeled the protagonist of the novel as a “simulacrum” because she is the clone and is investigating the mystery of her death. For Sarah, this novel is “a busy action story with moments of unexpected depth”. She is of the view that *Constance* encourages us to think about the philosophical, legal, and ethical consequences of cloning and scientific progress in general. The rate of error in the process of making a clone is “.0000004536 percent” but Con is unlucky because her clone has many inaccuracies. One of several errors in her case is that her clone has been online for too long since her last download, creating a memory gap and possibly condemning her to breakdowns both mentally and physically due to data corruption.

The discussions around cloning in the novel are reflective of many of our current concerns, including skepticism of science, strong suspicion of others who have different opinions, and conspiracy theories. The story unfolds into a complex mixture of deceit, lust for power, blackmail, and greed. It takes a while to determine who the evilest person is. The writing of a novel with a strong plot may be predictable but FitzSimmons has a sharp sense of description. A doctor has a face that is “gaunt, merciless, and looks like it had been buffeted by the relentless ineptitude of everyone around her”, and is “thin as a railroad spike”. The heroine's name, Constance, parallels the book’s concerns regarding the continuity of thought and the location of personhood. In the story, the Supreme Court is ready to rule on whether a clone meets the legal definition of a person. Is it desirable to live beyond death if it is possible? Many clones commit suicide because they are misunderstood and feared, and they are plagued by an enduring sense of being partial. Sarah in her book review has talked about ethical concerns raised by human cloning however she has ignored the psychological and social consequences of it.

Mogsy (2021) in her book review, mentions *Constance* as a high-concept and sophisticated blend of dystopian sci-fi, action thriller, suspense, and mystery that is ideal for fans of the wild energy and fast-paced action films. Briefly said, the novel appeals to a wide audience and can be appreciated by both sci-fi lovers and readers who may have little prior exposure to the subject. The setting and character development by Fitzsimmons are extraordinary. Several ethical and philosophical topics have been addressed in the book in an interesting, thought-provoking approach. Con's journey tackles what it is to be a human while negotiating a world that is still largely hostile towards clones. Additionally, there are the effects of cloning technology on individuals and society as a whole, not to mention the damage it would cause to our judicial system. Like most dystopian fiction, the plot also addresses the stark differences between socioeconomic groups and also speculates on the ethics of cloning. *Constance* also has a complicated plot that demands much concentration because things might become fairly muddled, especially near the end. Mogsy's review of the novel is general in nature because she has not paid much attention to all the ethical, social, and psychological concerns caused by human cloning.

## **2.8. Research Gap**

In this chapter, I have reviewed several works from the broad area of medical science, science fiction, transhumanism, ethics of human cloning, human cloning in films, and human cloning in literature, which has allowed me to identify the gap in the existing research in this area and to situate my research. The review shows that this research project is different from the above-mentioned research works because firstly the primary texts under study are not much researched and secondly it presents an ethical critique of transhumanism as the researcher attempts to discuss the ethical and societal impacts of cloning on humanity depicted in Mandanna's *The Lost Girl* and FitzSimmons' *Constance* by carrying out a transhumanist critique using the lens of Leon Kass' theory, "Ethical issues of Human Cloning", and Max More's views on "Extropianism". Therefore, the present study of investigating the selected texts from extropianism, ethical, and social angles is an unexplored gap in research to the best of my knowledge, and investigation is required in this area.

## CHAPTER 3

# THEORETICAL FRAMEWORK AND RESEARCH METHODOLOGY

### 3.1. Introduction

The previous chapter, Literature Review, has given me critical insight into my theoretical framework, and I am now able to explicitly discuss the theoretical lens for analyzing primary texts in this chapter. In addition to discussing the theoretical framework, this chapter also discusses the research methods and methodology that I have used for this research.

### 3.2. Theoretical Framework

In order to carry out a transhumanist critique of the selected contemporary science fiction texts I have built the theoretical framework using Max More's ideas on Extropianism contained in his book *The Transhumanist Reader: Classical and Contemporary Essays on the Science, Technology, and Philosophy of the Human Future* (2013) and Leon Kass' ethical notions of human cloning presented in his book *The Ethics of Human Cloning* (1998). Critique of transhumanism falls into two categories i.e., practical critique and ethical critique. In practical critique, critics object to the transhumanist goals being achieved. While in ethical critique, critics object to the moral principles of transhumanism. The researcher in this research stands with the ethical critique as she tries to investigate the ethical and societal concerns raised by the incidence of human cloning in the primary texts i.e., *The Lost Girl* and *Constance*.

### 3.3. Transhumanism

As a cultural movement transhumanism promotes the development of a being that has power over general capabilities much more than what is now possible without using technological methods. The objective of the transhumanists is to develop a new species of humans that can overcome the constraints such as aging, diseases, reproductive issues, and disabilities, placed on us by our biological limitations. Some people find this potential exhilarating, while others find it dreadful. The goal of transhumanism is to create posthumans through genetic engineering that have greatly prolonged lifespans, access to potentially infinite amounts of intelligence, and a constant state of psychological well-being. One of the propounders of transhumanism, Max More (1996) explains that Transhumanism is a class of

philosophies that seek to guide us toward a posthuman condition. It shares many elements of humanism, including a respect for reason and science, a commitment to progress, and a valuing of human (or transhuman) existence in this life rather than in some supernatural "afterlife". It is a philosophy of life, a cultural and intellectual movement, and a field of research, the emphasis is on the philosophical complications that support the transhumanist development.

Another point of view on Transhumanism is presented by a famous transhumanist philosopher Nick Bostrom:

Transhumanism is an outgrowth of secular humanism and the Enlightenment. It holds that current human nature is improvable through the use of applied science and other rational methods, which may make it possible to increase human health span, extend our intellectual and physical capacities, and give us increased control over our mental states and moods (13).

Transhumanism undertakes the probability of constructing an optimistic future and attempts to retain trust in reasoning human creativity and desires for the enhancement of the human condition. Transhumanists believe that humans have the ability to overcome restrictions of their nature through technology. The uniqueness of transhumanism is highlighted by More in the following words:

Trans-human emphasizes the way transhumanism goes well beyond humanism in both means and ends. Humanism tends to rely exclusively on educational and cultural refinement to improve human nature whereas transhumanists want to apply technology to overcome limits imposed by our biological and genetic heritage. Transhumanists regard human nature, not as an end in itself, not as perfect, and not as having any claim on our allegiance. Rather, it is just one point along an evolutionary pathway and we can learn to reshape our own nature in ways we deem desirable and valuable. By thoughtfully, carefully, and yet boldly applying technology to ourselves, we can become something no longer accurately described as human – we can become posthuman. (4)

Transhumanist discourse is clearly focused on the accomplishment of human improvement. M. More debates that humankind should try to overpower the biological restrictions, according to him:

[Humans] are Transhuman to the extent that we seek to become posthuman and take action to prepare for a posthuman future. This involves learning about and making use of new technologies that can increase our capacities and life expectancy, questioning common assumptions, and transforming ourselves ready for the future, rising above outmoded human beliefs and behaviors (33).

In 1989, More established 'Extropianism', an egalitarian way of advancing human enhancement technologies that concentrated on democracy, individual rights, and the quest for constant development for the entire humanity. Extropians wish to extend their life span close to an immortal state. He thus defines Extropy as a way of searching for intelligence, sagacity, and efficacy as well as the elimination of any limiting agents be they political, cultural, or biological, etc.

"(Extropy) is seeking more intelligence, wisdom, and effectiveness, an open-ended lifespan, and the removal of political, cultural, biological, and psychological limits to continuing development".

Extropian Institute was established in 1991 to advance the extropian philosophy and encourage the use of technology to overcome physical constraints. The transhumanist philosophy known as extropy is currently accepted on a worldwide scale ("Extropy Institute Mission"). In an essay from 1990, More argues that extropianism is a step beyond humanism toward the "evolutionary future" (More). In order to promote the ideas of extropianism and transhumanism More in collaboration with Tom Bell founded *Extropy: Journal of Transhumanist Thought*, now known as *Extropy: Journal of Transhumanist Solutions*, under the name *Extropy: Vaccine for Future Shock* in 1988.

According to More, extropian transhumanism has immense worth and provides humanity with the opportunity for transcendence and adds value to life. In the essay "Transhumanism: Towards a Futurist Philosophy" (1990), he says that the Extropian philosophy observes us from within and goes beyond, showing "a brilliant vision of our future [through] the process of improvement and transformation of ourselves into ever higher forms". He suggests that we will "outgrow our current interests, bodies, minds, and forms of social organization".

In "A Letter to Mother Nature" (2013), More writes that it is time to make amendments to the human constitution because humans will engage in a sequence of changes to their own constitution which was commenced with the mechanism of biotechnology directed by creative



and critical thinking. Specifically, More announces seven improvements to the human constitution, which include:

- a. longer life span and vitality
- b. acquiring control of our genetic functioning
- c. mastering our biological and neurological processes
- d. progressively incorporating the latest technologies into our bodies

While addressing the issue of aging, More asserts that people will not endure the domination of aging and death much longer. “Through genetic alterations, cellular manipulations, synthetic organs, and any necessary means, we will endow ourselves with enduring vitality and remove our expiration date” (450).

More believes these modifications to the human constitution will modify us from a human to a posthuman state. All these modifications are taken from biotechnology, nanotechnology, cognitive science, and information technology by means of cryogenic freezing, artificial intelligence, genetic engineering, and machine automation. The principal tenet of transhumanism is that mankind is in the process of evolving into its next stage. Radical technological changes to the body and mind will lead to abilities that are currently not possible.

In *Principles of Extropy* (2003), Version 3.11, More writes that these principles do not present the absolute philosophy of life. He claims that these handful of principles tend to define a developing framework in order to approach life in an effective and rational manner. Also, these principles are flexible enough to be revised in accordance with reason, science, and the endless quest for improvement.

