

The Carbon Process

by

Andrew Dale Gunnink

A thesis submitted to the faculty of
The University of North Carolina at Charlotte
in partial fulfillment of the requirements
for the degree of Master of Arts in
English

Charlotte

2022

Approved by:

Dr. Aaron Gwyn

Ms. Bryn Chancellor

Dr. Andrew Hartley

ABSTRACT

ANDREW DALE GUNNINK. *The Carbon Process*. (Under the direction of DR. AARON GWYN)

Mark Boveri is a brilliant geneticist and plant biologist at MIT who is developing an experiment that will attempt to permanently fix the frailties of the human body through DNA splicing and genetic modification. His struggles with social anxiety and OCD will push him to the limits of human potential. The choices he will have to make with love, friendship, and family will have consequences not to just them but to the world.

Throughout the novel, Mark will struggle with his personal identity and how far he is willing to go to complete this experiment. Life events and his relationships will help shape him and give him meaning and purpose. When those relationships change or alter, Mark will have to choose the path that he is willing to go. Looking through his lens and the complexity of his emotions, OCD, and social anxiety the story will divulge the inter-reality of who Mark is. Through the blending of science fiction, drama, and real-world technology, this story journeys to the complex realities of DNA splicing and genetic modification. Mark will learn how to overcome his obsession over disease and death. He will journey into the realities every human face: the frailties of human life. This new reality he is trying to shape could cost him everything.

ACKNOWLEDGEMENTS

I would like to thank my thesis advisor, Dr. Aaron Gwyn. Thank you for pushing me on this project to be the best it could be, even if I gave you grief over fixing stylistics and grammar. I would also like to thank Dr. Andrew Hartley for helping me to understand the ability to slow down and make sure the work was clear and concrete. I would like to thank Bryn Chancellor for showing me how to expand upon my characters and to make them come alive and always being encouraging.

There were significant influences on this work which include: *Jurassic Park* by Michael Crichton, *Spider-Man* by Stan Lee and Steve Ditko, and *Stay Out of the Basement* by R.L. Stine. These three works of fiction helped shape my ideas and I would also like to thank Terry Spencer Hesser because her novel *Kissing Doorknobs* opened my eyes to the world of someone who struggles with OCD. Without these works I would never have had the opportunity to explore the importance of science and the struggles of obsessions.

DEDICATION

This work is dedicated to my wife, Bethany Gunnink, who pushed me and supported me throughout this amazing process.

TABLE OF CONTENTS

CRITICAL INTRODUCTION	1
CHAPTER 1: BROKEN MEMORIES	10
CHAPTER 2: RELATIONSHIP GOALS	20
CHAPTER 3: COMPLEX RELATIONSHIPS	29
CHAPTER 4: HOME SWEET HOME	35
CHAPTER 5: IMPERFECTIONS	50
CHAPTER 6: BREAKTHROUGHS	56
CHAPTER 7: THE CARBON PROCESS	64
CHAPTER 8: NATURAL BEAUTY	76
CHAPTER 9: HIKING, HEREDITY, MORALITY	90
CHAPTER 10: A WORD OF CAUTION	99
WORKS CITED	110

Critical Introduction

Writing and creativity have always been part of me. From an early age I set off into unknown worlds, created stories, imagined flying through space, or traveling through a fantasy world. I imagined a fictional world filled with dinosaurs like in *Jurassic Park* or a world filled with mysterious creatures like *Star Wars*. I dreamed of the natural wonder of weather, space, and science. I wanted to bring these fictional worlds to life through my imagination. Writing these imaginations has been a hobby for a long time, but now I am entering the path where I will bring my fictional stories to life.

The “Carbon Process” was a story that came to fruition while working through my undergraduate degree in Creative Writing at Grand Valley State University. It was an inspirational idea that came from influences of *Jurassic Park* by Michael Crichton, *Spider-Man* by Stan Lee and Steve Ditko, and *Stay Out of the Basement* by R.L. Stine. These stories were an influence on me while working on this story. I was intrigued on how a person could create new life and alter the world around them through a scientific experiment by altering the DNA sequence. This exploration led me to think about the possibilities of implementing plant DNA into the body to enhance humans. By having different strands of DNA coursing through the human body and transforming them like the recreated dinosaurs in *Jurassic Park* could create a new form of life. Through my fictional experiment, I wanted a person to push themselves to complete a transformation of integrating plant DNA into the human genome. I was curious about how this could be possible and later in life I realized that the experiment could have moral consequences. With the development of technology and life experiences I realized that these consequences could have an impact on the world for both good and evil.

I had written over 100 pages going into my master's program, but I was missing the clarity and the credibility of the character and science. It was a story I had stopped working on, but it was something I always wanted to complete, if given the opportunity. There was a unique plot, but it needed more of a human touch to it. Humanity needed to be shown through the struggles of Mark's character by him falling in love, trying to mend relationships, dealing with his abnormalities, and showing emotional complexity. The missing components of credibility and depth were overshadowed by the world and the threat of this experiment. It was often cliché, and the characters were flat and uneven. The flat and uneven characters need to be constructed in a new and thought-provoking way. This would come through my years of academic training and growth as a writer.

When I submitted the beginning of my story to Dr. Aaron Gwyn, he told me that the story was missing characterization. Mark Bovert, the central character, was a cliché college student with little character development. I needed to incorporate something unique and different about him. In my studies throughout the past few years, working with a literary magazine, and in my writing clubs, I have gained insight on how to construct more complex characters. Taking time with the characters helps the reader to feel connected with them. The emotional connection was something missing, and I wanted to add depth to the complex characters in the story.

I needed to start over and rebuild Mark and the other characters in this story. The college age market is slim, so I decided to make him older than nineteen and to be further in his career field and life. I wanted him to have his PhD in genetics and actively be working for MIT in the genetics department. Making him older would help reach a broader audience of both college age students and adults. When looking through my story I noticed that there was something unique about Mark. He was quirky, trying to be different, and displayed social awkwardness. I wanted

to construct these differences into his thought process and character development. Even though he was older, people still must deal with the chemical imbalances and quirks of who they are.

When I started developing Mark, I also wanted him to have obsessive-compulsive disorder or OCD. I do not know anyone with OCD, so I learned about the complexities of OCD. I had to do the research and reading about OCD and what it means for people who deal with it. I have ADHD, so I understand some of the complexities of wanting to get “complicated messes” out of my head. In reading *Kissing Doorknobs* by Terry Spencer Hesser I was able to grasp how the mind of a person with OCD regulates their emotions, how they treat OCD, and what their reactions look like. Even though it was a Young Adult book, it still helped gain useful insight concerning how to incorporate OCD into a story. My character had to always try and overcome OCD. In moments of trial, distress, intense emotions, or pain his OCD would intensify. In the story, there are flashbacks and moments where he discovers that he has OCD and when he relapses. His obsessiveness over relationships, doubt, and this one experiment is played out through his interior monologue. In doing the research and reading *Kissing Doorknobs* I learned to see the complex nature of OCD and how it relates to people. It helped me to empathize with my main character and to display that to the reader.

I wanted the point of view to be in the third person but to use italics to get inside of Mark’s head. The OCD and his minor social anxiety would be written through his own first-person perspective. We would also be able to see the doubt about the experiment in which he is doing. The first-person narration is abrupt within the story, and it is meant for the reader to see his struggles as he navigates the complex experiment and relationships. The interior first-person monologue shows how obsessiveness will lead him down a path in which he will not stop. In being close with his grandma, who he lost to disease and death, it could push him over the edge

to stop death and disease. It will help the reader understand why he is doing what he is doing through his thought process.

Even though he seems calculated and often detached because of his OCD, I still wanted to make him care about people. When reading *Oryx and Crake* by Margaret Atwood, I wanted my character to be like the main character named Snowman/Jimmy but also his best friend Crake. Snowman/Jimmy uses more emotional responses while Crake is scientific and calculated. Snowman/Jimmy has a genuine good heart and wants to do right but is pushed towards love of others and wanting to get back to the way his life used to be. Whereas Crake sees everything through science: what gains he can accomplish and an obsession to keep going. The characters of Snowman/Jimmy and Crake are complex, and I wanted to show that with my character. He may seem like he is doing the right thing, but it could be dangerous.

I also wanted to use the characters John Hammond and Henry Wu in *Jurassic Park*, who wanted to create dinosaurs to create the grandest theme park in the world for people to enjoy or to see what science could accomplish. They both became obsessive without realizing the possible consequences of bringing back dinosaurs through DNA splicing. I had to focus on the science of DNA splicing, genes, plants, and hereditary. The science needed to be credible and realistic to prove that this is an experiment that maybe in the future, could be possible.

Once I began the process of reinventing my character, there was also a focus in science, plants, genetics, and DNA. This would require me to do the research and discover the history of genes, genetics, and DNA. Through *The Gene: An Intimate History* by Siddhartha Mukherje and *The Violinist Thumb: And Other Lost Tales of Love, War, and Genius, as Written By Our Genetic Code* I learned a lot about the history of evolution, genes, its gains for society, and the problems of eugenics. These books have been influential in how I have approached genes,

genetics, and the study of DNA. There are deep-rooted flaws within this scientific system and how we can do what we do now and where we started from is an important part of my character's development and for the plot. Learning about how diseases could be passed down and how many people are born with unfair disadvantages shows the obsession people have with genetics and DNA splicing. Seeing how people studied it throughout history will help the reader understand why Mark is orchestrating this experiment, even if it means pushing human limits.

In this story there are his friends, colleagues, and other characters who will have an impact on him. Through studying the history of genes, DNA, and eugenics is used as a reminder of who my character is. In reading *Dr. Jekyll and Mr. Hyde* by Robert Louis Stevenson, science can dramatically impact the world around them. His friends and colleagues notice changes in Dr. Jekyll and by the end we see the impact of his choices in going too far with science. Also, reading *Frankenstein* by Mary Shelly shows how far a scientist is willing to go to defeat death. My secondary characters show him that he is accepted, loved, and admired. His friends and family do not want him to lose his sense of identity. The traits of love, acceptance, and admiration is what the other characters are trying to tell him, but his skewed reality sometimes twists the ideas of love, acceptance, and admiration.

They ask tough genetic and hereditary questions and want to make sure that he focuses on the impact of his experiment. Ian Malcom in *Jurassic Park* states, "Scientists are actually preoccupied with accomplishment. So they are focused on whether they can do something. They never stop to ask if they should do something." This quote for me is what impacts the secondary characters, and the possible consequences of what Mark will do with his experiment. It is a quote that is a main component of what Mark struggles with while he continues to develop this experiment in altering the human genome.

Knowing why Mark wants to do this, I had to make sure his OCD and other motivators were there. He wanted to create something that could benefit the world through a better global environment and ridding the world of deadly diseases. In *State of Fear* by Michael Crichton he explores the problems of global warming and what people are willing to do for it. In *The Blood World* by Christopher Mooney, there are people who use a drug to be immune to diseases and the consequences of having that immunity. What people are willing to do for a cause or to try to enhance their bodies helped me to write the motivation for who my character is. In association with his OCD and social anxiety, Mark had asthma and hates having all of it. His obsession over defeating death and disease because of his grandma coupled with OCD, social anxiety, and asthma will take him further and further down a dark path. With his obsessiveness to complete it, it will cause Mark to make a choice that will define him, alter him, and affect those around him.

Forming these ideas into one cohesive story has been a journey of my roots and what I have learned in my life. I had to be open to changing these characters, story, and plot to keep the reader engaged in the science. When there is science, I wanted to make sure people saw the reality and possibility of it and so I had to look at charts and graphs to understand the science. Doing this through visual means and translating onto the page is important. In *A Visit from the Goon Squad* by Jennifer Egan, *State of Fear*, and *Deception Point* by Dan Brown, they use graphs and charts to show the science or visuals of what the characters are seeing or experiencing. I wanted this to be expressed through what Mark is seeing on his computer screens or papers. In the text I wanted the reader to grasp what Mark is seeing on his graphs. They were real graphs and ones that Mark would have used in the early stages. Many of the graphs are common and can be found, but in the end, I decided for the reader to picture them in their head.

Mark's belief that the natural world is possibly connected, created an obsession of blending nature and reality. His grandma loved him and taught him to embrace who he was and that his journey was possibly connected to nature. Through the close connection, he wanted to make her and his dad proud both for different reasons. He wanted to prove to them that he could do it, overcome his obstacles, and create something beyond reality. The connection to nature would help him to become a biologist and geneticist. He had an obsession to connect and see how a plant could see the world and how we as humans miss that connection to the earth. Through this process he associates that with his grandma, whom he loved. Even though she isn't a firm believer in her Cherokee heritage, at the end of her life she makes hints that nature may be connected. Mark gets a possibly skewed view of this and with her death begins to push nature and the divine. Using DNA sequencing from plants could bring that possible divine connection to the world but with consequences.

Through this process of discovering the origins of DNA, genetics, and OCD I have gained valuable insight into what I can do through this story. With both my love for science fiction and the conceptualizations in the real world, this story can hopefully display the problems with altering the human genome, genes, and DNA. The problems of power, obsession, and morality are blurred within Mark when he begins going beyond what it means to be human.

My faith is also something that comes out often in the questioning of the experiment. Being a Christian and writing this type of story can be difficult because there are things in which I disagree with but that is what helps me in my understanding of bridging science and religion. In knowing what others believe and what I believe helps to see how this experiment could be used for good and for evil. Messing with science is problematic and Mark will have to choose what he believes is right. In this process, I can gain valuable insight into what others believe and how it is

being used. Mark and his friends do it because they believe the world is broken. Mark especially believes that he can better the human condition. It is something that has been seen throughout history. In the end, it helps strengthen who I am in my faith but gives the true reality of what people are willing to do in the name of their beliefs.

The general morality of Mark is he wants it to be something good, but other factors in the world will not want that to be true. In Aldous Huxley's *Brave New World*, eugenics separates society and destroys what it means to make individual choices because of where they are placed in society at birth. The characters in the story do not want to use it for evil like those of the Nazis and the Soviets who used genetics and heredity in morbid and genuinely evil ways. I don't want Mark to fall to that because of my faith but there will be other forces seeking to destroy what he wants to do. He will also partially destroy himself and must wrestle with this decision. Reading *Violinist Thumb: And Other Lost Tales of Love, War, Genius, As Written by Our Genetic Code*, we see what is possible through what we pass down, but it doesn't always define us. What we can do with the gifts we have is important. Mark will be taught valuable lessons about this throughout the novel and into possible later sections. His friends will question him and push him to be himself but the hindrances and obsession over disease and death will haunt him. Genetic manipulation and DNA splicing is a field of science which could take away from the unique characteristics and trials we experience as humans if morality is not put into check.

Seeing the world through the eyes of history, helped me to focus my narrative on our modern world today. I think using our own past to help us understand where we came from is important. Bringing in the real world and adding this modern technique of DNA splicing and DNA sequencing, will be a science in which it may be possible but is still in the realm of fiction. Having readers being able to connect to real life examples and places is something I enjoy

writing about. Thinking of the horrible tragedies of death and disease will make the reader sympathetic to Mark but know that what he is doing is morally questionable.

A journey of self-discovery into the human mind and of science is what this thesis hopes to accomplish. I want people to think about the questions and morality of what is happening and why someone would do this experiment. The reader will think about the moral reality of what we are accomplishing through science and how obsession can lead to consequences of both good and evil. The reader will go on a journey of a brilliant young scientist who can alter the world. The decisions of choosing the ethical choice of what others deem “playing god” and “bettering humanity” will be an internal struggle he will have throughout the story.

CHAPTER 1: BROKEN MEMORIES

OCD stands for obsessive compulsive disorder. We are deemed “clean freaks,” “weirdly ordered,” “obsessive,” and “reactionary” to others. Life is a monotonous struggle, a tedious loop. I want to escape reality by creating an experiment that will rid the world of disease and death. I will never feel good enough. The world needs to change. I need change. There will be nothing to stop me.

One, two three, four, five, six, seven, eight, nine-

“Hey dweeb, what are you doing?” asked a boy named Cary.

I have to start over... One, two, three-

“I asked you a question.”

Mark Boverit held up a finger and counted the grapes to make sure there was an even amount. His grandpa gave him an uneven number of pretzels before he died. If he didn't eat an even number of grapes maybe his grandma would die too. He loved his grandma a lot.

If there aren't an even number of grapes, I can't eat. Maybe my grandma will die.

One, two, three, four, five, six, seven-

“What are you doing, weirdo?”

“I have to make sure there is an even amount. Now, please leave me alone.”

Mark ran away. He hid in a corner of the playground and sat against the brick wall.

One, two, three, four, five, six, seven, eight, nine-

Cary ran over and grabbed one of the grapes before Mark could stop him and ran away laughing. Mark counted and there was an uneven number of grapes.

Mark put his arms on his knees. Tears ran from his eyes. He couldn't eat the grapes because there was an odd number. Now his grandma would die too.

I wish I could be normal.

“Grandma, why am I so weird?” Mark asked.

They rocked back and forth on the swing at her house near Lookout Mountain, Georgia.

Mark could feel the humidity of the Georgia air soaking into his shirt.

She laughed, “We are all weird, dear. I heard about what happened.”

“I sat outside on the wall and cried when someone took one of my grapes. Then, I washed my hands until they were red and hurting. I just couldn’t stop washing my hands because I had an uneven number of grapes. I thought you would maybe die. Grandpa didn’t give me an even number of pretzels just before he died.”

“Oh dear, I am still alive. Your grandpa didn’t die because he gave you an uneven number of pretzels, he died because he drank too much.”

Mark breathed a sigh of relief, but there was still an urge for things to be even. He didn’t want to take any chances of her dying.

“How does it make you feel?” she asked.

“Like a crazy person.”

She sat in silence for a few moments rocking the chair in perfect motion. “I am sorry, hun. That must be really hard.”

“I hate it.”

“There are things you will hate about who you are. So, what are you gonna do about it?” she asked.

“I don’t know.”

“Well, you better figure that out. You are a smart kid and I am sure you can figure it out.”

“I don’t know, I—”

She spoke softly and remained calm. “I keep hearing “I don’t know”, I think you need to stop saying that and start saying “I know” more often, okay, dear?”

“I will try,” he said.

““Do or do not, there is no try,”” she said in a voice that sounded like Yoda.

He laughed. She always made him smile and laugh. “I didn’t think you watched movies.”

“Are you kidding me? *Star Wars* is one of my favorites. The originals of course.”

“I will do better, grandma, I promise.”

“I know you will. You just have to suck it up and deal with it. You can’t change who you are. Don’t see what yah have as a weakness but as a strength. Our weaknesses make us human. Use that to achieve your goals.”

She sat silent for a moment. “There were things I wished I would have done but what is past is past.”

“I am sorry, grandma.”

“You are a sweetheart. Stay true to yourself and no matter what happens, don’t lose a sense of who you are, even when you feel alone.”

Mark could sense something was wrong and could see small tears coming down her cheeks. He gave her a hug. His grandpa’s death was hard on all of them. Even though he drank, he was mostly kind. Mark’s obsessive behavior started to show when his grandpa was sick and his grandma started to cry more.

“I miss him,” said Mark.

“I miss him, too,” she said.

She grabbed a cigarette and lit it.

“Those are bad for you, Grandma.”

“Don’t you dare use them then.”

“I won’t, I promise.”

She put her arm around him, and they continued to sit on the swing until the heat of the day came.

The humming of lights made Mark uneasy, so he put in earbuds to drown out the noise.

He saw his reflection displayed in the phial with misshapen eyebrows and insufferable messy hair. Looking closer, he could see the faint reddish-brown hue of skin. His mom’s grandparents were from Greece and his dad was a quarter Cherokee. He had inherited more of his mom’s genes with his black hair and thin short body. His dad was average height and well built. The genetic makeup, even with its flaws, made him unique.

Science always fascinated him and so that is what he decided to do in college. He had a bachelors in earth, atmospheric and planetary sciences and biology along with a master’s in biology with a focus on genetics and a PhD in genetics at MIT.

He swirled the liquid in the phial, grabbed a dropper, and put a drop on a small piece of glass. The position of the microscope needed to be right. While looking inside the microscope he could see the cells in the blood. Mark turned the dial on the top to increase the frequency and saw strands of DNA on the computer screen. His good friend Paula had given him the DNA of the rose petal and had spliced it with his DNA.

The genetic mutation was breaking down. Although he was disappointed, the splicing seemed possible with the right combination. She was the best biological engineer he knew even though it didn’t work yet.

The image of her perfectly smooth black hair with even purple highlights, green eyes, and smooth skin made his heart skip a beat. She was brilliant and he liked her. His best friend Christopher, an environmental biologist, gave him crap for spending too much time on his work and not asking her out. Being a postdoctoral researcher at MIT made little time for a personal life, let alone dating.

Love and relationships were hard for him. He was twenty-eight, single, and never dated. Here was this twenty-five-year-old single woman who talked and cared about him. Having OCD made him seem weird to people; they had a hard time understanding the way his brain worked. Paula and Christopher didn't seem to mind, but he couldn't bear it if his OCD relapsed again. He knew full well that OCD was part of him, and he wanted that to change.

He went over to the sink and washed his hands for thirty seconds, grabbed the paper towel, and made sure the hands were dry. The mirror showed his reflection. He was having a hard time getting her out of his mind.

Mark took a deep breath.

Stepping back over, he looked at his notes on the genome structure of his DNA and the rose DNA. While doing doctoral research, he came up with a possible genetic mutation that could help integrate different DNA together to create a new form of life in plants. Dr. Krueger, his advisor, wanted him to work on a project dealing with just different plant DNA but he couldn't stop at plants.

Scientists had been working with DNA structures and genetics for years. He imagined a new form of life that could help advance and restore the oxygen balance on earth. The experiment could tackle diseases, malformations, and chemical imbalances in the body. This idea

came to him after vowing to make his grandma proud and stop at nothing to get rid of diseases and death.

Working with Dr. Krueger, his friend Christopher, and Paula made it an enjoyable experience. Christopher and Paula thought he was crazy at first, but they all saw his potential. This experiment became a coping mechanism for him after the death of his grandma over a year ago.

Mark was sitting in a study room at the library working on a report for the genetics department. He was just beginning to finish up when he received a text. The noise bothered him, so he ignored it. Then, the phone began to ring, and he silenced it. It rang again.

“For God’s sake.”

“Hello?”

His mom spoke on the other end. Tears were rolling down his face as he bolted from the room.

Oh my god, she can't be dead. I just saw her two weeks ago and she was in good health. This can't be true. Oh god.

Mark got into his car and started tapping the steering wheel.

One, two, three, four, five, six, seven, eight, nine, ten.

Why do I have to do this? I thought I had rid myself of this. I don't do the rituals anymore, now my grandma is dead.

The airways to his lungs were locking up, he could barely breathe. He rummaged through his bag, grabbed the inhaler, and let the medicine flow through his system.

He took off down the road reliving memories of her. Tears were flowing from his eyelids. The fear he had of always making sure everything was even, that his food didn't touch, and his

hands were clean was to help her stay alive. Death was part of being human, but it didn't mean that he liked it. She was the first one to help, listen, and comfort him.

Now, she is gone...

When he saw his grandma lying in the casket, he couldn't take it. He ran right out of the funeral parlor and into the bathroom. Everyone was looking at him. It reminded him of the times when his OCD would flare up.

This is just not right. It can't be. One, two, three, four...

He tapped his finger ten times over and over on the sink, hoping this was all a dream he would wake up from. It started to calm his mind, but it was no good.

No, this damn OCD can't come back, she wouldn't want it.

But she is not here, oh god.

Please! Please!

He repeated "grandma" over and over until his mom came into the bathroom, hugged him, and patted his back.

Grandma, grandma, grandma, grandma.

He stopped and then repeated, *why?* until his mind went numb.

When he got home from the funeral, he shut himself up in his apartment and went around organizing, counting, and rearranging everything. Memories of her flooded his thoughts. He didn't realize he could produce this many tears. He washed his hands until they were raw.

I need to stop death from happening.

I have to do something about this.

I won't stop until I can honor her memory.

What if I created an experiment that could stop death and disease?