More announces seven principles for the improvement of the human condition, which include:

- a. **Perpetual Progress** i.e. improving oneself intellectually, psychologically, and physically.
- b. **Self-transformation** which involves becoming better than we are by keeping in mind our current worth.
- c. **Practical Optimism** that entails attempting to achieve our values in this world rather than living an empty life fueled by illusions of an afterlife.
- d. **Intelligent Technology** brings about practical strategies to use in order to achieve the objectives of increased intelligence, better physical capabilities, psychological development, social advancement, and everlasting life spans.

- e. **Open Society** which involves rejecting utopian notions of perfect society rather than embracing the variety of beliefs, lifestyle choices, and problem-solving techniques.
- f. **Self-direction** means having a clear purpose and goal in life.
- g. **Rational Thinking** that comprises resisting blind faith as well as the inert thinking that leads to doctrine, obedience, and rigidity.

The researcher has chosen only four of the seven principles because they are directly relevant to the research topic and they also align well with the theoretical framework and concepts that the researcher has mentioned in this study. The four principles that are taken into consideration for the analysis of the selected texts are the principles of intelligent technology, perpetual progress, rational thinking, and open society.

Transhumanists want to eliminate the suffering that results from human limitations by eliminating obstacles like death, ignorance, and psychological distress. The supreme goal of transhumanism, according to Ray Kurzweil, is the desire to overcome all human limits by bringing about the posthuman. He sees this as the fundamental purpose of humanity: to always say "more" to the point where, in 2045, the technological singularity will enable the creation of a posthuman successor. In light of the fact that our current human limitations preclude us from even beginning to comprehend the posthuman future, Kurzweil declines to make explicit predictions beyond 2045. Although Kurzweil thinks one may make meaningful predictions about the post-Singularity, we simply cannot see beyond its event horizon and fully understand what lies there (29-30).

"Morphological freedom" is a transhumanist belief that asserts there shouldn't be any limitations on using technology to change oneself. Morphological freedom extends beyond the body's passive upkeep, such as medical recovery after an accident. Instead, morphological freedom advocates for the dynamic addition of human potential by way of technological advancement and maintains that people should be free to use technology to constantly re-engineer themselves in any way they see fit (Sandberg 56). Morphological freedom is supported by the notion that recreating oneself as a posthuman is conceivable. Sandberg asserts that humans are "technological beings" who need the tools and resources necessary to thrive. For he says, "If my pursuit of happiness requires a bodily change- be it dying hair or changing my sex- then my right to freedom requires a right to morphological freedom (57). This suggests that Positive morphological freedom is vital to guarantee continuous progress. New forms of self-expression are made possible by technology, and as a result, there is a demand for the

freedom to engage in them as a means of self-actualization. In this sense, self-actualization, according to Sandberg, is the actualization of one's transhumanist ideals: we demonstrate the virtue of being posthuman by becoming ourselves. However, there are certain issues with combining self-actualization and constant advancement.

While transhumanists welcome the enhancement of the human mind and body, there is another set of thinkers who are considered anti-transhumanists as they argue against all types of human enhancements because they consider the upgradation of human life and intelligence as God's play. This set of thinkers is known as bio-conservatives and their philosophy is bioconservatism.

### **3.4. Bioconservatism**

Bioconservatism is a stance of caution regarding technological development and resistance "to the genetic, prosthetic or cognitive modification of human beings in particular". Bioconservatives are against medical and other technological interventions into the "current human and cultural limits in the name of a defense of 'the natural' deployed as a moral category" (Carrico). In 2004, rhetorician Dale Carrico introduced the term "bioconservative." He proposed it as a more accurate terminology for an "anti-transhumanist" stance.

Bioconservatives outrightly reject the idea that humankind can be improved by being transformed into posthuman nature. Two things worry bioconservatives: first, the development of a posthuman species might weaken human dignity, and second, being posthuman itself could be dehumanizing. It was Francis Fukuyama who labeled Transhumanism as the world's most dangerous idea in 2004. His biggest work on the issue, *Our Posthuman Future: Consequences for the Biotechnology Revolution* (2004), examines how transhumanism could threaten democracy by challenging what it means to be a human. Fukuyama rejects transhumanism on the basis that extreme human improvement inevitably conflicts with established legal and political rights. According to Fukuyama, the basis for dignity and equality is an undefined shared human nature. His concept of human essence is what he refers to as "Factor X", an elusive yet essential human trait that deserves at least a minimal amount of respect. It is merely what is left after all contingent human features are taken away. Factor X is that sign of some special characteristic of humanity that provides for quite a superior moral position. In this process, human dignity is a characteristic that is threatened by the rise of posthumans.

He is making an effort to explain that dignity, in whatever form it may take, is given, not created. This implies that the bioconservative concern is not that posthumans might have moral standing and hence dignity. Instead, the concern is that it would result in a posthuman morality based on the difference between the ‘born’ and the ‘made’, which is in contradiction to human dignity.

When Fukuyama talks about Factor X, he refers to how the human condition is given, a “free gift from nowhere” that’s brought about by humanity alone and not by culture (156). Therefore, Factor X’s main argument is rhetorical as it seeks to give a human perspective that recognizes that human complexity cannot simply be reduced to a manipulable materialist theory. Fukuyama draws an analogy with the ecosystem, emphasizing that, like people, its complexity prevents complete comprehension. As a result, when it comes to significant changes, there is a higher likelihood of harm than benefit. He reaches the conclusion that the state should be utilized cautiously to control, minimize, and outright prohibit various means of human improvement when it comes to posthuman technologies (10). In this regard, Leon Kass is among those bioconservatives who worry about human enhancement and the threat it poses to human dignity. He gives special attention to human cloning which is one of the most crucial transhumanist developments of our time. In his book, *The Ethics of Human Cloning* (1998), he argues that we must support a universal ban on human cloning because it is an insult to both human dignity and morality.

### **3.4.1 Leon Kass**

Being a bioconservative, Kass denounces human cloning, claiming that “programmed reproduction of man will, in fact, dehumanize him” (6) and then while citing Dostoevsky and *Crime and Punishment*, states, “As Raskolnikov put it, Man gets used to everything —the beast!” (8). In an attempt to make people believe that human cloning is morally wrong and permitting it, will lead to worse consequences, Kass writes, “Thanks to our belief that all children should be wanted children (the more high-minded principle we use to justify contraception and abortion), sooner or later only those children who fulfill our wants will be fully acceptable” (33). He claims that when people hear about cloning, their initial reaction to it is that they find it, very offensive, grotesque, revolting, repugnant, and repulsive (17). This shows that many aspects of human cloning repel people at large as they recoil from the prospect of the mass fabrication of human beings, with large clones of look-alikes, that compromise

their individuality (41). This is a cause of concern, and Kass worries about human cloning not merely as a reproductive issue, but about humanity at large.

Human cloning, though it is in some respects continuous with previous reproductive technologies, also represents something radically new, in itself and in its easily foreseeable consequences. The stakes are very high indeed...whether human procreation is going to remain human, whether children are going to be made rather than begotten, whether it is a good thing, humanly speaking, to say yes in principle to the road that leads (at best) to the dehumanized rationality of *Brave New World*". This is not business as usual, to be fretted about for a while but finally to be given our seal of approval. (36)

Keeping the above quotation in mind the gravity of the issue at hand becomes more apparent. In this matter, he seems to suggest that the disgust most people feel about cloning human beings should be respected in the same way their detested thoughts of "incest" and "cannibalism" are respected. For Kass hardly anyone takes into account any of the suggested reasons for human cloning as compelling; mostly people anticipate its possible misuses and abuses" (18).

The idea of father-son or mother-daughter twins; the bizarre prospects of a woman's giving birth to and rearing a genetic copy of herself, her spouse, or even her deceased father or mother; the grotesqueness of conceiving a child as an exact replacement for another who has died; the utilitarian creation of embryonic genetic duplicates of oneself, ... man playing God. (41).

Accordingly, it moves to the view that cloning would be harmful to the family dynamic, children, and the process of human reproduction. Kass debates that sexual reproduction is recognized by nature and is a practice that should not be affected by human design. He insists that cloning represents "an unethical experiment upon the resulting child-to-be" (55). Thus cloning seems to act as a threat to individuality and creates confusion about identity. The cloning of human beings symbolizes a giant step in the direction of transforming reproduction into manufacturing and forcing children to become products of human desire rather than a result of a loving family.

By using the parameters of these two opposing theories propounded by More and Kass, I have carried out a transhumanist critique of the selected texts and made a study of the ethical questions surrounding the issue of human cloning.

The researcher has followed the following steps while applying theory to the selected texts:

- a. The first step is the selection of an appropriate theory that aligns with the research topic and aligns with the aims of the study. The selected theories have their relevance to the research questions and have the ability to provide insights into the text under analysis.
- b. After choosing the relevant theories the key concepts, principles, and methodologies associated helped in building the framework for the research within the parameters of which the analysis was carried out.
- c. The key concepts, ideas, and terms from the chosen theories have served as analytical tools to explore, examine, and interpret the texts within the theoretical framework.
- d. The relevant excerpts or textual examples which demonstrate the presence or workings of these theoretical concepts in the text are discussed.
- e. After extracting relevant passages and sentences the researcher has critically analyzed them in the light of selected theory.
- f. At the end, the researcher has concluded the analysis by reflecting on the findings and synthesizing the relationship between the selected texts and the applied theory.

### **3.5. Research Method**

The researcher has made a transhumanist critique i.e., an ethical critique of *The Lost Girl* and *Constance* as she aims to address the ethical questions surrounding human cloning. The researcher has used a qualitative research approach, specifically textual analysis, to analyze primary texts. The researcher has taken specific lines and paragraphs from the selected texts for the analysis.

#### **3.5.1 Textual Analysis**

In this research textual analysis is carried out to examine and interpret texts through the inspection of their structure, style, content, purpose, and hidden meanings. Catherine Belsey, in her essay "Textual Analysis as a Research Method" (2005) has explained that textual analysis focuses on how a text affects the reader or interpreter. While interpreting primary data, the reader or interpreter attempts to develop a new viewpoint; information from other people may harm rather than help with this. The researcher's own conclusions are given more weight, but

this also leaves room for additional investigation and analysis of the chosen texts rather than arriving at a definitive conclusion about their meanings. As a result, the researcher has chosen textual analysis as a research method because it supports open-endedness over close-endedness. Textual analysis focuses on the text, the audience it addresses, the environment in which it is written, and how it affects the reader, critic, and interpretation. Belsey asserts that whereas most readers focus on the well-known or readily apparent information in a text, a researcher must seek out the previously undiscovered facts and highlight something new in the text. Texts are designed for readers to read, and reader thought is always a possibility. A text can convey a variety of meanings to the reader. The functions of the reader, interpreter, and critic are superordinate, and the interpreting of a text "involves extratextual knowledge" in addition to focusing on textual knowledge (160). Extratextual information is learned from the text's context and it aids in presenting fresh study directions.

Textual analysis is a widely used research methodology in literary studies due to its ability to provide deep insights into the nuances and intricacies of literary texts. The rationale behind selecting textual analysis as a research method for this study is that:

- a. It has promoted critical engagement with the text and allows researchers to employ various literary theories to examine and analyze different aspects of the texts under study.
- b. It has provided an opportunity to support the claims and arguments through rigorous examination of the text, enabling the researcher to present a robust and well-substantiated analysis of the selected texts.

### **3.6. Conclusion**

The present study falls under the category of exploratory research and has used textual analysis as the research method. Textual analysis is used to understand, describe, and interpret the selected texts by employing Leon Kass's Ethical Theory and Max More's notions on Extropianism. Kass's theory of "ethics of human cloning" has enabled the researcher to trace and analyze the texts for the ethical questions regarding human cloning and its effects on human dignity while More's ideas on extropianism have helped the researcher to find out why humans of contemporary society want to live longer than the normal life span. I've done a textual analysis of the chosen primary texts in the next two chapters, bearing in mind my research questions, after describing the theoretical framework and research methods.

## CHAPTER 4

### Extropianism and Human Cloning

Extropianism views the technology of human cloning as a progressive process enhancing and refining the human condition. Several Sci-Fi works dealing with the subject of human cloning have portrayed the promotion and negation of human cloning. In this regard, the selected contemporary sci-fi novels *The Lost Girl* (2012) and *Constance* (2021) by Sangu Mandanna and Matthew FitzSimmons respectively provide much-needed material to study the strategies through which transhumanist concerns are depicted in works of literature.

In this chapter, I address the 1<sup>st</sup> research question to examine the desire of most of the human beings of contemporary society (technologically advanced society) to have an extended life than the normal human limit and the strategies through which transhumanist concerns are depicted in the selected texts. For this purpose, I have used the philosophical notions of Max More on extropianism.

#### 4.1. Extropianism

Extropianism being part of transhumanist philosophy believes in continuously improving the human condition and pushing mankind forward to the posthuman state. The term ‘posthuman’ or ‘post-human’ refers to a person or entity that exists in a condition that is different from that of a human being and has roots in the realms of philosophy, futurology, science fiction, and contemporary art. The idea seeks to address several issues, such as language and trans-species communication, ethics and justice, and social systems. Extropians challenge the inevitability of aging and death and seek continuous improvements in the intellectual abilities, physical capabilities, and emotional well-being of humans by using science and technology. Being science fiction novels, *The Lost Girl* and *Constance* contain many features of transhumanist theory. Character Perspective is the strategy through which transhumanist concerns about human cloning are depicted in the chosen texts. In order to find out the transhumanist concerns I have used extropian principles because extropianism is a sub-category of transhumanism. Given below is the analysis of the novels according to the extropian principles. It addresses the first research question that deals with exploring the strategies through which transhumanist concerns in the novels are depicted.

##### 4.1.1. Intelligent Technology



The principle of intelligent technology sees science and technology as vital sources for the achievement of big goals, ambitions, and ideals, as well as the evolution of humanity. Extropians believe it is the responsibility of every individual to adopt “these disciplined forms of intelligence” (More) which leads them towards the removal of obstructions for the development of extropy. With the help of science and technology, extropians aim to achieve “indefinite life spans” (More). In the selected novels cloning technology is used to deal with the loss of human life by providing a replacement in the form of a person’s clone or echo.

In this regard, Mandanna presents the Weavers in *The Lost Girl*. The Weavers, a biotech company, creates ‘echoes’, which are duplicates of actual people, for those who find even the thought of losing their loved ones very excruciating. People, “who can’t bear the idea of losing somebody they love, can ask the Weavers to make their echo(s)” (Mandanna 6). When their originals die and if they are “wanted” then the echoes “replace them” (6). Thus the Weavers can be seen as making endeavors to challenge and overcome the natural process of death which is viewed as the end of life. They are the transhumanists who want to enhance the human condition through technology. They want to give humanity a bright future where they will no longer be afraid of death and of losing their loved ones. They have made echoes who can replace people after they die.

The Weavers are shown in the novel to be making echoes for the last “two hundred years” (40). Initially, they used to make them “secretly”, but with time as more and more people felt the need to have replacements in the form of echoes for their loved ones, the Weavers became “part of the ordinary world” (40). To convince people that they want to make their lives better with the technology they “keep up appearances” rather than work in the “dark” (54). As their strategy to project a positive image, “They do interviews every year so that people will think they’re normal. Respectable. Trustworthy” (54). Those people who approach the Weavers no longer want to be slaves of nature. For them, aging and death are problems and they seek solutions through technology because in their opinion it has the power to solve these issues.

The Weavers believe they are serving a good human purpose by making echoes. They are proud of their creations because, they assume that they have solved the problem of death, by “[breaking] one of the greatest barriers set on humankind” (253) and the people would no longer have to face the pain of dying and losing their loved ones. Sir Matthew, Eva’s creator states “I...still take pride in the act of stitching a life” (81). The Weavers provide an “illusion”

to the grieving families that their loved ones are “still here” and this is done by making the echoes learn all the things their “others” do (71).

Technology is an “expression of human intellect and will, of creativity, curiosity, and imagination” (More). Weavers believe technology has given them enough power to alter human nature and bodies. They use modern technology to create echoes. When the weavers make an echo they put some “cells” and “consciousness” of the original into it (168). In this way, “a small part” of the original is always part of an echo which is why in their sleep, they dream of their ‘other’s’ original life (168).

Similar to the Weavers, the Palingenesis in *Constance*, a clinic, established in “2019”, uses technology to make clones for people who are afraid of death (61). Collins Dictionary defines Palingenesis as ‘a new birth’ or ‘regeneration’ and is used in a variety of contexts in biology, politics, theology, and philosophy. Its meaning derives from the Greek words ‘Palin’, which means ‘again’, and ‘genesis’, which means ‘birth’. In *Constance* as well, the extropian principle at work is the use of intelligent technology with the aim to give humans a ‘longer life’ or an extension of life. This display of intelligent technology can be seen when Palingenesis uses advanced technology to “upload a perfect image” of its client’s “consciousness”, and their “memories” and “store them in a quantum mainframe on the off chance” that they may die “between now and [the] next appointment” (22).

Abigail Stickling, “the mother of human cloning and co-founder of Palingenesis” gifts all her family members a clone (11). Abigail does not want humans to get old and die eventually but rather wants them to live longer than usual.

Two years ago, lawyers had turned up at the doorstep of every member of the family, bearing legal paperwork gifting each with a clone... I hope this small token of my affection allows you all to live long (12).

Abigail’s extropianism is evident from her works as she tries day and night to convince people that Palingenesis is a place where with the help of intelligent technology they will get rid of a limited human lifespan. She persuades them that it offers mankind a solution for death in the form of clones. Palingenesis “assures” its clients that the “latest generation” of clones have an uploading error of “less than 0.0000004536 percent” (25). The whole process of uploading memory takes “six hours” to complete (22). After configuring the refresh, clients are asked to sit on a chair that appears like a dentist’s chair so that their memories can be uploaded.

Con fell happily into the ergonomic seat that looked like a dentist's chair ... Sensors snake up from the headrest, attaching themselves to her neck and scalp like a giant millipede spooning her spine. It should have been creepy as hell, but the safe haze of drugs makes it feel like dozens of fingers massaging her back. A smooth, featureless pillar descends from the ceiling and stops twelve inches from her forehead. (22)

The above description of uploading memory shows how intelligent technology is being used to fight against aging and death.

Extropianism presents a positive, active, and dynamic way of living. The extropians believe that in order to eradicate death science, technology, and reason must be applied to extropic values (More). Vernon Gaddis, the co-founder of Palingenesis, considers that he and Abigail together have created something really 'revolutionary' and made "human cloning a reality" by using science and technology (61). Together they have transformed the world into a better place in which people won't have to deal with the inevitability of death. Vernon claims proudly, "We cheat death. Literally. It's been mankind's dream since we left our caves, and Palingenesis made it a reality" (106).

#### **4.1.2 Perpetual Progress**

Perpetual Progress means respecting the continual quest for 'knowledge and understanding' (More). According to the principle of perpetual progress, man should question conventional beliefs that human nature should remain essentially unchanging. Extropians believe, that accomplishing significant and persistent development compels humans to think about basic enhancements in human nature. This search for improvement provides encouragement to reconsider the "traditional, biological, genetic, and intellectual" restrictions on human advancement and potential (More). In the selected novels, the pioneers of cloning technology in their continual quest for knowledge and understanding not only want to create echoes or clones for replacement but they aim to go beyond this and want to achieve immortality.

The Weavers consider technology essential for the perpetual transformation and evolution of humanity. They seem to be at war with death and want to defeat it at any cost. Their dream does not end with making echoes, it is just a first step because their ultimate goal is to shift a person's soul from 'one body to another'. Thus shifting of a person's soul paves the way for achieving immortality through what they call a spare body.

What the Weavers really want is to be able to transfer the human soul from one body to another. One day there will be echoes who are vessels for the human soul. They will lie peacefully, for years, perhaps forever. Unless their others die while they are still wanted. And if those others do, their bodies will die, but their minds, their souls, will survive. They will awaken in the echo. Their spare body (14).