Mark sat down. He started writing his ideas and thoughts down. His hands hurt but he didn't care. Ideas were flowing and he couldn't stop them.

What if I could alter the human genome to rid the body of diseases and death?

What are some things that live a long time?

He wrote down some animals and then something came to his mind.

Plants, of course. They have DNA. Maybe plants could help in fighting diseases and death. I am already splicing different plant DNAs together. I could splice plant DNA into humans.

No, that is crazy...or is it?

I must stop this torment of human suffering.

I can honor her memory.

I won't stop.

Nothing will get in my way.

Someone was pounding on his door. He could hear Christopher and Paula.

"Mark, come on! Open up!" Cried Christopher

"Yeah, Mark. You have been in there for days, we are worried about you," said Paula.

Mark ignored them and kept writing.

He heard a voice he hadn't heard in a few years, "Mark, please open the door. We want to help you."

Why is my therapist here? How did they find her?

He opened the door and there was Christopher, Paula, and his therapist Mrs. Foyer, who didn't look any different from when he last saw her.

Mark started to feel foolish. He had a relapse. They all came in and sat down.

Mrs. Foyer spoke and looked down at his shaking hands. “Paula and Christopher contacted me to tell me what happened. I am sorry, Mark. I truly am.”

One, two, three, four, five, six, seven, eight, nine, ten taps of each foot. He could see her watching him.

“I have to count and rearrange everything every time I see her in my thoughts or talk about her.”

Mark got up. Mrs. Foyer grabbed him and pulled him down and looked at him. “Mark, her death is not your fault. It’s part of life.”

“I don’t want it to be. I will stop death and disease. I promise you.”

There was an awkward silence. He started to tap his fingers.

She grabbed his arm and spoke calmly, “Mark, stop this. She would not want you to live your life like this. Your grandma helped you to overcome this. Honor her memory by coming back to those who care about you. The rituals won’t bring her back.”

His colleagues, therapist, and his mom helped him although he did have to take medicine for the first time since he was in high school. It took a few days for him to compose himself, but he was able to come out of it stronger. When he received her 1967 Mustang, he put a picture of her on the dash, to remind himself of his new purpose.

My mission is to cure disease, death, and stop people from dying.

The experiment would be a breakthrough in science, genetics, medicine, and helping the environment. His obsession of transforming the body was being analyzed at every moment.

When he proposed what the extension of his experiment could do, Christopher and Paula began

to see the possibilities of it but with reservations by possibly dabbling in Eugenics. Dr. Krueger would probably share in the reservations when he found out.

Eugenics was a field he was familiar with in his studies. The killing of people or sterilizing them for bettering society was barbaric, especially what happened in the 1920s at the Virginia State Colony and in 1940s Nazi Germany.

I am not barbaric. I want to help.

The possibility of strengthening the human genome was becoming a reality. He believed it could create fair opportunities and a better way of life. He thought about the consequences, but he would not perform it on anyone until it was perfected.

The only problem of not perfecting this experiment was the distractions of life.

CHAPTER 2: RELATIONSHIP GOALS

There was a knock at the door.

I sure hope it is not Paula.

It was Christopher.

Mark breathed a sigh of relief not because he didn't want to see her but she would certainly distract him more than Christopher.

Christopher was tall, lean, and loved to run. He had a short goatee, which was evenly distributed on his face. Christopher's father was from Ghana and his mother was from Scotland.

Mark had a hard time connecting with people, but they got along well. They had been friends since their first class together at MIT over seven years ago.

"You do realize it's eleven o'clock at night?" said Christopher.

"It is precisely 11:03, but yes, I am aware of that," said Mark.

Christopher sat down next to Mark. While others were annoyed when he stated the exact time, Christopher shrugged it off.

"Do you ever sleep?" asked Christopher.

"Only when it is necessary," replied Mark.

"I remember that time when you didn't sleep for three days to finish our last genome project together."

"Studying the Importance of Roses in Understanding Plant DNA was what it was called."

Mark knew he had a problem sleeping because his mind was a constant moving machine. He calculated that he only needed four hours of sleep a night, maybe six if he decided to exercise or go hiking.

"We received lots of funding and money from that project. It helped so we could have funding for this experiment. I don't regret it," said Mark, who looked closely at the liquid.

He was trying to focus, but Christopher kept on talking.

“I can tell you are focused. Come on, let’s go out and have a beer later. It will be on me,” said Christopher.

“Once I finish this. You’re distracting me. Then, we can go, okay?” said Mark.

Christopher sighed, “I will be at the bar, the one we always go to, and in our usual spot.”

“I will be there.”

“Alright, don’t leave me hangin’ like last time.”

“I won’t.”

An hour and a half later Mark walked in, and Christopher was still there. Mark knew that he had to finish what he started but couldn’t miss spending time with Christopher. Last time he missed their hangout time, he felt depressed for two days. He was close to a relapse, but Christopher helped him to realize it was not a big deal.

Christopher ordered him a beer.

“Sorry I am late. I had to finish the formulaic equations,” said Mark.

Christopher laughed, “Equations are not my thing. My other project had some tough algorithms that take hours to calculate. I just want to see the finished product or have the computer do it for me.”

Mark asked, “Is it the project studying the DNA structure of the Sequoiadendron giganteum and how their cross-pollination affects the environment around them?”

“Haha, I need a new name, that is a mouthful. That project will hopefully help us with the one we are doing together. I love giant Sequoias and enjoyed seeing them when I was a teenager. My mom said it was one of the most impressive sights she has ever seen.”

Mark knew that Christopher had to overcome a lot of challenges in his life. Christopher's father was killed by a gang in L.A. when he was fifteen and helped his mother through the grief. He talked of seeing the redwoods as his defining moment of falling in love with nature and to distract himself from the pain.

"I have always wanted to go to California and see them. I will never forget the first time I saw the colors of the Blue Ridge Mountains in each season. It was perfect. I understood the importance of plants and trees from school but seeing the colors made me appreciate the process of plant life," said Mark.

Christopher finished his beer and ordered another. "Those were great trips in grad school. That hike at Mount Mitchell was incredible. It reminds me of the importance of what we are doing."

Their love of nature, plants, and trees brought them together. With their experiment they could help humankind and restore the climate to what it should be. Christopher was passionate about climate change and could talk about it for hours.

The dangers of what was happening to the planet could be catastrophic. It wasn't all of their fault, but people certainly weren't helping the ozone layer. There were other scientists trying to fix this problem but they both believed their experiment was the right one for combating climate change, disease, physical deformities, and even chemical imbalances.

"Me too, Christopher," said Mark, taking a sip of his favorite beer.

They talked at length about their passions in and outside of academia until the early morning hours.

Christopher said, "The bar is closing soon. See you tomorrow?"

“I will be there,” said Mark after finishing his last sip of beer and gently setting the glass down on the table.

Mark wasn't usually overly sentimental but became more open when he was drinking. “Thanks for being my friend. I always had a hard time with people, but you understand me.”

Christopher put a hand on Mark's shoulder. “You are buzzed, take a few minutes to settle down. I will always be your friend, no matter the shit you pull.”

Mark woke up at precisely 6:15 A.M. receiving exactly four hours of sleep. He checked his phone and scrolled through the emails. He saw that Paula had emailed him about coming to his lab today at eleven A.M because Christopher had something come up. There was also a reminder from Professor Kreuger on their meeting tomorrow afternoon at two P.M. before Mark left for his trip to visit his family.

He was slightly nervous about his meeting with Paula even though they had worked together for almost two years. Mark didn't want to lose her because he liked her more than a friend.

Mark stopped daydreaming and went over his schedule in his head as he did each morning. His routine was simple: Check email, wash hands, drink a glass of water, eat breakfast, take a shower, get dressed, drink another glass of water, pack lunch, and head out.

Mark entered his lab and sat down to work at exactly eight A.M. Before starting each day, he would write down why he was doing this experiment. This habit reminded him of the change that he and his colleagues could accomplish:

This experiment would better human life through less disease, more breathable oxygen, and a longer life. Less pain, suffering, and death.

Breath entered his lungs. More oxygen was being inhaled, because of the amount of people on the planet, and soon the world could run out. Maybe it will be ten thousand years from now, but it will come. Mark believed it could come even sooner based on what he was looking at.

Mark looked at a graph from 2018 on his desk. The oxygen levels were certainly going to decline because of the problems of plants dying off and higher levels of toxic materials. Even though there were more trees, deforestation was a problem throughout the world. Christopher helped him with the models and was always gathering data for him to look at. The models could help them to determine if creating a new life form, who breathed less oxygen, could disrupt the balance.

He looked at the next graph from 2010 from World WildLife Fund, that he proudly contributed to each year. Seeing the deforestation in the next five years made him believe it was worse now in 2019. Christopher was supposed to be sending him an updated chart soon, hopefully with Paula.

These charts were only a small glimpse into what they were trying to fix. The experiment could be a dangerous and risky endeavor. He looked at the graphs and told himself why this experiment would have to work; they needed it to; not just for curing diseases but for sustainability in the world.

Mark bounced his legs up and down, washed his hands constantly, and checked himself in the mirror over and over. Paula was coming to see him soon and bring him more data on current oxygen levels in the world that Christopher gave her. This was not Mark's area of expertise. His expertise was more about genetics and the DNA makeup of plants, humans, and animals.

The clock said 10:55 A.M.

When he was a teenager, his OCD and social anxiety would make it almost impossible for him to talk to people. There were times he had to see his therapist Mrs. Foyer multiple times a week but now it's only when he had a relapse. In times like this he wished he didn't have the damned disorder.

Paula knocked on the door at exactly eleven A.M. She was punctual and knew that being a minute late was something that he didn't like. He tried to stay focused on his work when she sat down next to him, but it was hard. She knew that he hated to be disturbed until the right moment. Once he was finished, she could talk to him.

“Good morning, Mark,” she said.

He looked at her with her perfect green eyes, straight jet-black hair with perfect highlights of purple. She was wearing black yoga pants and a tan dri-fit shirt.

Why does she always have to look so good?

“Good morning. What brings you in today? I didn't expect to see you until after my meeting with Dr. Kreuger,” said Mark.

“Well, you know, I just wanted to see how you were coming along and give you the models you requested. Christopher apologizes for not coming.”

“Thanks.”

“I am a little worried about you. You sometimes work too hard, Mark. Me and Christopher do care about you. We do care about our experiment being finished in time, but we can't do it without you.”

Ever since his relapse, all three of them were deeply concerned about him. Sometimes it annoyed him. With Paula it made his stomach lurch but also made him feel comforted and heard.

“I am fine...really. Don’t worry about me. I will make sure to have it done in time. And you couldn’t do it without me,” he said, smiling.

“Just like you to say that. You don’t know anything about biological engineering or programming to make this work. Just like I don’t know about the genomes of a redwood tree, or the genetics involved to create something that will work. We need each other.”

Mark shifted in his seat and scratched the side of head. He didn’t know what to say.

“We need each other,” “We do care about you,” this woman was playing with my heart.

She looked at him with those caring eyes.

If there was one person besides my grandma that could melt my heart, it was her.

“Don’t worry, Mark. I know that you want to know it all, but you can’t do everything. I know you have OCD and get obsessed but maybe this trip back home this weekend will help you.”

“Yeah...maybe...my family is complicated. Mrs. Foyer said on the phone that it would be good for me to get away and see them. That I should take a break from this.”

She put a hand on his shoulder.

I just love the touch of her hands; she is so comforting and only she could say something about my OCD and get away with it.

“Mark, we all have complicated relationships in life and in the fields we study. The key is to make it work.”

She headed for the door and turned around. “Want to come run with me? I understand if you are too busy. I mean if you have workout clothes anyways. I am just running a few miles around campus before I start work.”

Mark shifted nervously and looked at his notes and files to go through. He couldn't think right now. He knew going with her would distract him, but it would be nice to be with her.

“Okay, I will go with you, but I am a terrible runner. My asthma is horrible.”

Another thing he hated about himself.

“No worries, I just like the company.”

On their run, they talked about the importance of the experiment and life. Mark, who struggled in talking with people, felt like she was easy to talk to, even amidst his struggle to breathe.

His obsession with her was flooding his thoughts.

When they stopped, she looked at him. “I don't understand why people don't like you.”

He looked at her apprehensively.