Adrian, the Weaver, has an insatiable hunger for knowledge and holds blind faith in the enhancement of the human condition. He has engrossed himself in technological pursuits to attain an everlasting life because for him making echoes for replacing people is not sufficient. Being an extropian, “he experiments...and doesn’t stop. There have been rumors... about things he’s been doing. Grave robbing. Strange tests on echoes” (53). He keeps on searching for new ways for the enhancement of man and his environment. Adrian spends most of his time “on his other... ambitions. Creating life still thrills him, but it isn’t enough for him” because he wants to free humanity from the shackles of death (80).

*Constance* depicts a scientifically advanced society, the Palingenesis, whose beings do not want to submit to the laws of nature but believe in fighting against them and making their way to live forever. They aspire to develop and surpass their present selves and limits. Extropianism being a transhumanist philosophy teaches humans optimism and transcendence and motivates them to abolish aging and also all the causes of death (More). Abigail being an extropian is in the process of perpetual struggle, she strives to eliminate all barriers to life, intelligence, and freedom. She wants to free herself and mankind from all sorts of limitations to have a smooth and comfortable life. She has a desire to achieve more and more because in her opinion technology can make everything happen. Abigail is always found “working on a variety of new applications of cloning and everything from enhanced consciousness to treatments for dementia to cures for a host of genetic brain disorders” (217). Dr. Fenton from Palingenesis tells Con, “It was [Abigail’s] dream to achieve immortality” (217). In order to achieve immortality, Abigail has secretly made multiple clones of herself and hides them in different caves.

The Extropians favor moving forward into a promising future and reject the prevalent culture of pessimism, and stagnation (More). The core belief of Extropians is to become whatever we want to be. Both Abigail and Vernon have worked for years to nullify the process of aging. They have made clones who have the same age and body as their original which is not enough for them because they have some high goals.

We have come a long way since '27. We could clone a human being, but only like for like. Same body. Same age. Which was fine as far as it went, but that was never the goal (235).

Their life's effort desires nothing less than the abolition of death as their dream is to achieve "immortality" (217).

### 4.1.3 Rational Thinking

The extropian principle of rational thinking entails refusing blind faith and thinking that promotes stagnation, dogma, and uniformity. Those who want to transform themselves are required to do a critical examination of their current thoughts, actions, and tactics. It means to assert norms, standards, and principles while avoiding dogma whether religious, political, or personal because of its illogical beliefs, blind faith, and systematic depravity (More).

In *The Lost Girl* Amarra's parents negate dogma and stagnation and choose to have a never-ending life for their children. They have preferred technology over religion. They are exhilarated by the Weavers' idea of deceiving death. That is why they have asked the Weavers to make echoes of all of their children. In this way, they won't have to worry about their deaths because they will have copies of them raised in secret by the guardians. In this novel, the writer has only discussed at length the making and upbringing of their elder daughter Amarra's echo, Eva.

Eva grows up to adulthood knowing that she has to replace Amarra, her human, in the event of her death. She follows a routine and learns everything that Amarra does.

I study a girl far away. She's the original to my copy... Everything I do depends on her. And on her parents, my familiars, the two people who asked the Weavers to make me [because they cannot bear the thought of losing their daughter] (4).

Eva is raised by guardians, all of whom are humans and employees of the Weavers, performing their duties to make her talk and act just like her original. There are two types of guardians mentioned i.e., human and echo guardians. The Weavers keep and raise echoes when they cannot be used as replacements and assign them the responsibility of guarding the Loom and the Weavers. Eva narrates that Mina Ma, one of the guardians, "left India close to fifteen years ago when the Weavers offered her a job as my caretaker" (4). Eva lives with Mina Ma who has raised her since she took her from "the Weavers' Loom" as an infant (4). Guardians assert norms and standards while avoiding religious dogma.

People in modern society are not stagnant and regressive but rather they have the desire to grow or expand beyond human limits. Nikhil, Amarra's brother, being part of a continuously advanced society welcomes all the enhancements done to make human life better. He sees technology as the solution to all problems. He is well aware of the fact that he surely needs an echo in order to live an extended life. For Nikhil having an echo is not "hard" but it is "like having a pen pal" (118). This comment of Nikhil about his echo shows that they have a good friendship. He is not scared of the thought of echoes replacing humans but rather has optimistic views about it. While having a conversation with Eva, he says, "I worry about what might happen to the people who love me if I die before them. I like knowing I have someone who will try to stop them from feeling so sad if that happens" (119). This statement depicts rational thinking of Nikhil because for him, having an echo is a good thing because in this way those who love him won't have to suffer from the pain of losing him.

Furthermore, Nikhil is not a 'cynic' who rejects new ideas but thinks rationally. When Eva comes to live with his family to replace Amarra, he does not treat her as someone who has 'stolen' Amarra's identity. In this way, he appreciates the idea of making echoes to replace people. He does not treat Eva as goods, made in the Loom but treats her as a human being and praises all her efforts which she is making to make his family feel better. He tells Eva, "I like you. You try so hard to make us feel better" (119).

*Constance's* protagonist Con D'Arcy, possesses rational thinking which leads her to refuse blind faith in the laws of nature and prepares her to rebel against them. The terrible car accident makes Con think about the limited human life span and motivates her to accept her aunt Abigail's gift of her own clone. By accepting the clone she decides to go beyond the natural human limits. She does not simply accept her fate of dying young but chooses to extend her life with the help of technology as "having a backup at the ready felt reassuring even if the ethics of human cloning troubled her" (20). Thus, Con accepts her aunt's gift and takes the clone even though she is not sure why she wants it.

Rational people understand that to advance personally and in society, it is necessary to reject current popular beliefs while critically evaluating historical dogmas and presumptions (More). Con leaves religion aside in favor of rationality so that she may be able to live an extended life. With the help of Palingenesis Con chooses to cheat her death. She goes to Palingenesis every month to have her memories uploaded into her clone to keep them fresh and

updated so that in case of her death her clone is automatically activated to run her life “as seamlessly as possible” (22).

Rational thinkers use critical and creative thinking and welcome innovative ideas while rejecting indefensible views, whether new or old (More). Just like Con, Peter Lee, Gaddis’s “majordomo”, possesses critical thinking and finds the idea of having a clone revolutionary (96). By having a clone he follows the extropian goal of always improving the human condition and ‘never be static’ (More). His clone is the “first generation” of clones, made by Palingenesis in 2021 (167). Peter tells Con, “My original caught a bullet in Havana during the invasion in 2030. I was activated or whatever they’re calling it these days. Everything worked flawlessly. Life went on” (166).

#### **4.1.4 Open Society**

Open society permits the existence of various kinds of institutions whether they are bureaucratic, autonomy-maximizing organizations, participatory, or hierarchical institutions (More). Individuals in an open society may opt to submit to more limited arrangements in the shape of corporate entities, organizations, and private communities according to their will (More). Discovery, growth, and innovation are promoted by open societies. Instead of pursuing utopian ideals for the perfect society, open societies value diversity in beliefs, lifestyle choices, and strategies for solving issues.

Mandanna through the setting of her novel gives us a reflection of an open society where people are free to follow their interests in their own way. People like Amarra’s parents appreciate the Weavers for making echoes while “hunters” dislike them and try to kill them and their makers (32), because the hunters do not want to go against the laws of nature and respect the natural cycle of life and death. They call themselves “vigilantes; an old secret society set on stopping the creation and survival of unnatural things” (32).

The near future setting of *Constance* allows the readers to have a look at an open society where all types of institutions exist and people are free to choose any institution of their choice. Throughout the novel, the founders of Palingenesis and Children of Adam (CoA), the biggest “anti-cloning organization” in the country, stand against each other (9). Inside the Palingenesis, supporters of extropian ideology remain busy in making clones to give extended life to humans while outside, the CoA could be seen standing and protesting against human cloning because

they believe it to be “an abomination” (11). The protesters are a constant occurrence, gathered under the black umbrellas that have become an “unofficial symbol of their cause” (9).

They picketed every Palingenesis clinic in the country but the headquarters here in Washington, DC, held a particularly intense fascination for them. In their minds, this was the point of origin. The birthplace of human cloning. Where the species had begun to disentangle itself from its humanity (9).

People of an open society have the right to exchange their ideas freely. They have the choice to criticize and the freedom to experiment (More). Through the eyes of Con, Fitzsimmons tries to show the diverse reactions of people to human cloning. Kala, Con’s friend, being a member of CoA, on seeing her clone calls it a “shitty copy” (57). She criticizes the act of human cloning because, in her opinion, clones are far away from the real person as the slogan of CoA is “No birth, no soul!” (10). She believes clones lack souls as they are not born naturally and that is why she does not accept Con as a person and uses the word “dupe” for her which is considered as “the cruelest slang for clones” (55). On the contrary, we see Jasper Benjamin, a musician, telling Con his views about human cloning, “I always thought it would be cool to have a clone” (86). This comment of Jasper shows his optimism about human cloning which makes him an extropian existing side by side with the CoA in an open society.

The discussion in this chapter brings to light the extropian principles Mandanna and Fitzsimmons have overtly incorporated into the plots of their stories. The analysis of both texts has led to identifying More’s extropian principles which are highlighted by both Mandanna and Fitzsimmons in the novel as the Intelligent Technology, Perpetual Progress, Rational Thinking, and Open Society.



## CHAPTER 5

### The Ethical Concerns and Human Cloning

Human Cloning gives rise to several ethical apprehensions which are in contrast with the extropian ideology. In this respect, *The Lost Girl* (2012) and *Constance* (2021) exhibit the latest ethical and societal concerns raised by human cloning, as well as explore how and for what reasons human cloning is denounced.

In this chapter, I address 2<sup>nd</sup> and 3<sup>rd</sup> research questions and attempt to find out these ethical and societal concerns raised by the incidence of human cloning done to achieve a prolonged life. Moreover, this chapter tries to find out the philosophical and theoretical grounds based on which human cloning presented in the primary texts can be criticized. For this reason, I use the philosophical concepts given in the book *The Ethics of Human Cloning* by Leon Kass which deals with human identity, family dynamics, and human cloning.