“I mean...I am sorry...I just heard that from other people. I like you though.”

Mark couldn't be mad at her. Hopefully, this experiment will change how people perceive him.

“I know you don't. It is true, I guess. I am a hard person to get along with. My therapist, when I was teenager, told me that is what happens with OCD people. They can get obsessed and clingy because of a certain fear of loss. It can make them appear socially awkward. When my OCD flares up like with my grandma, I take medications to help. I try not to let it get that far but I have had to use SNRI's in the past. I am hoping this experiment will change people's minds about me.”

She gave him a hug.

Her embrace makes me feel comfortable and more of myself. I truly hope I don't mess this up. I just need to be patient.

Looking with her perfect green eyes she said, “You already changed me.” She turned around to walk away. “Don’t completely change who you are. You are unique and that is what I love about you. Have a safe trip.”

He wanted to say more but stood there. The word “love” was playing over in his mind.

CHAPTER 3: COMPLEX RELATIONSHIPS

“Ask the plants of the earth, and they will teach you.” Job 12:8

The next day, Mark saw Killian court and the Great Dome while walking on the grounds of MIT. He was thinking about his conversation with Paula and was glad that he didn't screw anything up.

Mark sat on the grass and grabbed a pen and notebook out of his bag. The uneven edges of grass blades didn't bother him anymore. He couldn't sit on the grass without being annoyed when he first developed OCD. His therapist would make him touch the grass until he wasn't bothered by it. Now, he was trying to see the beauty in life.

Expanding the limitations of the diseased and deformed bodies of humans was what they were hoping to accomplish. If he could make it work, it would show everyone else how normal he could be. It would also honor the memory of his grandma. She would want him to create something beautiful.

There was something that Paula said about “complicated relationships” and “making it work” that directly correlated to the experiment.

I wonder what complex relationships are in the realm of genetics. Ones that are within the human body, trees, and plants? How are they the same or different? How could I make all of them work together? How will this change the environment?

The pencil twirled in his hand. He was thinking hard, needing to go beyond the basic science into something complex.

How could the DNA sequence and chromosomes be intertwined? How could I create different variations within these structures? I have already done it in plants with little damage to their structure. I don't want radical side-effects from this intertwining of chromosomes and

DNA. Splicing different plant DNA together was one thing but incorporating two different sets of DNA would be difficult. I believe it is possible.

He grabbed a folder out of his bag and studied the structure of the rose DNA intertwined with his own. Their structure was different but if the splicing was done correctly, it could work.

Our project was something that would alter the human body. People could metabolize energy and use different sets of DNAs and have different chromosomal structure if spliced properly and carefully. It would have to be within the confines of using different plant DNA interspersed through a process that has never been done before. Many people would believe this experiment was out of a science fiction novel. I was looking at the charts; how could we splice the DNA and chromosomal structure and allow people to have plant DNA in their body? Where could I fit them in?

Mark looked around and could see people walking, an innate desire to move. It was a process that has been around for millions of years. The order and structure of life was necessary.

Of course, it would need to bound or transform through a bacterium. We ran into the trouble of the lungs, ways of using energy, and how the body would react. We would need the best equipment or maybe something that wasn't even available yet. That was one of our roadblocks. There had to be a way to bypass the processes. We were genetics, bioengineers, and botanists. We were the future, and something needed to be done or they would crumble and die like my grandma.

The gentle breeze went through Mark's hair. The complexities of human life were so numerous as he saw students and faculty walk the grounds around him. There were many moving parts within the body, all connecting to form and sustain life.

One wrong move, one bad genetic code, and their lives could be altered. Diseases could take any of them. I know the profound impact of diseases. They could develop a lung condition, develop bi-polar disorder, have OCD like me, or get an unknown cancer like my grandma. I hate cancer, I hate death, and I hate suffering. I don't want anyone to experience this anymore.

Mark looked at a simple chart of Catabolism and Anabolism which shows the inputs and outputs of energy. This would have to be different. He found a picture of the breathing process.

How could they bypass or alter these systems?

The keys to this being successful was the reaction to changes and how this person connects with the environment. It was certainly dangerous. I believe that diseases and malformations in the human genome could forever be altered.

There were differences between plant and human DNA like nucleotides. We would have to find a way to fill those gaps and alter them, so that humans could live with the plant DNA within the system.

This is where I lost everyone and only my friends believed it could be done. The university only allowed me to do this experiment because Dr. Krueger was the best in his field and had connections. Now, I had to prove to him that it was possible. Once I bonded two plants together, I wanted to move forward to people. This experiment could alter how we view science and nature. We could create a world where our oxygen levels won't suffer. There would be longer life and less disease. Death would be natural, based on time, not of getting a deadly disease. Maybe, over time, death could be avoided.

I must take this one step at a time.

Mark looked through all these photos and it drove him crazy that he could not figure out how to do this.

Dammit.

What ways could I mess with the structure of the human body without catastrophic consequences?

He grabbed his data that he had been working on and started eating an apple.

Maybe a good sugar rush will help me. Probably not, but the apple was good.

The samples and structures of both the DNA and plants were so similar. Yet, humans were intelligent, were able to communicate, and have intelligent conversations. Plants communicated differently and were a different form of intelligent species.

There were debates about the messages that trees could communicate with each other. All living things communicate in some way. My ancestors believed that nature was connected to the divine and all life was connected.

“Look around you, Mark.”

“Yeah, I see it. What about it, Grandma?”

She took a puff of her cigarette. “Out there, all the natural and spiritual worlds are connected. The Upper World, Underworld, and Earth are where we can tread. We live in all of them. The trees and animals are part of who we are.”

She is going crazy.

“I heard the story of the Great Spirit giving everything life when I was a kid. You told me that me that was bull-”

“Mark, dear, I know that you have learned a lot about science since you were a kid. You are some fancy scientist now.”

“A doctor in genetics now.”

“Yeah, whatever.” She took a puff of her cigarette and blew it out. She started hacking.

“Come on, there is not some Great Spirit that created the world. They are just stories, like the bible and other creation accounts. It is done through natural order. Now, we must learn from what the earth presents to us. Science is the religion of the world.”

“I didn’t want to believe that we are part of the natural order of the world. I just wanted to go into the ground and be done with it. But, Mark, as you get older, you have to cling to something. I have nothing left. Looking out in nature can give me hope. Maybe, my grandma spoke some truth.”

Mark just sat there, looking at the small forest. The swaying of the trees made him wonder if he got it all wrong. He loved his grandma but admitting to this would alter his logic.

“Whatever makes you happy, Grandma.”

“Mark, my grandma told me that when we die, it is a transition into a new journey.”

“Grandma, are you okay?”

She smashed her cigarette into the ashtray and slowly got up. “Don’t look at me like that. I am just fine, dear. I am an old woman now. Maybe she was wrong, and I will just fade away like dust. Maybe, I could also be part of the natural order.”

Was science correct about nature? Maybe science and myth could be one in the same.

She died two weeks later and now I am devoted to this project. I want to prove that there is something more to trees and plants and use the environment to better human life.

There had to be a way to shock, connect, and splice the DNA of a plant into the human strand. If they could fill in certain gaps, there could be ways to bypass it, like what Michael Crichton wrote about in Jurassic Park. DNA was complex, but with the right tools and means I

could produce a beautiful specimen with the help of Paula and Christopher. In order to get to the next stage, I would have to ask Dr. Kreuger about how we could achieve this without killing or shutting down the human system. Genes, DNA, and chemical reactions within the body were intricately moving machines.

Mark looked at a sycamore tree. He studied the structure of the bark and looked at the roots protruding above the surface. His hands touched the rough and uneven surfaces. Most uneven things bothered him, but trees and nature brought him life.

There had to be a way to integrate this majestic tree into the human body. We could live longer and healthier lives. The environment would be forever changed. I wouldn't have to worry about people seeing me for my OCD and dealing with asthma. They would see beauty and how we changed the world.

We have lost our connection to nature. Now, I could reunite people back to nature...but what would be the cost? Even though they were just myths and stories, I loved my grandma and knew the pain my grandpa felt when he drank himself to death because of his failures and addictions. Then, my grandma told me she wished she did more, and then life took her before I could really say goodbye. There just had to be a way to do it, and not just through myths and legends but through science.

CHAPTER 4: HOME SWEET HOME

*“The blood of your parents is not lost in you.” Menelaus, *The Odyssey**

Mark knocked on Dr. Krueger’s door at precisely two P.M.

“Come in,” said Dr. Krueger.

Displayed on the wall were his degrees and awards from prestigious universities. The rest of the office was neat, orderly, and organized.

Dr. Kruger was sitting at his desk and looking over exam papers. He was shaking his head as the peppered beard swayed.

“Good morning, Mark.”

“Good morning, sir.”

Mark sat himself down. “I am stuck on something, sir.”

Dr. Kruger took off his glasses and looked at Mark. “What is it that you are stuck on?”

“How to bridge the gap between reality and fiction.”

Dr. Kruger leaned back in his chair, his broad shoulders, and muscular physique causing the chair to squeak. “That is what we have been trying to do for millennia. You must be more specific.”

Mark thought about what he wanted to share. He began to tap his right leg up and down. A slight sweat was perspiring on his palms.

“It’s okay, Mark. Just share what you have with me. Nothing you say will shock me.”

“Sir, do you remember what I told you about integrating plant DNA into the human system? You believed I could do it.”

“Yes, Mark, I do remember you mentioning it. Our DNA structure is complex and shifting that around could have dire consequences, but it could be done. I know that you have

been successful with the plants, but how do you intend to splice DNA from a plant into something else?"

"I have already spliced plant and tree DNA. I know it sounds crazy, but I think I could integrate plant DNA into the human genome"

"How do you propose that?"

"Well, that is why I came to you, sir."

Dr. Krueger got up and looked outside of his window.

Mark said, "I am closer than you think. I am only missing a few key components."

Dr. Krueger turned around and smiled. "You always wanted to go one step further and always wanted to do it your own way. It drives me crazy."

"I believe sir that intertwining different plant DNA is important but that is easy through cross-pollination and through similar genetic structures. I want to make human lives better, and the planet to have more sustainable oxygen. It could help rid the world of diseases and deformities."

Dr. Kreuger looked at Mark and sighed. "I know what you are trying to do. Just be careful. Double-check with Christopher to see how the world would react to it. Paula probably has a state-of-the-art DNA splicing program that you can use to help you with the DNA splicing component. I just urge caution."

"I will, sir."

"You do know that you make my life rather difficult sometimes."

"Sorry, sir. I don't want to make your life difficult."

I never want to hurt people.

Dr. Krueger smiled. Mark's shoulders relaxed, the tapping, and bouncing of his legs stopped.

Dr. Krueger said, "You are one of the best and boldest students I have ever had. Although you have a slight obsession problem, that is what makes good scientists. It is why I took you on. I think this experiment you are trying to bring into reality is a little far reaching, in my opinion...But if you give me something more concrete, I may change my mind. I know that you want to change the world, Mark, but you must do it one step at a time."

Mark replied, "If I could find the balance and the right DNA sequencing you think it could be possible? You are one of the best in the world in human genetics."

"No need to flatter me Mark," he chuckled. "This is a hypothetical statement, and I am not saying it is possible, but I want you to think of the consequences this could have. Altering or messing with the DNA structure and human genetics is a hotly debated topic. Transforming the human body is a messy business. Some of my work on fixing the human genomes to prevent certain genetics getting passed down has been met with controversy. Trying to bypass humanistic functions is a complicated business."

"I am stuck on how to bypass human functions."

"Be careful in doing that. I believe it is possible but be careful. Make sure it is right. Do you know what this experiment could do?"

"To help humanity have a more sustainable future."

"And..."

"It could destroy the fabric of humanity. Those who study religion would say I am playing God and altering the creation process. Others might see it as Eugenics. And some would use it for power," said Mark.

“Precisely Mark, it is not who we are made to be. Darwin taught us that life is selective. Some people have the will to survive, and some don’t. We are meant to be sick, have deformities, and diseases because it is part of the natural order of the world and how we fight them. There will be backlash and you must ask yourself if you are ready for that. I think what you have done so far with the plants is worthy to fight for. In dealing with humans, it is complicated and messy.”