#### 5.1. Ethical and Societal Concerns

The selected novels foreground the underlying dilemmas and conflicts that the world would face with the unchecked advancement in science and technology. Although science and technology have made human society more favorable than ever, they may also have contributed to attitudes that have degraded and undermined the value of human life. The writers of the selected novels have also shed light on the ethical and social concerns raised on the subject of human cloning. The concerns raised in both the novels are; man playing at being God, clones as human replacements, threats to identity and individuality, and insecurities faced by both humans and clones. In order to discuss the above-mentioned concerns, the researcher will discuss both texts side by side.

##### 5.1.1. Frankensteinian Hubris of the Extropians

The first ethical concern regarding human cloning is the extropian attempt at playing God by making a new life in the form of clones. Leon Kass states that Clones are not the work of nature “but of man, playing at being God” (4). His claim is supported by Meilaender (1997) because according to him, cloning is an act of “playing God” as it involves the artificial creation of life without the use of natural ways of procreation.

##### 5.1.1.1 Frankensteinian Hubris of the Extropians in *The Lost Girl*

In this novel, The Weavers seem to have raised themselves to the status of God by creating life and holding the authority to end it anytime they want. Human clones or echoes, as they are called in this novel, are products of scientific technology.

“The Weavers Create us...They stitch us together. They make sure we grow up knowing, always, that we belong to them” (Mandanna 2).

From the above quotation, it is evident that the echoes are made and owned by the Weavers and they ensure that the echoes are aware that they are mere property owned by the Weavers. The Weavers in a god-like fashion also hold the power in their hands to destroy the echoes they have created and end their life if they so wish. Matthew, one of the Weavers informs Eva, “If we have to destroy anyone of our echoes we will, without hesitation” (76).

The echoes are treated not as humans but as commodities or products to which the Weavers have no emotional attachment. Eva at the very onset of the novel states that they “create us, but they don’t love us” (2). As an ethical concern, this stands in stark contrast with the notion that humans are created by God [as is believed by many people around the globe] who loves them. Also makes one think about the value of sentiments such as love, affection, and emotional attachment in people’s lives. In an interview Adrian, the Weaver, arrogantly and in an unsympathetic and cold manner states:

Echoes aren’t here to have an easy time of it. They are here to be somebody else. I am not concerned about their individual standing in the world. They are echoes of others. They are living proof that humankind might, ultimately, cheat death. I create life. That is the rarest of all gifts (54).

The Weavers are the modern-day “Frankensteins” working and “creating life from dust and bones” (253). By doing so, they are believed to be mocking the “stupendous mechanism” (52) of God. They make echoes to replace people but “crush” them “like a mosquito” when their familiars “Request for [their] Removal” (12). Request for Removal is an official term used by the Weavers but generally, people call it the “Sleep Order” which means “returning the faulty toy to its creator” and is usually done when an echo breaks the law or is no more required by its familiars (12). Echoes after getting rejected go back to “the Weavers who always have the last word”. They have the option to keep the echo or do whatever they like with them, but they “always shrug and say it’s a pity and the echo dies” (12).

In other instances in the novel, Mandanna highlights this concern through an interview with a priest,

“Don’t you think that’s a little harsh, Father MacLean?” the presenter asks... “I have nothing but pity in my heart for these unfortunate creatures,” the man says...“But they are abominations. God is our creator. No Weaver has the right to create life out of materials too horrifying to ponder. What good can come of grave-robbing and buying the dead from morgues? The Weavers are playing an ungodly game with these echoes. (52)”

Father MacLean is not in the least in favor of cloning as he sees it as grave-robbing. For him, it is an abominable, horrifying, and ungodly i.e. immoral and irreligious thing to do. By using a priest as a mouthpiece Mandanna provides an insight into the religious and moral beliefs of the people and also gives voice to their apprehensions against cloning.

“Frightful must it be,” he says, “for supremely frightful would be the effect of any human endeavor to mock the stupendous mechanism of the Creator of the world” (52)

From this quotation, it can be seen how the religious representatives of the society view cloning as an endeavor that mocks the natural system set up by God for his creations. Thus Mandanna in this novel depicts the ethical reservations held by the society on religious and moral grounds.

Not only does Mandanna shed light on societal concerns on the subject of cloning with respect to morality and religion, but she also shows the concerns of society against cloning with respect to the law. In India, it is illegal to have clones of human beings made. Amarra’s parents are afraid that if the law finds out that Eva is a clone and that they had ordered clones of their children to be made then they would be arrested for this crime. Not only this, but if found out the echoes could also be taken into custody by the police. Eva’s guardian Erik informs her about this legal situation.

You know, of course, that echoes are illegal in India. And you understand that if the police discovered that your familiars have you, they would go to prison...What you may not know is if the police do find out, they will also take you into custody. (68)

### **5.1.1.2 Frankensteinian Hubris of the Extropians in *Constance***

In this novel, Palingenesis seems to have exalted themselves to the position of God by making clones to extend the human lifespan. They make clones by using advanced scientific technology. The Washington branch of Palingenesis is believed to be “the birthplace of human cloning. Where the species had begun to disentangle itself from its humanity” (Fitzsimmons 9). Palingenesis claims to give people an uninterrupted, long, and smooth life by downloading the stored memories into their clones in case of death. Palingenesis has a whole setup of making and keeping clones till the time they match the age of their original.

When a client signed up with Palingenesis, it took months to speed-grow a clone that matched the client’s current age. After that, the inanimate clones were stored in hyperbaric, self-monitoring medical pods- wombs... where they aged in parallel to the clients, waiting to step into the lives of their originals should tragedy strike (36).

The founders of Palingenesis not only want to extend the human lifespan through cloning but also dream to achieve immortality. They consider death a problem and want to put an end to it. Abigail, one of the founders of Palingenesis, tells Con, we “would create an overclass of unthinkably wealthy and powerful individuals who would never die... and we have a name for such beings. They’d be gods” (246). By transforming people into gods, they want to take control of the world into their own hands without thinking about the consequences of it.

Palingenesis also holds the power to end life whenever they feel threatened by the existence of any of their clones and this is evident from the discussion between Con and her nurse Laleh. Laleh tells Con,

Dr. Fenton is going to delete you...because you have eighteen months of lag. That’s so far outside our safe range... The board is concerned that if they discharge you and you become... unreliable, it’ll be a public-relations nightmare (33).

In other examples in the novel, Fitzsimmons brings to light this ethical concern through the chanting of slogans by the Children of Adam (CoA).

“No birth, no soul! No birth, no soul!”

“God doesn’t want you!”

“Pretentious meat!” (10)

The Children of Adam association is against human cloning as they believe it to be “an abomination (11)”. Franklin Butler, the founder of CoA describes clones as “presumptuous meat (36)”. He believes human cloning is “a wretched befoulment of God’s design” and it has disturbed the natural order of life and death (11). Fitzsimmons uses Butler as a mouthpiece to present the religious and moral convictions of people, as well as to express their fears about cloning.

For hundreds of millions of years, life on earth has followed a simple pattern- everything that is born will die. And then twenty years ago, along came Abigail Stickling to change all that (212).

From the above quotation, Butler’s concern can be seen in how cloning has messed up the natural system of life and death created by God for his creations. Therefore, Fitzsimmons in this novel illustrates the ethical concerns society has for moral and religious reasons.

From these instances, we can deduce that the societal concerns that Mandanna and Fitzsimmons foreground are of a religious, moral, and legal nature.

### **5.1.2 Are Clones suitable replacements for humans?**

Another question or concern raised in the selected novels is whether clones are a suitable and adequate replacement for human beings. There are several incidents in both novels that point out that though the clones or echoes were created so that they could replace someone in the instance of their death, are they the same as the person who has died, or are they different? No matter how real a duplicate looks, it can never be the real thing.

#### **5.1.2.1 Are Clones suitable replacements for humans in *The Lost Girl***

Mandanna has dealt with this in the novel by giving voice to the secondary characters who though have had their wish granted in the form of an echo of their daughter, are either not fully convinced that Eva is their true or real daughter or that the knowledge of Amarra’s death and Eva being Amarra’s duplicate lingers on in their minds. Kass argues that people are disgusted by the “grotesqueness of conceiving a child as an exact replacement for another who has died” (17). Murray (2001) in “Even If It Worked, Cloning Won’t Bring Her Back”, backs Kass’ by stating that cloning as a technique to replace a child is “unfair”. Kass asserts that “any attempt to clone a human being would constitute an unethical experiment upon the resulting child-to-be” (31).

In Eva's case, she is not conceived but made on the demand of Amarra's parents as her replacement. Amarra's parents expect Eva to be an accurate duplicate of their daughter. After sixteen years of Eva's creation, finally, the day comes for which she is made because her original is dead. Erik, Eva's guardian tells her that she is the one with whom her familiars (Amarra's family) are left now. They are in mourning and "hoping" her to be "perfect" because they want their daughter back more than anything (68). Amarra's parents are well aware of the fact that their daughter has died but still, they hope to find her in her echo.

When Alisha, Amarra's mother, meets Eva for the first time, she stares at her face for the "longest time" with "desperate hope" to see Amarra and hugs her tightly and says, "It is you... I wasn't sure- I didn't know if it would work- but your eyes. I'd know your eyes everywhere" (84). In this quotation, we can see that although Amarra's parents have had her echo made in the hopes that it would be an adequate replacement for their daughter if she passed away before them, they still need to look for signs in order to be convinced that Eva is Amarra. Alisha even makes Eva go through the exercise of doing the things that Amarra used to do in the hopes that she could "see more of the daughter she knew, to reinforce her belief that she's still here" (102). Ultimately the moment arrives when Alisha also comes out of self-deception, she asks Eva, "She's not here anymore, is she?" and Eva replies only by shaking her head (146). It is at that exact moment that Alisha begins to weep, for "the pretending is over" for her (146). In this way, Mandanna shows the inadequacy of using clones as substitutes or replacements for actual human beings. It is her way of showing that even though science and technology have made advancements by leaps and bounds, they still fall short of the bonds formed by nature.