“I am willing to take that risk. I just want to improve the human condition and help the planet. Humans are supposed to be connected to nature.”

Dr. Krueger looked at him with his deep hazel eyes that could pierce right through the soul. “Let me ask you a question. Don’t give me the school answer either. Why do you really want to do this?”

I couldn’t tell him the truth, but he would see right through me.

“Well... to better the human condition and help the environment. The work you do with genetics and helping to rid the world of imperfections is an inspiration to me, sir. Through imprinting a different DNA sequence and riding the body of imperfections will help us to live longer, be stronger, and help our environment to stay intact.”

“Mark, I know that having OCD, asthma, and social anxiety is difficult. I also know that you lost your grandma a while back. Death is hard on all of us, I know all too well... Trust me, I know the consequences of doing what we do. Keep doing the research, and when something comes to you in implementing plant DNA into the structure of humans without compromising anything, I mean anything... I will be opened to hear it. For now, stick to what you know, and to the facts.”

Well...at least he didn’t shut me down. I will find a way.

“Thanks sir, I will. I appreciate the help,” said Mark.

“You are welcome, Mark. I hear you are headed back home to your family this weekend?”

“Yeah I am.”

“You don’t sound too thrilled.”

“My family is complicated.”

“Aren’t all families?”

Mark got up off the chair. “Yeah, I guess so.”

“Just take some time away from the experiment. Maybe they will teach you something.”

“Thanks for your help, sir and for allowing me to do this. I will see you next Wednesday at two P.M. but will let you know if I have any more developments.”

Dr. Krueger smiled. “I know that you will prove me wrong. Looking forward to our next meeting.”

“Thanks sir, take care.”

The air was crisp and cool while Mark meandered through campus. He heard a buzz from his phone and touched the home button.

It was his sister. “Can’t wait to c u this weekend!”

“Me too, Rachel.”

Why couldn’t they use real words in texts? I know she was just saying that to cheer me up. She was off partying at some boy’s house last time I was there. Everyone was gone most of the time...but I guess I didn’t mind.

Each little piece of furniture, stack of papers, DVDs, and even his old CDs were neatly arranged in his apartment. There had to be a certain order to the world.

His suitcase lay open, the clothes folded perfectly, color coded, and perfectly creased. There was a manila file folder on the bed with one little piece sticking out. He slid the paper back into place, grabbed the manilla folder, and set it neatly on top of the priority stack for when he came back home.

Mark double-checked his suitcase and made sure he had everything for the weekend. He was only going because it was Rachel and Simon's eighteenth birthday. He hated social gatherings, but he would do it for them.

He looked around his apartment and made sure everything was in its proper place, opened the refrigerator, grabbed an apple and a smoothie, and closed it. It was a four-and half-hour trip home to the small town of Far Fields, New Jersey, if traffic cooperated.

Mark felt the salty ocean air whipping at his face while driving south on I-95 just past Old Saybrook. The roar of his grandma's 1967 Mustang was pulsating in his ear. Chris and Paula gave him crap for driving it, telling him it was bad for the environment, but it was his connection to his grandma that made him drive it. Plus, he thought it was badass that his grandma drove a mustang.

To his left, he could see Long Island and New York coming up ahead of him. There was something majestic about the big city, at least from a distance. Even though he was more connected with nature, the structure of buildings and cities fascinated him.

He came up on Newark, NJ and had many memories there from visiting his dad at work and going on field trips. His dad worked maintenance at the Newark Airport and was still

employed there last he knew. They had a hard time understanding each other, especially when he was diagnosed with OCD. His dad tried his best to comprehend it but just couldn't. They began talking less and now their relationship was almost non-existent except when they had a disagreement. He knew his dad worked hard and provided but he would love to have a healthy relationship with him. It felt like his dad gave up on him.

“I can't understand you, Mark,” said Mark's dad.

One, two, three, four-

“Why do you always have to do that?” he asked.

I have to start over. Ugh... one, two, three, four, five...

“Come on hun, he can't help it, just let him be,” said Mark's mom as the twins were fidgeting in their highchairs and begging to eat.

“The twins are hungry and so am I.”

There was silence as Mark's dad slammed his fist on the table and Mark's peas were messed up.

No! No! No!

Mark screamed, “You messed it up Dad! I have to start over again!”

“You listen to me, I am eating, you hear me!” he said, stuffing a spoonful of potatoes into his mouth.

Mark burst into tears and ran to the bathroom. Mark's mom gave her husband a sour look and took off after him.

Mark was rubbing his hands and cleaning them, scrubbing profusely and counting out loud, “one, two, three...”

He repeated it, tears running down his eyes. His hands were becoming raw and when he reached ten, he stopped and crumbled on the floor. Tears were running down his face and his hands were shaking.

His mom sat next to him on the floor.

“Dad hates me, I know it.”

“He just doesn’t understand, hun.”

“I don’t understand either. I just can’t stop doing it. I want it to stop.”

He leaned on his mom’s shoulder, and she held him close.

He pulled up to the driveway.

The house and yard looked the same. The only car he saw was his mom’s 2010 Ford Taurus, which looked pristine. He got out of the car.

The creak of the house’s front door made his ears twinge and he saw his mom in the kitchen baking a cake for his twin brother and sister.

She rushed to the door and gave him a hug. Wrinkles were beginning to form. The slight tinge of gray was setting into her hair, and she looked tired. Being a nurse, all those years, was taking a toll on her. Yet, her beauty still radiated, and her small petite figure was still there.

“How was the drive?” his mother, Grace, asked.

“Not bad. I made sure I went through New York at a good time.”

“You always do. Simon and Rachel should be home shortly here. You can bring your stuff to your old room.”

He walked up the stairs to his room looking at all the photographs on the wall, a steady progression of time to when he no longer saw himself in the photos anymore. When he reached the top, it looked the same, nothing had changed.

“I didn’t do anything to your room. I know best not to touch anything. I did do some cleaning though, it was rather dusty,” she said from the bottom of the stairs.

“It’s great Mom, thank you. I will get settled in and be down in a moment,” Mark said.

“Do you need anything to drink, water, tea?”

“I will have some tea.”

“Earl gray, right? With a teaspoon of sugar and cream.”

“You are the best.”

She smiled and went to the kitchen.

He sighed, set down his bag, and sat on the bed. When he looked around, it was like stepping back in time. There was a poster of Charles Darwin above his bookshelf. The books were arranged in alphabetical order, and they had been tweaked. He made sure they were all perfectly arranged. There were his *Goosebumps* books from his childhood, which made him smile. Then, he found the one that was his favorite: *Stay Out of the Basement* by R.L. Stine, which started his obsession with plants and botany. It terrified but also fascinated him.

In the closet he saw his old clothes hanging there and realized how his mom just couldn’t get rid of them. None of these outfits fit anymore and looking at the late 90’s styles made him cringe. He saw all his action figures in a box and started going through them. He loved *Transformers* and *Teenage Mutant Ninja Turtles* and many of them were worn and used but he also kept many of them in the package because he didn’t want to ruin them. When talking with Christopher he would brag that they probably were worth a lot, but it was probably only a couple hundred dollars.

He closed the closet and heard his mother call to him that his tea was ready. It felt good to be home but also knew the coming dread of facing his father.

Mark sat at the table and his mom handed him the tea. His mom didn't make it as good as him, but he enjoyed it all the same.

"Glad you could be here, Mark. I know they will be happy that you are here. They have been looking forward to seeing their big brother again."

"I missed them last time. I can't believe they are going to be eighteen."

She handed him a plate with a cookie on it.

"How are they doing?"

"They are both so busy with school and work. Rachel works at the local sport's store and Simon works at the grocery store. Plus, they both have been trying to decide which school to go to."

"I know Simon wanted to go to Rutgers. Did he get in?"

She sighed. "Well yes but on the condition that he does his first year at a community college and maintains a 3.5. His test scores were not quite what he hoped but he is good at hockey, so he is going to get a partial scholarship. And your sister, well she got into Princeton, UCLA, and U of M. She got your smarts."

Mark laughed. "I bet she will move far away. Princeton may be too close."

"I certainly hope she chooses Princeton and not UCLA. That is so far away, Mark."

"She will do what she wants, Mom. They both will and you have to be okay with that. I did."

"And I hated it. And then you decided to stay up there too."

"I love Boston. You should come visit sometime."

“I can’t get enough time off work and your father is working a lot too. We will try though.”

Mark sighed. “That is what you always say. It can just be for the day. I would love to show you around. I have been there almost ten years and you have only come for a tour and my first graduation.”

“Okay, okay we will.”

I have heard that before.

An opening of the door and loud voices came into the house. Mark got up and hugged both his sister and brother. They looked older each time he saw them. Rachel with her short petite figure, brown hair, and green eyes, and his brother with shaggy long brown hair whose muscles protruded from his tight shirt.

“I will go put my stuff in my room and will be right down,” Rachel said with a smile.

Simon said, “I must drop this off and head to hockey practice. I wanted to at least say hi.”

“What time will it be until?” asked Mark.

“Oh, it’s a shortened practice, I should be back by four thirty. It’s good to see yah, bro.”

Rachel came down the stairs, her usual cheerful self and sat at the table.

“How’s work?” Rachel asked, grabbing a water bottle out of the fridge.

“Not bad. My experiment is coming along. Kind of stuck right now though. Not sure what to do with it. Hopefully when I get back, I can do more.”

“Can’t really help you there. Science is not my thing.”

His mom replied, “You have an A, how is it not your thing?”

She shrugged. “I am good at it, but I don’t like it that much. No offense, Mark.”

“Everyone is entitled to their own opinion.”

They continued their small talk when their father came through the door from work. He was a shorter burly man with lots of lean muscle, salt and pepper goatee and hair, and a slight gimp to his walk.

He came in and saw Mark and just said a simple ‘hi’ and Mark just smiled weakly. An awkward silence ensued. It was his mom who broke the silence.

“How was work?”

His tough raspy voice spoke, “Just fine. I am going to shower.”

He went up the stairs and Rachel said, “Dad is still mad about last time.”

“Wasn’t my fault. Come on, Rachel.”

“I know, I know but he hates when you go over his head. It is not helping your relationship.”

His mom spoke, “He tries hard, Mark. I know you two never got along that well, but I think what you did last time hurt him, even though you didn’t mean it.”

Mark sighed and got up. He looked out the kitchen window and saw the backyard where he spent lots of time playing with his dad. He would try to help him play ball and catch but Mark couldn’t do it. Then asthma and OCD came and ended that dream. The athletic ability his dad wanted him to have didn’t come and over time they grew apart. They never shouted at each other after high school, but they just couldn’t connect. There was love deep down; it just needed to be extracted. It was hard. The older he got, the more he wanted it, yet something always got in the way of mending their relationship.

“I never meant it. It is just who I am. I truly want to be the son he is proud of-”

His mom interjected, “He is proud of you.”

“I just wish he would show it.”

Rachel said, “You too are so alike. So damn stubborn.”

“Rachel-” his mom said.

“It’s true. And come off it, Mom, everyone swears.”

“Your father has had to work hard to get where he is now. His father cared more about what drink to have than loving him or trying to provide for them. Then your grandma, bless her heart, just became numb. Just be patient with him, okay?” she said, giving him a kiss on the cheek.

“I will try.”

Mark went for a walk around the neighborhood. Each time it was like stepping back into familiar memories-both of melancholy and joy. Nothing eventful ever happened here except the chaos around 9/11. That still seemed like something people in New York felt, not here in Newark, even though many people believed it deeply affected them.

The fall colors were beginning to take shape all around. He picked up a leaf and felt its contours and the rigid edges that were fading from green to yellow. Something came to him. This decay would undoubtedly happen within the system of their DNA structure. Leaves were like fingers to the human body. All things were useful, and decaying was part of the natural order.

His grandma told him that all of nature had life, even the rocks. Everything was connected in some way. Mark wanted to believe this but always wanted proof.

Could the rocks have life? They didn't do anything.

“My grandma, bless her heart, told me that all living things, even rocks, had life. I told her she was off her rocker,” said Mark’s grandma.

“Rocks don’t have life, they are inanimate objects,” replied Mark.

They sat outside on the same rocker they always did when he visited. “That is what I said. But I don’t know...maybe it is true.”