Similarly, Amarra's father can never fully come to terms with the fact that Eva is in some way Amarra. He even tells his other children that they should not call her Amarra, Nikhil says, "Dad told me and Sash that your name's Eva ...I don't think he likes it when we call you Amarra" (117). For him Eva is not Amarra, he tells his wife "I see her face, Al" (87). Eva recounts her first encounter with Neil,

He scanned my face, much like Alisha had done, but I could see that there was no hope in his. He might have hoped once but he must have known the moment he set eyes on me that it had been in vain. He was the logical one, and Alisha was the passionate one (87).

Through this statement, it is clear that both Alisha and Neil, Amarra's parents and Eva's familiars, have difficulty in coming to terms with Amarra's death and with Eva as her substitute. Neil skeptically asks Eva outright "Who are you?" and when Eva replies that she is Amarra, he looks dissatisfied with her answer till she corrects herself and says, "An echo of Amarra" (89). For further confirmation, he asks her, "Is [Amarra] there" i.e. is she somewhere in Eva (89). He is battling with disbelief and struggling unsuccessfully to convince himself to accept Eva as Amarra, as it seems impossible to him. His knowledge of his daughter impedes his acceptance, one of the reasons being that he is more logical and unlike his wife less passionate.

I was her father... Believe me, I'd know her if I saw her... Your gestures and mannerisms are different... and you have a different vocabulary. You do a good impersonation of her smile, but it doesn't look quite right. Your voice is the same voice, but it sounds different if you listen hard enough (104).

Cloning "can neither change the fact of death nor deflect the pain of grief" (Murray). This is the reason why when Amarra's father Neil meets Eva, he experiences a "terrible sadness" and he avoids the use of her name (87). Neil treats Eva differently unlike Alisha because he does not feel a connection to her because she is simply an echo of his daughter. He could not see Amarra in her but just "her face" because he believes, that no matter how hard scientists try, they cannot bring the dead ones back to life (87). Neil's thoughts can be seen as echoes [in the literal sense] from Murray's article where he asserts that the flow of life is in one direction, and science can neither reverse the stream nor can it reincarnate the dead. He is displeased when Eva says that she is Amarra because he wants her to admit she is "an echo of Amarra" (89). He is not able to show the same love and care to Eva the way he used to shower his love on Amarra, because she is "still so real to" him that in his heart of hearts, he does not believe that his daughter is in Eva (159). Both Alisha and Neil "still feel her" and feel saddened by the thought that they "can't bring her back [and] they couldn't save her" (159).

His rejection of Eva as their daughter shows that an echo is not a suitable replacement for a loved one in all cases. Amarra too in her letter writes to her parents stating, "*She's not me. I don't want whatever second chance you think she could give me. I don't believe these second chances are possible. She's not me*" (153).

### **5.1.2.2 Are clones suitable replacements for humans? in *Constance***

Fitzsimmons has addressed the issue of clones as suitable replacements in the novel by giving voice to his protagonist, whose wish of living an extended life is fulfilled in the form of her clone but is either not satisfied that her clone is her true or real self or is disturbed by the fact of her own death.

“Self-cloning is simply an extension of narcissistic self-re-creation” (Kass 9). In Con’s case, she herself asked the Palingenesis to make her clone which shows her narcissistic approach “so that [her] life could go on as seamlessly as possible” (22). She expects her clone to be an exact replacement for her. The thought of having a clone has always excited her.

Miss D’Arcy, this isn’t an upload. It’s your download...Con stared at him uncomprehendingly. It wasn’t that she didn’t understand the words, but she was slow to make sense of what he was telling her. Or maybe it was that she didn’t want to accept it because she recoiled angrily (27).

From the above quotation, it is visible from Con’s behavior that she does not know whether she is alive or dead, either she is original or clone. Her feelings and thoughts are shown by the writer in a way that the readers too sometimes find it hard to find out whether she is the original Con D’Arcy or her clone. Con does not accept the reality of being a clone at first, she thinks it is just a misunderstanding on the part of the doctors and technicians because she just came for a monthly upload and not to die. She wants to tell them that there is “some kind of clerical error. She hadn’t died. She was only here for a routine upload. She was right here. She was the original, not a clone. She was Con D’Arcy. The Con D’Arcy. This was a mistake” (28).

Fitzsimmons shows through Con’s clone that clones are not the perfect replicas of humans. Con, the clone, also has feelings of not being the exact replica of her original, firstly because she is missing memories of the last “eighteen months” due to some unknown reason (26). Due to her missing memories, she is unable to make sense of the whole situation because according to her, she saw Dr. Qiao this morning while technicians told her that he had left the clinic months ago and started working in California. Con feels like an “imposter” after knowing that her original has had “her last refresh... eighteen months old” (45). Without her memories, she feels incomplete and decides to find out what has happened to her original in these last months. Secondly, she has a different body from her original. She does not feel that twenty-four-year-old girl but rather feels like a “newborn” because her tattoos are missing, and her skin is smooth and soft, “undamaged by the sun or by life, no wrinkles or laugh lines” (46).



Clones can never be the perfect replicas no matter how hard scientists try to make them perfect. Other than missing memories and a new body, Con's clone is having difficulty performing fundamental activities like speaking, eating, and walking. Laleh tells Con the actual reason behind these issues,

Revival is not as seamless as they make it sound in the brochures... Your new brain grew twenty-four years' worth of neural pathways in a very short period of time. The mind-body relationship is incredibly delicate, and even with drug therapies, it's a massive shock to the system (32).

Fitzsimmons in this way illustrates the shortcomings of utilizing clones as replacements for real people. He does this to demonstrate how, despite enormous progress in science and technology, scientists are unable to make exact replicas of humans.

Having a clone manufactured of a child or one's own so that it can be its reincarnation is viewed as a grotesque, fun-house mirror distortion of parental and one's own expectations by bioethicists Murray and Kass. There are numerous other incidents in the novels through which the ethical concern dealing with whether an echo/clone is a suitable replacement for a human being is depicted/voiced by Mandanna and Fitzsimmons.

### **5.1.3 Cloning, Identity, and Individuality**

Kass sees cloning as a threat to "human identity" and "individuality" (27). He says that the cloned person might worry about losing his unique identity. On the other hand, the clone itself does not possess the right to have a unique identity separate from its original. Murray (2001) asserts, "No child should have to bear the oppressive expectation that he or she will live out the life denied to his or her idealized genetic avatar. Parents may joke about their specific plans for their children; I suspect their children find such plans less amusing".

#### **5.1.3.1 Cloning, Identity, and Individuality in *The Lost Girl***

As far identity and individuality of characters are concerned in this novel, it is not just Amarra's identity and individuality that is a cause for concern, but her echo Eva too is faced with this crisis.

When Amarra was alive, she did not want her echo to be made; she was afraid of losing her identity and individuality. She hated the idea of being copied, duplicated, and imitated. She also "hates [d] sharing everything with a stranger" (153). Her apprehension was that her parents

would want her echo to love them as she did, but her echo wouldn't, she was afraid that her parents would get hurt by her echo and the police might arrest them if they found out about her echo. It is for this reason that she puts in the "*Request for Removal*" (152). This shows that Eva is not just a threat to her identity and individuality, but she is seen as a threat in all other ways.

Due to the threat to her individuality and identity, Amarra hates Eva. It is evident by her use of words like "thief" and "stolen" in a note written for her echo (61). She writes, "They want me to tell you everything...But you are crazy if you think I will. You are a thief. You have stolen everything" (61). Amarra's hatred for her echo, Eva, raises an ethical concern does the cloned person really want to have a clone at the cost of sharing their identity and individuality?

Eva too has to struggle her whole life trying to deal with who she is and the purpose for which she is manufactured. Amarra's note makes her reflect on who she is,

She was right. I *am* the thief. I've taken everything that belongs to her. She's had to give it all up. What must that be like, to know that every single thing you wear, every last thing you know, is being copied, mimicked, and duplicated halfway across the world? (61).

From the above lines, it is evident that there is a sense of guilt in Eva and she feels like a thief who has stolen Amarra's identity and becomes aware that it must have felt terrible to Amarra that her whole life is being "copied, mimicked and duplicated" by a stranger, and that she had no privacy of her own only in the hopes [of her parents] that she may die and that the echo would be an extension of herself (61). The present was being compromised for an unknown future.

In *The Lost Girl* clones or echoes, as they are called, are stripped of their liberty from birth, with no family, belonging, or identity of their own. They are just made to give humans a long life. Mandanna raises the issue that in Weaver's progressive vision for the future, science has enabled humans to make identical replicas of themselves through cloning technology, but somehow these replicas are not exactly what they were meant to be because no matter how much they look like their 'Others' they are never really them. Eva has no identity of her own, the Weavers give Eva an identity by branding a small letter 'e', denoting that she's an echo, in her skin so she always keeps in mind that she is an echo of Amarra and never forgets the sole purpose behind her creation is to replace Amarra if and when she dies (9).

Amarra's echo is named and called Amarra by her caretakers, but she wants to choose her name according to her different and unique personality.

“My name is Amarra. Like my other. It means “immortal one”. I have always wanted to choose a name of my own. I hate it when my guardians call me Amarra” (10).

She wants to have her own identity because she is poles apart from her original. She wishes to be named “Draupadi” because “she too had been born differently, even abnormally” (11). She chooses a name for herself after seeing an elephant named Eva in the zoo. She observes, that Eva, the elephant, is “very young...smaller than the others... has restless energy...disruptive... difficult...stubborn” and is kept in a “separate enclosure” (25). She relates herself to the elephant and prefers to be called Eva till the time she replaces Amarra.

A clone is not simply a replica of its original but much more than that because of various additional impacts other than genetic duplication (Murray). Eva's guardians know the truth of her being different from her original and try their best to make her the perfect copy. She is supposed to follow in the footsteps of Amarra and should do what she does and avoid what she does not do. Mina Ma thinks that Eva “likes being contrary” to Amarra while she believes “it's not true” and is much simpler than this and admits (3),

I don't think I'm much like her. I threw her favorite food on the floor when I was five. While she sat on her father's knee and polished dusty artifacts, I secretly made sculptures of birds out of wet paper and candle wax... These are small things. Risky, but not dangerous. I've learned the difference (3).

If Amarra doesn't like something she won't fight for it, and she accepts everything in a very gentle and sensible manner whereas Eva possesses ferocious behavior. Similarly, Eva does not share Amarra's fondness for Jane Austen. Although Eva is an echo of Amarra, still she is different from her. She declares that echoes have the same faces and voices as their originals but have “own thoughts, feelings” (14).

The humans as well as their clones lose their individuality and are not allowed to make their own life choices. The humans have to maintain a written record in the form of a diary or journal so that their echoes may replicate their lives, and the echoes unwillingly have to do everything that is done by their other, whether they wish to do it or not. This is an unfair situation where someone's individuality is compromised whether are natural humans or human clones. Eva is forbidden to live her life in her own way by the Weavers. Eva does not get

permission to visit the zoo because Amarra has not gone to the zoo, Eva is not allowed to watch a movie she really wanted to because Amarra has not seen it, and she is not allowed to complete reading Bridget Jone's Diary because Amarra has not finished reading it, Amarra wants to become a historian whereas Eva wanted to be an artist, Eva loves Sean but she cannot hold a relationship with him because he is not Amarra's boyfriend Ray is, when Amarra gets a tattoo, Eva is forced to have it. All these and many other instances in the novel reinforce the point that through cloning the individuality of an individual is at stake.

Eva does not want to go and live someone else's life but she is aware that if her original dies one day, she will be forced to do so. She knows the fact that Amarra's "life is a relentless wave coming at me, crashing against the shore, again and again, and again" (62). After taking Amarra's place, she feels "guilty" because she is not her exact replica and has a different personality (107). She does not feel at peace not even for once as each day she is merely playing the role of her dead original by memorizing the lines and "[lying] better" (108). When Amarra's friends confront Eva with the truth that she is an echo and not a human, she tells them angrily about not having a choice,

I never asked for this. I've never had a chance to choose what I'm supposed to be and what I'm supposed to do. Never! I did not come here because I wanted to; I didn't pretend to be Amarra because I enjoyed it. I had to be here; I had to do this. I have never been able to choose! (133).

This demonstrates that clones are demanded to act in the same way as their original.

### **5.1.3.2 Cloning, Identity, and Individuality in *Constance***

Clones have no identity of their own. In the novel, Con, the clone, is referred to as "it" by Dr. Fenton because she lacks identity. Initially, Con, the original, used to think that the life of a human and a clone is the same but she gets to know the difference when the doctor who once used to deal with her with respect now refers to her clone as "it" as if she is some object or animal and not a human being.

She was like a specimen pinned down on a dissecting tray, unable to move... Fenton looked at Con... "Put it back under until I've had a chance to talk to the board" (29).

Con's original used to have an arm full of tattoos, which always served as her identity and this is why her friend Kala recognized her clone because of her missing tattoos and called

her a “shitty copy” (57). “She trailed off, staring at Con’s bare left arm. Kala glanced up at her face, then back to the missing tattoos” (57).

Clones are not having an easy time in the world after their creation. Due to the lack of identity, she is unable to access her original bank account. She has no money to buy food and rent a place to stay. When she asks Kala for “a place to stay” she refuses outrightly (57). All of Con’s friends have shown concern regarding her death but none of them is ready to help her clone.

Everyone had questions...Con answered as best she could, hoping to earn some goodwill. But when it came to a place to stay, the answer was always a hard no. For some, it was an unmistakable anti-clone bias, but for others, it was simpler than that: their friend was dead (78).

The above lines show that the Con’s clone is facing acceptability issues due to her lack of identity which leads her to the existential crisis.

All the above-mentioned examples from both the novels raise an ethical concern or question does cloning pose a threat to the identity and individuality of humans and human clones?

### **5.1.4 Insecurity**

Mass-scale cloning is dehumanizing and the violation of human equality, freedom, and dignity is present even in a single planned clone (Kass 39). Similarly, Fukuyama also sees cloning as “instrumentalization of human beings through the deliberate creation of genetically identical human beings is contrary to human dignity and thus constitutes a misuse of medicine and biology” (148).

#### **5.1.4.1 Insecurity in *The Lost Girl***

In the novel, both human beings and clones face a number of threats on a number of grounds. Humans are insecure because they are afraid that clones will take their place and clones are insecure because they have no legal rights, and their lives are constantly in danger; firstly because of the hunters, secondly because of the Weavers, and thirdly because of their families.

Mandanna deals with the issue of dehumanization by showing how her protagonist is a manufactured product, a mere commodity. She may live and breathe like the humans but she is never considered a human being. All she is ever thought of is as a clone—a manufactured product, she was “stitched” in the “Loom” by the Weavers—the echo or a clone is just a doll or a puppet (53). Eva is dehumanized because she is used as a commodity—ordered and manufactured on demand; bought and used or discarded by the customer. Just as slaves had no legal rights and no security, Eva too has no legal rights that any ordinary human enjoys, and as precarious as the state of any slave was/is, so is Eva’s state that she may be put down by her creators or manufacturer or sent back by her original with a “*Request for Removal*” or her familiars with “Sleep Orders” or hunted down by the “hunters” the “people who hunted and killed echoes the world over” (32).

The Weavers always have their say in deciding the fate of the echoes, they “have the last word” (32). They decide whether an echo “could be kept” or whatever else they might want to do with it (12). “They always shrug and say, “it’s a pity”, and “the echo dies” (12). Amarra in her letter to her parents implores them to countersign the Request for removal which she has signed so that the Weavers will “*get rid of her*” (153). Amarra’s parents eventually decide to honor her last dying wish to have Eva removed by choosing Amarra their real daughter over Eva their daughter’s echo, though they do this with a sense of guilt, as the saying goes blood is thicker than water, so they feel duty bound to fulfill their daughter’s last wish. In this whole scenario there is little or no consideration of the fact that though Eva is a clone, she is still a living and breathing person with emotions, feelings, desires, needs, and wants. No one gave it a thought even that Eva might not want to be put down like a dog or other animal. Mandanna shows how unsafe the lives of the echoes are in that they can be terminated on a whim, Mandanna by showing that the lives of echoes depend on their familiar's decision whether to keep them or not is pointing out their inequality to humans and their lack of freedom to choose for themselves as well as the perpetual danger they are in at all times.

Having clones made is a precarious situation for those who order them. Reproductive cloning is banned and thus against the law. Erik tells Eva, “You know, of course, that echoes are illegal in India. And you understand that if the police discovered that your familiars have you, they would go to prison” (68). Amarra voices her apprehensions in her letter, “*I’ve been so scared thinking one day Nik and Sash and I will wake up and the police will be there taking you away*” (153).

Eva too is afraid for Amarra's family because Ray, Amarra's boyfriend, has told her that he could tell everyone about her to "make sure they knew the truth" (126). He also threatens her by saying that he "could go to the police. Anyone else could. I just- I wanted to warn you" (126). Eva tells Alisha to "take Nik and Sasha and go somewhere so the police don't find you. Leave the country-" (126).

In *The Lost Girl*, the hunters are shown to hunt down and exterminate echoes because they consider them "unnatural" things (32). The hunters are an "old secret society" that wants to champion the cause of human dignity and is set on "stopping the creation and survival of unnatural things like [Eva]" (32). The hunters identify themselves as the "vigilantes" and moral guardians (32). This hampers the freedom and mobility of the echoes. They are the reason that Eva "mustn't tell people what [she] is" and is "not allowed to hang around normal people" (32). Due to the hunters, the echoes and the Weavers are in a perpetual state of paranoia. When Eva goes out with Sean he stays "tense" on sighting any "stranger nearby", and Eva feels a "prickle of unease" at this (32).

As we walk out of the park, I realize my fingers are shaking. I knit my fingers together to keep them still. "You might have just saved my life," I say...Sean looks at ease, and I do my best to seem the same (35).

The hunters take on different guises in order to spy on the echoes, identify them, and then finish them off. Eva thinks of them as blind tigers. A hunter lady under the guise of finding Amarra's soul in Eva fools Ray and other friends of Amarra. Her intention is to kill Eva.

A flash of silver, and there's a knife in her hands... "Why do you have a knife?" Ray asks angrily, though he knows the answer. "You said you'd just examine her- "Of course," says the hunter sweetly... "But I need to keep her from running away, don't I? Echoes are dangerous. I know, believe me. I watched my husband's echo destroy everything we loved. I know what they're capable of" (191).

Her rationale for killing the echoes comes from her personal experience. She claims that her husband's echo had destroyed everything they had loved, and thus she labels the echoes as "dangerous" (191).

#### **5.1.4.2 Insecurity in *Constance***

“The programmed reproduction of man will in fact dehumanize him” (Kass 6). Fukuyama defends Kass’ assertion by saying human cloning “fails to respect human dignity and thus violates God’s will” (89).

Fitzsimmons deals with the concern of dehumanization by showing the treatment of people with Con’s clone in the novel. She is dehumanized because she is not considered a human but rather as a way to extend the human life span. As the story unfolds, it becomes evident that clones have no rights and are treated badly. Their lives are also in constant danger. Anyone can kill or hurt them at any time, and no one takes notice of it. While talking about clones’ rights and security Detective Clark tells Con,

“You really think anyone’s gonna kick up a fuss when they find out what you are? Go ahead, scream, I don’t care. Nobody’s riding to the rescue of some skinny-ass Gucci” ...’Cause clones are knockoffs of the real thing. Except you’re no Gucci, are you? You’re a cheap knockoff of a cheaper original (74).