“They were just stories. I remember you told them to help calm me down. To give me something to focus on.”

“Yes darling, that is true. I just wish I had listened to her more...”

Mark didn’t know what to say. She lit a cigarette. He wondered if something was wrong with her because she talked like this the day before.

Maybe she is right, maybe everything is connected. I just need more proof.

A gentle breeze wafted through the air.

“You must think I am crazy for wanting to believe in that nonsense.”

“Come on Grandma, I don’t think you are crazy. I mean maybe it is all connected, I just like proof.”

He got up. “I have to go, Grandma. Love you.”

She hugged him. “Love you too. And knowing you, you will stop at nothing until you find proof. Don’t drive yourself crazy. And don’t let anyone stop you from your dreams.”

That would be the last time he would see her, and the last words she would say to him. He vowed not long after to stop and prove that everything could be connected.

Maybe I must try and see through the lens of nature. Even if it is chaotic and messy, maybe that is the next step.

Mark looked at the leaf and put it into his pocket, something he always did when he came home. He couldn’t stop its decay or death, but maybe he could halt the death of a person. This leaf, even though decayed, would give him hope. It was a piece of home, all the mess, rigidity,

and imperfect lines that drove him crazy. But it was the importance of who he was and where he came from.

CHAPTER 5: IMPERFECTIONS

“You just couldn’t keep your mouth shut,” said Simon.

Mark could no longer look at his dad without talking to him. He had to get past the man’s imperfections. Mark was so impatient.

“Sorry, Simon. I guess I took it a little too far,” said Mark.

Simon shrugged his shoulders and Rachel came running up behind them.

“Mark, you know that Dad cares about you and tries hard. How can you let him in if you don’t get to know him?” said Simon.

“I don’t know, it’s just hard to relate to him.”

Rachel responded, “You just have to be patient with him. He doesn’t think like you. You can be hard to understand, yah know.”

Mark said, “I’m impatient and I guess I’m hard to understand. But, damn, I just want him to try. I guess I will try and apologize when he gets home.”

They all sat on the living room couch and turned on the TV. It was a comedy show. They needed to laugh after that awkward tension at the party.

Simon hated silence. “Mark, we all know that you are...well... different. But you are twenty-eight-years-old. You have to come to the realization that Dad accepted you for who you are.”

“That is pretty deep, Simon. When did that happen?”

His face got a little flushed. “It just did.”

“There is a girl, isn't there?” asked Mark.

“I don’t need a girl to be more serious.”

“I never said that.”

“You implied it, Mark.”

There was a tense silence. “Sorry, Simon. I am happy for you.”

Rachel said, “She is the best one yet, Mark. You would like her. Hell, everyone likes her, even Dad.”

“And you, Rachel?” asked Mark.

“Too busy with her studies for a boy,” interjected Simon.

She gave Simon a sour look. “It’s not all about that. There are really none that interest me. Not worth my time.”

They could hear the car pull up the driveway.

I really hate apologizing. But I will try. At least if I don’t leave worse than last time it will be a success.

Mark jumped up from the couch and went to his dad who pushed him to the side.

“I...I...” said Mark.

“You what, Mark? You are a grown ass man. Don’t stutter. Say what you want to say,” said Mark’s dad, Robert.

“I am... sorry. I didn’t mean to offend you.”

“Well, you did, Mark. You think I am stupid? You think I can’t try to understand what you’re doing? I tell everyone... about you.”

“I always thought you hated me,” said Mark.

“Hate is a strong word. I could never understand how you do things but as a man I respect you for the obstacles you have overcome. I just want respect from you. What you did tonight, by telling me “I could never understand what you deal with” or thinking “I can’t understand your work” is bullshit, Mark. We have never been close, but you are my son.”

Mark had never heard his dad say this.

He sat in silence for a moment and did a thing he hadn't done since he was a small child. He hugged his father. It was quick and short, but it was something.

He looked at his father and could see the wrinkles starting to form. There was weariness, a sense of loss. The obsession to work seemed to be bearing down upon his father. Toil of work and age were setting in.

“And you are my dad. Nothing will change that. I am sorry. I am learning to be better. My therapist tells me I need to try.”

His dad patted him on the back, smiled, and left it at that.

Mark's mom gave him a hug. “That wasn't so hard, was it? Your dad has wanted that for years. You just never let him in. He talks about you a lot and brags to his coworkers and friends about you. He is not an emotional person. And to be frank, neither are you unless your OCD flares up. You are both too stubborn.”

Mark lay on his bed and looked up at the ceiling when he heard a knock on the door. Simon came into the room and sat next to him.

“Aren't you supposed to be out partying with your friends on your birthday?”

“Well, yeah but not quite yet. It's only eight fifteen but I am leaving shortly here. Rachel is already gone, though.”

“Yeah, I figured as much.”

“Hey, so I want to say that I am happy that you and Dad are talking again.”

Mark sat up. “Look at you Simon, coming in to bring your older brother words of wisdom. Man, you have grown up.”

Simon smiled. “Yeah, I think I have come to see the importance of family, I guess. Shelly, my girlfriend, never had much of a family. They were distant, and her brothers are a lot younger than her. She had to grow up fast and told me that I was lucky to have a good family.”

“Well, we aren’t perfect, though. Far from it. So many imperfections.”

Simon replied, “True. But we have come a long way. Dad is finally opening up more and Mom is happier too. Remember when we thought they were going to divorce?”

“Yeah, because of me. I guess we have come a long way.”

“Nah man, not all because of you. I hope you don’t believe that.”

I did believe it for a time, but I am happy they worked it out.

“Don’t take what we have here for granted,” said Simon.

“She really is changing you.”

Simon smiled and hugged him. “I am thankful for all our imperfections. All the shit we deal with, it is who we are.”

Mark had his headphones in listening to the quiet melodies of Bach and Beethoven when something occurred to him. What he was missing from the experiment wasn’t something he needed to put in order, it was something that would create imperfections and chaos.

He grabbed his laptop and began looking at his notes. All the codes and sequences and intermixing certain DNA structures. He opened a graphic design app and opened the files for his experiment.

*What process was needed to make this experiment complete? What disorder was needed?
I hate chaos, but this could be the key.*

The nitrogenous bases made up the foundations of life and the genetic makeup of human beings. Mark knew the basics but that is where he had to look.

Mark knew that the DNA strands were formed out of a pair of chromosomes, forty-six in total. Genes and DNA codes were interwoven there, millions of them all creating the personality and life of the creature. Little is known what the DNA does, which is why they needed to discover more about it.

At the end of the chromosomes there is a telomere that helps keep the human body fraying or decaying too quickly. By creating a new DNA sequence, altering a chromosome could have dire consequences because it changes the genetic makeup. The missing chromosomes can cause disabilities but maybe filling in those gaps could help him discover where he would insert different DNA. An imperfection or chemical imbalance could possibly be changed if it was missing something. Mark stopped and looked at the ceiling. He could see the glow-in-the-dark stars still holding on.

What if a horrible inherited trait could be stopped or taken away?

I am entering into dangerous territory here. This is like playing god, like Dr. Kreuger thought. I believe that there could be a god out there and if there was one was one, it would want me to, right?

By fixing this pattern, people with disadvantages could be healthy. I don't want to change the people themselves because those with disabilities could be remarkable people. But I could make their life better, my life better without OCD and people not having to inherit high blood pressure or cancer.

What if that was possible?

He twirled his pen in his hand and thought hard about what was preventing him from taking this step and trying it out.

There were complex issues here and ones that some have dabbled in. Society had been pushing back against some of these radical notions when it came to DNA, cloning, genetic codes, and trying to “fix” the human condition.

What was my purpose? Was it selfish? Am I playing God? What will happen if this doesn't go right?

One wrong move and my career is over, while one right one could change the course of what it means to be human. I will do this for you, grandma, and now to make you proud, dad.

CHAPTER 6: BREAKTHROUGHS

Mark was looking at the human DNA on his computer screen alongside the Oak DNA structure wondering what to put in each strand. It was nine-fifty-nine in the morning, and he knew that his friend Chris would be here precisely at ten o'clock.

Christopher came in without knocking and sat next to Mark and waited until Mark was ready.

Christopher said, "How did it go with your family?"

Mark told him what happened between him and his father and on his possible breakthrough with the experiment.

"That is great, Mark," said Christopher.

"Yeah, it was weird with my dad, but good. And then Simon gave me life advice. It was a strange weekend."

"And what about the experiment? What kind of breakthrough?"

Mark was unsure and shifted slightly. "Don't think I am crazy, alright?"

Christopher smiled and half joked, "You and I are beyond crazy."

Mark chuckled, knowing this was the truth. He showed Christopher a DNA strand of a human with missing chromosomes and then a strand of plant DNA. In the next model he showed him how he filled in the gaps of the DNA structure because of the abnormality. It was still showing a red "X" at the top, which meant it wasn't ready but he could do it with the program Paula gave him.

Christopher looked at it closely. "It still seems a little off to me but you were able to fill in a gap. What side-effects does the human have based on altering the DNA structure and chromosomes?"

"Don't know yet."

“What about energy and metabolic balances?”

“Geez, no idea yet.”

“What bacteria did you use to bind them together?”

Mark replied, “All the questions this morning.”

“Someone has to ask them.”

“True enough. Well... that is the problem. We can't do it unless we try and test it. Not sure which plants or trees would work best. I think that what we were missing is that it is only going to work on people with chemical imbalances; those that have inherited diseases or other abnormalities that form. We can change that by incorporating a healthy strand of plant DNA.”

Christopher looked at him. “You mean change a person's genetic makeup by ridding it of imperfections? Many people would say that imperfections are needed within the system. It makes us unique. Survival of the fittest.”

“And it can hinder our potential,” replied Mark.

“Plants die, if not given the proper care. People can still live full lives with their imbalances.”

“I know, some people are who they are because of it but this experiment will give people a choice.”

“How will that affect the mind and all the intricacies of the human body? What will they have to do?”

“Christopher, I get you. That is where we need to find the right imbalances and DNA strands to fit. What plants and or trees live long? The strongest of them are Redwoods, Oaks, and Maples just to name a few. Those DNA strands can be added to fill in the gaps, chemical imbalances, physical abnormalities, and inherited diseases. We can possibly find a way to stop

those from forming or getting rid of them. We can also help the environment by using less oxygen, because plants give out lots of it. Just imagine.”

Christopher looked at him apprehensively. “A lot could go wrong with this. Plants are tricky to take care of. They require different care than you or I.”

“That is where you come in.”

“Flattered.”

“What’s with the tone?”

“Sorry, Just worried about upsetting the genetic makeup. I want to make sure it is one-hundred percent correct. I would also say that our ecosystem, or oxygen balances, and plant life are delicate right now. Incorporating this could change our atmosphere and ecosystems. There are a lot of gray areas.”

“That is why I brought you in, Christopher. You know a hell of a lot of trees and plants. All of you help to keep our morals and to ask questions. I can get ahead of myself sometimes.”

“Mark, you are brilliant. You are one of the best geneticists I know. We all need to make sure we have all of the facts. Let me do some research for you on oxygen and carbon dioxide balances. I will incorporate some models to show you how altering a certain number of people could affect the ecosystems. You keep working on the human aspect. Also, don’t forget about the real reason why we are doing this. I know that you like things just right and don’t like offending people.”

“I know, I know. I get excited, that is all.”

Christopher put a hand on his shoulder. “I will see you tomorrow, going out for a beer, right?”

“Sure.”

“And one last thing, Mark. You need to ask Paula out.”

“Come off it, we are just friends.”

He sighed. “She likes you, yah know.”

“I will...Okay. Stop pestering me.”

Christopher smiled and headed out the door.

Mark sat there pondering Chris' last remarks about asking out Paula. He had wanted to ask her out for a long time, but he had an obsessive fear of rejection.

I could get rejected and that could hinder our relationship. It could get awkward if she rejects me.

Whenever he thought of asking someone out, his palms would get clammy, get cold feet, and then cancel. This would leave him distraught for days and so he would relapse. He lost many friends throughout his life, both male and female because of this. He had a good thing going on with Paula and Christopher. He didn't want to lose what he had.

I am twenty-eight years old and have never been on a date. Maybe after I get done with this part, I will ask her out. It is finally worth the risk.