In *Constance* Children of Adam (CoA) are shown to kill clones because they consider them an “abomination” (11). The CoA is an “anti-cloning organization” that wants to stop the manufacturing of clones because they see them as a threat to human dignity (9). They hold the belief that clones can never be equal to humans “Clones≠ Humans” (43).

The incident of protests against cloning outside Palingenesis building informed that they were protesting outside the building, it was through the throng of CoAs that Con had to make way to reach the building, and that if they found out who she was or what reason she was going into the building, they would have ended her life.

She knew exactly how the protestors would respond if they realized that the enemy walked among them. The main entrance was rarely used, so these protests were a frustrating, thankless vigil; they were eager to put a face to their rage (9).

Murdering clones is not a homicidal crime punishable by death but is considered merely as damage to goods or possessions. The law provides no protection to the clones for their own sake, but the company may have legal rights for pursuing criminals who pose or cause harm to their product. And the perpetrators of the crime against clones get off with just a token punishment or fine:



In the past five years, at least eight clones... had been murdered- put down in the parlance of the CoA—and, of course, none of the eight had been prosecuted as homicides. One of the killers had actually been convicted, but only for the destruction of property. He'd received a token fine (199).

From the above lines, it is visible that unlike humans the clones possess no legal rights and security and are considered merely as property. They can be murdered, and the killer will only be fined and not sentenced to death. Their murder is not considered homicide but “destruction of property” (199). Due to these reasons, Con cannot move freely because she has less chance of being safe and alive in the open.

Fitzsimmons has also shown the insecurity of humans which is caused by human cloning. In the novel, Con is the only one from her family who accepts the gift of a clone given by her aunt, Abigail Stickling. No other family member accepts it because they are of the view that human cloning is against nature and God.

It was agreed that her interest in human cloning...was a sin of pride—a wretched befoulment of God's design (11).

The discussion in this section highlights different ethical and societal concerns Mandanna and Fitzsimmons have blatantly woven into the fabric of their stories. The analysis of both the texts has led to identifying the ethical concerns Mandanna and Fitzsimmons have raised in the novels as the Frankensteinian hubris of the Extropians; the inadequacy of Clones as suitable replacements for humans; how Identity and Individuality are affected by cloning; and the insecurities, risks and dangers faced by humans as well as clones in the society.

## **5.2 Denouncement**

The analysis of the selected novels shows that the elements of denouncement of human cloning are present in both texts. The selected texts have denounced human cloning on ethical and societal grounds by showing humans and clones as both parts of human society.

In *The Lost Girl* cloning is denounced by both the humans and clones for the following reasons,

Eva is hated by her original, Amarra because she is afraid of losing her identity and individuality. Amarra did not want her echo to be made, it was her parents who asked the Weavers to make echoes of all of their children, so they wouldn't have to bear the pain of losing

them. Amarra's hatred for her echo, Eva, shows her denouncement of human cloning; firstly because she does not want anyone to take her place and be loved by her parents and secondly she believes clones can never provide a "second chance" to humans as they are made by man and not by God (153).

The hunters, "an old secret society", aim to kill echoes because they consider echoes as "unnatural things" and not humans (32). In the novel, they have killed echoes "all over the world" because they see killing echoes as their moral and religious duty (32). So, hunters' consideration of echoes as 'objects' and their act of killing them, shows their way of denouncing the act of human cloning.

Amarra's lover, Ray, hates Eva because he thinks she has, "[stepped] in and [stolen] her life" (124). Ray shouts at Eva and says, "Stop pretending to be someone you're not; stop trying to be her. You're not... you're not even human... you're nothing but a cold, lying monster" (124). Ray's harsh treatment of Eva shows that he does not accept her as a human but rather as a monster who kills people.

Similarly in *Constance* cloning is denounced by both the humans and clones for the following reasons,

No one from Con's family accepts the gift of a clone given by her aunt Abigail. All the family members used to dislike Abigail including Con's mother because of her interest in human cloning. They all hold the opinion that "her interest in human cloning, was a sin of pride-a wretched befoulment of God's design" (11). By rejecting Abigail's gift of cloning, her family denounces human cloning because they are staunch supporters of the belief that human cloning is actually 'an act of playing God'.

In the novel, *Children of Adam*, an anti-clone organization denounces human cloning by killing clones because they believe clones have "no soul" as they are not born naturally but manufactured by man (10).

Vernon Gaddis, co-founder of Palingenesis and a clone denounces human cloning by telling Con, "I was evangelical about cloning....it took dying for me to see how unethical it all was" (106). Initially, Gaddis promotes cloning but after becoming a clone he realizes that clones do not have legal rights and also most people dislike them because they are man-made.

Thus, in this chapter, the analysis highlights the ethical and societal concerns with respect to human cloning and it shows the reasons why human cloning is denounced in *The Lost Girl* and *Constance*.

## CHAPTER 6

### CONCLUSION

This chapter serves as the conclusion of my research. The aim of my research was to study the selected novels to explore transhumanist, ethical, and societal concerns they raise with respect to human cloning. I have also analyzed the texts to find out the reasons for which human cloning is denounced in these novels. For this purpose, I have carried out a transhumanist critique of Sangu Mandanna's *The Lost Girl* (2012) and Matthew FitzSimmons *Constance* (2021) using Catherine Belsey's textual analysis as my research method. I have used transhumanism as the theoretical framework in order to answer the three research questions presented in Chapter 1 of this thesis.

I have carried out the analysis in two parts. In the first part of the analysis i.e. Chapter 4, Extropianism and Human Cloning, I have addressed my 1<sup>st</sup> research question which is to examine the wish of human beings to have a prolonged life than the normal human limit and strategies through which transhumanist concerns are depicted in them. In order to answer this question, I have used Max More's philosophical notions on extropianism. After doing a close textual analysis of both the texts I have found out that Mandanna and Fitzsimmons have clearly incorporated extropian principles into their narratives. The analysis of both texts has led to the identification of More's extropian principles at work in the novels. These are Intelligent Technology, Perpetual Progress, Rational Thinking, and Open Society.

The findings of Chapter 4 indicate that the extropian agenda in *The Lost Girl* and *Constance* apparent from the claims of the Weavers and Palingenesisists respectively show their keenness towards the extension and enhancement of human life. Their aim seems to be longevity and near immortality which they have tried to achieve through human cloning. The Extropian characters in these novels are steadfast in their claims and mission and are not ready to stop their endeavors for advancement in cloning technology at any cost. For them it is merely a professional activity it has become their "obsession and whim and cruelty" (275). Adrian and Matthew in *The Lost Girl* and Abigail and Gaddis in *Constance* are examples of such an extropian mindset. Their greed and thirst for improvement in their cloning technology takes a Faustian turn and they are unable to see beyond their obsession.

In the second part of the analysis, Chapter 5, Ethical Concerns and Human Cloning, I have addressed the 2<sup>nd</sup> and 3<sup>rd</sup> research questions and attempted to find out the ethical and societal concerns raised by the incidence of human cloning done to achieve a prolonged life. Additionally, in this chapter, I have analyzed and highlighted the criticism of human cloning presented in the primary texts on philosophical and theoretical grounds. In order to find out the answers to these questions, I have used the philosophical concepts given in the book *The Ethics of Human Cloning* by Leon Kass which deal with human identity, family dynamics, and human cloning.

The findings of Chapter 5 highlight the ethical and societal concerns portrayed in the two novels, and the way in which those concerns have been incorporated and depicted in the two novels has led to the conclusion that both texts denounce human cloning. The analysis of the novels in this chapter shows that the extropians playing at God by creating a new being and having control over whether they live or die makes their Frankensteinian hubris evident. This attitude is rejected by a number of people whether individually or as part of some social and religious groups. It shows that no matter how much advancement they have made in cloning technology they fail to create a perfect replacement for the human that has passed away. A number of acceptance and identity issues arise which turn out to be very disturbing for both the human being and their clones. This raises the issue of risks and insecurities both for the humans and for the clones. These identity and acceptance issues are at the family level as well as other societal fronts. The question of whether a clone has a soul has been raised. The selected texts are replete with incidents and examples that give voice to these ethical concerns, and thus provide ample evidence that the two novels under study denounce human cloning.

In conclusion, it is evident that there are many different points of view that surround the complex discussion on human cloning, all of which have their roots in strong values, ethical considerations, and the pursuit of scientific progress. Throughout this research, I have looked at various viewpoints, ranging from strong support to fierce opposition on human cloning. The issue of human cloning goes beyond science and focuses on ethics, society, and our perception of mankind as a whole.

Supporters of human cloning envision a world where science can alleviate human suffering and extend our understanding of life itself. They see cloning as a means to extend the human life span. They find it impossible to overlook the possibility of greater future prospects, scientific and medical developments, and advancements in general. On the other side, the

opponents of human cloning believe that interfering with the very essence of human life is a bad idea. They see cloning as a threat to human identity and individuality.

In my personal opinion, the debate on human cloning reflects the dynamic and evolving nature of our society. While I find the potential for scientific advancement and medical breakthroughs exciting, I cannot overlook the ethical concerns and moral dilemmas that this technology poses. I believe that science should proceed cautiously, making sure that strict control and moral standards lead to the advancement of human cloning technologies.

## **6.1 Recommendations for Further Research**

In the future, researchers can conduct empirical research to better understand the psychological effects of human cloning. This research could involve studying the long-term health effects of cloned individuals or clones in particular.

Future researchers can also examine the legal and policy frameworks that regulate human cloning and recommend improvements or expansions to these frameworks. This could include researching the current laws and regulations in various countries, as well as analyzing the potential benefits and risks of new laws and policies.

Future researchers can also engage in interdisciplinary research that draws on a range of fields, including biology, medicine, psychology, sociology, philosophy, and law, to better understand the complex implications of human cloning. This interdisciplinary research can provide a more comprehensive understanding of the risks and benefits of cloning and inform new approaches to policy and regulation.

Overall, these recommendations can help guide future researchers in the exploration of the perils of human cloning and contribute to the development of more robust and comprehensive research in this area.

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