Mark sat at his computer, working endlessly on trying to figure out the right combinations. He began thinking hard about the morality of this experiment and his purpose.

I want to improve human life. Can't they see that?

He was searching for the errors in the genetic code and filling in the gaps. The experiment was becoming easier now because there were many diseases and problems that could possibly be used in this situation. He wanted to prove to all of them that he could accomplish something that no one had done before.

He would go through different diseases and replace certain DNA strands that showed up in that disease with plant DNA. He would run a test and wait to see if it would flash green. It was tedious work but worth the time.

The sunlight began to fade. A bright orange was filtering through his window. He had been working for over ten hours, conducting different tests and combinations. His eyes were becoming heavy. There would be a moment he would have to stop but he couldn't. Once he began it, he would be here until he felt accomplished. He had lost count on how many combinations he had gone through. Each one felt close but there would be one thing wrong and the human body would collapse and the red "X" would flash on the screen.

There was a knock on his door.

Mark answered it. Paula smiled and came into the lab. Most people he would have told to go away but not her.

"Christopher said you were still here. I was finishing up something, so I decided to come by to see how it was going and ask about your trip."

She sat down next to the computer and looked at it.

They talked about the trip and Mark explained what happened with his dad.

"That is great, Mark. I am happy to hear it. I wish my father would get the stick out of his own ass and apologize for hitting me for all of those years."

"Sorry that happened to you."

She smiled at him. "Thanks, one day we may finally resolve it. Supposedly he has changed, but I don't know."

"I hope you resolve it someday," said Mark, smiling.

A red "X" flashed on the screen. "You are close then?" she asked.

Mark replied, "Yeah, I guess. I have been running combinations all day long. I have had a couple of them that were close, but the metabolic rate or chemical reactions wouldn't work.

Thanks for this software by the way. It helps a lot."

She smiled. "Of course. I get bored with doing that many combinations. I like constructing things instead of entering in the data. I mean, I know it's my job sometimes to enter lots of data but doing that all day...not my thing."

"It doesn't bother me at all."

"I like that about you. You never give up. Even though it's slightly annoying."

He smiled and entered another combination on the screen waiting for it to turn red once again but then something happened.

When they both looked at the screen it flashed a green checkmark. Whatever combination he entered it had worked so far. The human body was moving and restoring energy, even though the body was sluggish. It was adapting to the certain plant DNA and using it successfully. He started recording this session onto the computer.

Mark clicked on the human body and entered in a code for it to run. The figure began running slowly on the screen and he entered "stop" on the keyboard. It stopped and the human body was still breathing.

Then, the program flashed that the body needed energy.

"Try entering in "food" on the code screen," said Paula.

Mark entered "food" into the command input.

The figure ate what looked like a piece of chicken and an apple. It showed the process of digestion and going into the stomach, but something happened. The figure was having a hard

time with the food. It wasn't properly reacting to it and the body began to convulse and then it collapsed. He ended the session.

Holy shit, it worked, it worked!

"Holy shit, Mark. You did it. You made a successful combination."

"Well...mostly. The man didn't like the food though. And it seemed rather sluggish."

"Remember what plants eat? And how they breathe."

Mark hit his head, "Of course! They need sunlight and sugar. Basic photosynthesis. Then they breathe in carbon dioxide, not oxygen. How could I have missed that?"

"It's okay, Mark. We all make mistakes," she replied, smiling at him.

"Ha-ha."

"Damn...I can't believe you did it. I didn't realize how close you were. I will make sure to update the program so you can start doing more with the food and oxygen levels. "

"Thanks. Yeah, the figure was sluggish and didn't look that great, but the combination of imbalance, blood type, and plant worked."

"You have to tell Dr. Krueger and Christopher."

"I still want to run all possible tests, but I will send you all an email. Let me upload this session to my hard drive and a flash drive. I have to make a couple of notes here. Mind waiting?"

"Nope."

"Sorry, that took so long. I will walk you to your car," said Mark.

"I can take care of myself, Mark, but I am glad of the company."

When they were close to her car, he knew had to ask her out.

“Thank you for the company, Mark. I am excited to see what you have for us tomorrow morning.”

“I couldn’t have done it without you.”

“You have said that before,” she smiled.

Mark could see all of her, all of the perfections, imperfections, and the lines of purple in her hair. He didn’t care about any of that. When he was with her, he could be himself.

“What is it?” she asked.

I have to do this now.

Mark’s heart was racing, and he asked rather quickly, “Will you go out with me? I mean I understand if...”

Damn, that was awkward.

She smiled. “You are so awkward. I love it. Of course, Mark, I have been waiting a long time for you to ask me that.”

“How about Friday?” he asked.

“What time?”

“Seven? I will pick you up.”

She leaned in and gave him a kiss on the cheek. “Perfect. See you tomorrow, Mark. And great work today. You are extraordinary no matter what anyone else says. Don’t lose sight of who you are.”

Mark stood there. For the first time in his life, he was going out on a date.

Two breakthroughs in one day. This had to be the best day of my life.

CHAPTER 7: THE CARBON PROCESS

“The Students of heredity, especially understand all of their subjects except their subject. They were, I suppose, bred and born in that brier-patch, and have already explored it without coming to the end of it. This is, they have studied everything but the question of what they are studying.”
-G.K. Chesterton, *Eugenics and Other Evils*

Christopher clanked his glass against Mark’s after he told him what he and Paula had seen. “Congrats. Can’t believe it. Hopefully, Dr. Krueger will be on board to give us more money.”

“I will take care of it, but I think he will,” said Mark.

“I am still running the numbers. Give me the precise plants and trees that work. Then, I can run oxygen and carbon dioxide levels. Paula is updating the program for me so we can move forward.”

“She is the best at what she does.”

“And did you finally ask her out?”

Mark took a chug of beer, making his friend wait in suspense.

“You didn’t do it, did you?”

Mark smiled.

“Damn, finally. That’s awesome. Congrats.”

“Thanks. I am nervous. Never been on a date before.”

“Just be yourself.”

“When was the last time you were on a date?”

Christopher just sat there.

Mark didn’t mean to say it. “Sorry, I know it’s been hard for you since Lisa died.”

Christopher took a deep breath. “It’s okay. Just need a little more time. Lisa’s accident hit me hard. I know it’s been four months...but I feel like I need a break. I am not ready for it.”

“Sorry for being an insensitive prick.”

“It’s okay.”

Mark eyed him apprehensively.

“Come on man. We are best friends. I am happy for you, really.”

There was a change in the mood and Mark had ruined it.

I keep pushing people away. First, it was my father and now I do it to those closest to me.

Mark just sat and sipped his beer. He didn’t really know what to say. One way might seem too prodding, the other like he didn’t care.

“I know what you are thinking. You have that look,” said Christopher.

“What, look?”

“Jesus, come on Mark. I have known you long enough. I am fine. You don’t have to say anything. If there is one person who deserves a date, it is you. There will be a day when that will happen again for me.”

Mark felt a huge weight off his shoulder. Christopher always was able to calm him down.

His legs were bouncing up and down in excitement and nervousness as he waited outside of Dr. Kreuger’s office. Dr. Krueger opened the door and Mark came in and sat down.

“You sounded excited on the phone. What do you have for me?” asked Dr. Krueger.

Mark opened his manilla folder and handed him the reports from the day before. The reports showed the different combinations of plant DNA within the human body.

“You get the video?” asked Mark.

“I did, but I haven’t watched it yet.”

“You should watch it, sir.”

Dr. Krueger opened the video on his computer and watched the human body moving, running, and in the end falling dead.

“Ah... did you figure out the part where they died? That is pretty important,” said Dr. Kreuger.

“I know the problem, sir. It’s about repairing the energy and metabolic rate. The human body couldn’t handle some of the different processes that plants do. I haven’t done all of the tests yet. I wanted to make sure that I could proceed first.”

“Mark, of course you can proceed. I stand by what I said last time. Be careful how far you go. Think about all the implications. Give me results and don’t share anything outside of Paula and Christopher. There can be no errors here or any leaks to anyone. No matter how much I think this is crazy, I am impressed with the results.”

“Are we still receiving funding?”

“I will make sure your funding continues. When it comes to this area of science, you always have to be careful not to step over the line. I am doing it for your own interests.”

“Thanks Dr. Krueger,” said Mark, putting everything back in his manilla envelope.

“You know why I am doing this, right sir?” asked Mark.

“Yes, you have told me many times, don’t lose sight of your goal and purpose. Many scientists push the limit. They become so obsessed they lose themselves. Then, they either fail or disappear.”

“Thanks, sir. I won’t let you down.”

Dr. Krueger smiled.

Mark exited and went to his lab. He had to run the rest of his tests.

He opened the updated program and entered the data. The abnormality that worked so far was asthma, blood type A, and DNA from a young redwood tree. He entered the components that give energy to plants: sunlight, water, and carbon dioxide. Looking at the screen, he added an even percentage of all three with sixteen ounces of water, forty-eight minutes of sunlight, and a continuum of carbon dioxide.

He hit "Enter."

The green light came on and the computerized man started walking and moving correctly but he looked sluggish. He ran and was low on energy and the process of photosynthesis happened, another green light, but still the man seemed to be moving slowly. The man started to gasp for breath, a red light "X" flashed on the screen and collapsed.

It has got to be the carbon dioxide intake. A human inhales oxygen and then breathes out the Carbon Dioxide, basic science. I thought I bypassed that step in the DNA sequencing, but I must have missed something. Breathing is a necessity for human life.

Mark sat at his desk, not knowing how to proceed.

Maybe, I can splice more plant DNA where the lung process happens.

Mark opened another program which helped him splice DNA. He looked at the DNA structure and located the lung function. Opening another file of the young redwood tree, he had the two sets of DNAs side by side. Then, he removed the lung functioning of the human and replaced a strand with the breathing function of the young redwood tree.

This is crazy. It will not work.

He tried the program again, but he didn't even get to the first step. A red light came on and the man collapsed immediately.

Breathing was part of being human. Without oxygen in the bloodstream, a body would collapse. Before, the man was getting small amounts of oxygen and that is why he was sluggish. Now, he just collapsed. I am not sure how to get the balance right and make it sustainable.

Mark went over to the sink and washed his hands multiple times. Something he did when he was stressed.

There just had to be a way...

He texted “urgent, please come to my lab” to Christopher and Paula.

Maybe they can help find a way.

Christopher and Paula arrived at his lab a half hour later. Mark sat there, hitting a key hard out of frustration. The man kept collapsing. He leaned back in his chair and grabbed his hair.

They each sat on either side of him and remained silent while watching the screen. Mark went back to the sink and washed his hands, which were becoming raw.

“You've been watching this over and over?” asked Christopher.

“Yup.”

“That must be so depressing,” said Paula.

“And frustrating,” replied Mark.

Mark continued, “I am stuck on the breathing process. I can get him functioning for a little bit but then he can't breathe and dies. I switched the breathing functions, and he dies immediately now. Do either of you have any ideas?”

“We think so much about the complex equations that we miss the simplest steps,” said Paula.

“I agree with Paula, we try to reach for the impossible and miss the basics. We will figure it out.”

Mark stopped the program. “How do we bypass the lungs and oxygen in the bloodstream? There must be a way? Plants use the opposite of humans.”

“That is basic knowledge,” replied Christopher.

“I know. Just thinking out loud here.”

“It has to be done in the gene sequencing or DNA structure. More than what you did earlier,” said Paula.

“And how do you bypass a basic function of human life?” asked Mark.

They all sat in silence.

Christopher sat up. “I may have something. I think Paula is on the right track of DNA sequencing and genetic structure. I want to make sure.”

He paused and looked at them. “The only way I can see it working is if we reverse it inside the human body. We have to alter the lungs, like how a fish can breathe underwater, a human will have to breathe in carbon dioxide.”

“Yes, we know that, Christopher. I already did that,” said Mark.

“Each person has genetic codes and billions of strands of DNA. So far you have found the right ones up until this point. What if there is a way to find the DNA strand of the plant and integrate it specifically into the human genome where a human reacts to it needing oxygen. Replace those gaps not just in the lung strands but within the brain and within the blood. You place in a new code on how the brain will react and then do that to see how the blood will react. We need oxygen, so what if you tricked the brain and blood cells to do the opposite?”

“Trick? Come on Chris, we can’t trick human anatomy,” said Mark.

“What do you think we are doing, Mark?” asked Paula.

Damn, they are right, but he was beginning to think about how much plant would be needed in order to survive. Would this human being be recognizable?

Paula replied, “I don't want this person to become more plant than human. I fear that the further we go, that may be the case. And look at the moral implications of eugenics and altering the human body.”

They all sat in silence.

“Eugenics is different,” said Mark.

“Is it really?” asked Paula.

“Eugenics uses any means necessary to get rid of certain types of people without giving them a chance. That is not what we are doing,” said Mark.

“But what will do to their genetic code and heredity, Mark? Eugenics did horrible things to people in the 1920s, especially women,” said Paula.

“Why have none of you voiced this before?” asked Mark.

Christopher and Paula remained silent.

Christopher spoke, “I didn't want to say it because we were not close. Now that we are getting closer, I think Paula has a good point.”

Christopher continued, “I have reservations, but it will be a person's choice. They will know the side-effects. This could be the future of humanity, but it is dangerous even if it helps the planet.”

Paula spoke, “I agree with Christopher that it can change the world but at what cost? Eugenics destroyed and is destroying so many people.”

Mark replied, “But we are so close. We can possibly cure diseases and create more breathable oxygen. This isn’t Eugenics, we are not trying to fix people by force. We are trying to help those who want to live and have a chance. People will know the side-effects, but we won’t know until we try. I mean... I wouldn’t do it unless I did it myself first.”

Christopher spoke, “We stand by you, Mark. We agreed to this experiment and knew the costs of it but please think about it.”

I have been!

Paula spoke, “And however much I think this is bordering on Eugenics, it could help those in the medical community deal with disease and death. Plus, it can solve the problem of oxygen levels. I just want us to challenge one another so we don’t cross that line.”

Mark said, “You may think I don’t care about the moral implications, but I do. I want our world to be a better place to live. Our future depends on it.”

“We know that you can get obsessive, just don’t let that cloud your judgment,” said Paula.

Mark wanted to reply in anger, but he couldn’t. “I won’t.”

I will stop at nothing. I have to. I need to.

Christopher spoke, easing the tension. “I have been thinking about a name for this experiment instead of...what was it, Mark?”

“Curing Human Condition Through Plant DNA,” replied Mark.

“Well...I think I came up with a better one, a unique one that will stand out. Don’t laugh,” said Christopher.

“We won’t laugh,” said Paula.

“Yeah man, I promise,” said Mark.

Christopher took a deep breath. “The Hydrogen Process.”

Paula and Mark looked at him, perplexed.

“Look, hear me out. Hydrogen is highly combustible in a gas form, but it is also in all organic compounds and bonded to carbon and oxygen. We are creating an experiment that could shatter the foundations of life and bring it together. Hydrogen is a complex chemical that has lots of functions in our society.”

Mark interjected, “What does hydrogen have to do with our experiment? We need to fix the problem of carbon dioxide and oxygen levels and use carbon dioxide as the basis for blood flow and breathing, not hydrogen.”

Paula said, “hydrogen may be the next piece to the puzzle. What if we were able to incorporate more hydrogen into the system, causing a chemical reaction to bond everything together. We could bypass the lungs and have the person breathe in hydrogen. Then, using microbes like bacteria or microalgae it will produce the gas, the person breathes that in, and that is how the energy will be used.”

“The basis of how we breathe is still oxygen. Humans can’t breathe without oxygen. We would have to change the structure of the lungs to accept only hydrogen. Hydrogen is highly accessible and is in everything, but it is not an energy source, only an energy carrier. Maybe there is another chemical we could name it after-” said Mark.

“The Carbon Process,” interjected Christopher.

“I like that much better. Carbon dioxide is what we are dealing with, but the Carbon Dioxide Process sounds weird. We just must figure out how to bypass the lungs and switch around the breathing, no big deal,” laughed Mark.

“I feel like we are going in circles and not accomplishing anything. We are back to where we started,” said Christopher.

Mark went over to the computer screen and replayed the scenario trying to find something and came up with a crazy idea.

Mark said, “Fish have gills and plants breathe out through their leaves. What if we could infuse the process of how leaves breathe out oxygen into the lung function like Christopher mentioned?”

“Remember when you said to stop you when you cross a line, this may be hovering very close, Mark,” replied Paula.

“Could we, do it? Is it possible to change the function so that it is carbon dioxide that the human needs versus oxygen by creating lungs that require what plants need? Is there a way to alter the person’s genetic makeup in this area?” asked Mark.

Paula looked at him and sighed, “Yes, I believe we can figure out a way to genetically change it but-”

“But what?” he asked.

Christopher spoke, “We are creating a genetic hybrid of a person who will be part plant and part human.”

“And Mark, how will a person react to this change in their system? I know you are willing to do it, but at what cost?” asked Paula.

Mark stood up and went to the sink and looked at the mirror.

What would happen to my body, my soul, and my heart? Would I be even more of an outcast than now? I just want to help people see how to live life without their disease, without hindrances. I want to help this planet. It requires sacrifice.

Am I willing to do that?

“I am willing to take that risk,” said Mark, coming back to his seat.

“I know that, Mark. We don’t want to lose you. We both want to support you,” she looked over at Christopher.

“And we care about you. I am willing to see this through. I can help in finding the best plant DNA and continue to do the research needed for this project because I know how much it means to you, even though I have reservations. You are so damn stubborn.”

“That is what my family says.”

Paula hesitated a few moments and sighed, “I am too, no matter how damn stubborn you are Mark Bovert. I will see what I can find out about integrating that sequence into the program.”

“I know the risks. I just want to see the Carbon Process through to the end, fail or succeed. I won’t give up until I have used all my available resources.”

“We know,” said Christopher.

Christopher stood up. “I will see yah later. I will get you my reports later this week. Friday at ten in the morning, I will come by.”

Mark stood up and did something he rarely ever did and gave him a hug, “Thanks Christopher.”

“In the end I just don’t want you to end up like Mr. Hyde, all gross, weird, and psychotic,” he smiled and left the room.

Mark’s heart began to race, it was just the two of them. He sat down and she looked at him intently and it pierced his soul. It was as if she could read minds.

“What is it?” asked Mark.

“You,” said Paula

“What about me?”

“I hate you but I like you too much.”

Ohh no, what did I do?

“Ohh don’t worry. You didn’t do anything wrong Mark, not yet anyway.”

“What is that supposed to mean?” he asked politely.

“I like you for who you are. All your quirks and awkwardness. All your brains and that deep down there is a soul worth knowing. It took a while...I just don’t want to lose you.”

“You won’t lose me,” said Mark.

She looked at him and stood up. “I know you, Mark Bovert. Just remember what you got right now. How much is this experiment worth?”

“It is worth-”

“It was a rhetorical question. Don’t forget about our date on Friday. I will be ready.”

“I will be there on time as always.”

“I know you will. And I will send the necessary codes needed for the experiment later tomorrow. Bye, Mark, don’t be here too late,” she said and kissed him on the cheek and left.

CHAPTER 8: NATURAL BEAUTY

Mark entered Professor Kreuger's office on Friday to show him what they had accomplished. Since his meeting with Christopher and Paula, they unraveled some of the roadblocks. They were able to bypass the function of the lung. The person on their screen was able to live for a short period but eventually died. Christopher had found the right trees that were least likely to develop diseases. Paula had created an algorithm and engineered the software to detect any abnormalities. Her background in chemistry led to them figuring out how to transform the genetic code. Dehydration, malnourishment, lack of available carbon dioxide was creating new roadblocks.

"You have come a long way since we first started. Are you all still okay with doing this?" asked Dr. Krueger.

"Yes sir. I am getting a slight hesitation in your voice," replied Mark.

"This whole experiment is causing me hesitation. As head of the biology department, I must have my reservations."

"What reservations, sir?"

"Well, I think you already know the answer to that question, Mark."

"The problem of Eugenics."

"Yes, Mark. And to mention that this type of transformation in humans has never been done before. We do not know the physical implications. I know that we have had this conversation before, but I want to keep reminding you that there are people who will stop at nothing to get this information. This could lead to devastating consequences."

"And what is your personal opinion, sir?"

"I believe that you are teetering a fine line of morality. You are creating something that is not fully human. How far do you go before this person is no longer human?"

“Christopher and Paula told me that too. I do care about morality, sir. I may seem calculated at times, but I want to better the world.”

“Can I talk to you not as your boss but as a friend?”

“Sure.”

“I know about your obsessive-compulsive disorder, your asthma, and your social anxiety. Those are things that you have told me you didn’t like about yourself. How obsessed are you to change who you really are? Are you willing to take this all the way? At what point will you lose yourself? Because none of us want that for you.”

I know I am obsessed; I will stop at nothing until this is complete. If I lose myself in the process...well it is in the name of science. They will all have to understand.

“I have to see this through, no matter the cost.”

“And what about those around you?”

Mark got up and went to the bookshelf where a book was out of place. He pushed it all the way in and made sure each book was in its proper place.

I am trying to better humanity; can’t they see that? Each step I am met with resistance. I can’t let this go. I am invested in this project. I can transform the human genetic code and create something more sustainable for the future.

“Why are you asking me these questions if you already know the answers?” asked Mark.

“Because I am more than your boss, I am your friend. I care not just about this experiment but about you.”

“Then, why can’t you see what I am trying to do?”

“Calm down. This is brilliant work you are doing; I am telling you to be careful not just for yourself but what this experiment could do to the world both for good and for evil.”

“And why in the hell would anyone want to use this experiment for evil?”

“Look at history, especially with things like eugenics. Good and brilliant ideas start with good intentions. You must be careful who you tell this to. I will help you publish of course but I am just warning you, I still have backlash for some of the cloning experiments I have done. Just be careful.”

Mark thought about what Professor Kreuger had told him while he walked on campus.

Has this obsession caused me to be blinded by my own ambitions and trying to make the world a better place?

I want to help the world. I know that this will cost me, but I know that we can fight diseases through this experiment. By inserting certain bacteria, ones that we can fight, is the only hindrance after it works itself out. I am not trying to perfect the human; I am just trying to help.

He sat down on a bench near Killian Court, and he could see the leaves gently falling in the breeze. People walked past him. He imagined what it would be like if people could be cured of inherited diseases.

What if they could implement a way to trigger the abnormalities that caused people pain, suffering, and maybe even death to disappear? It would change the world.

Less pain and death. More oxygen and a sustainable future.

I need to convince Dr. Krueger that this will change the world.

A person came and sat next to him; it was Dr. Kreuger.

“I thought I would find you here.”

“Yeah, I like this spot.”

“Listen, Mark. You are brilliant and I trust you. Even though I am hesitant I know that you will make me proud. We will continue funding the experiment titled “The Carbon Process,” which will hopefully benefit humanity.”

Mark asked, “What changed your mind?”

Dr. Kreuger replied, “I thought about the problems in my family. I inherited high blood pressure from mom and my dad had heart problems his whole life. What if we didn’t have to worry about that anymore? I see what you are trying to do, even though I may not agree with all of it.”

“Thanks, sir. I will be careful. You know me, I must have everything just right.”

He laughed. “Almost too perfect. I am sorry Mark. I should have trusted you; you are a grown man with a PhD, not one of my undergraduates. As I have said before, you have been the brightest student I have ever had. If there is someone who could do this experiment, it is you.”

He stood up and looked at Mark. “Now speaking as your boss, I urge you to take a break this weekend. Maybe go to upstate New York and get out in this beautiful weather. If you need to take Monday off, I give you permission. Hell, maybe you will find some inspiration. There is nothing like being out in nature to clear the mind.”

“Thanks, I will probably do that. Have a good weekend, sir.”

“And you as well, Mark.”

Mark let out a deep breath. The movement in his chest eased him. How simple something like breathing could be taken for granted. He could not let this experiment go, but maybe going to the mountains with his best friend would put his mind at ease. He texted Christopher to see if he wanted to go upstate. Christopher responded that he would pick up Mark at six A.M. on Saturday and to wish him luck on his date.

Mark looked in the mirror to make sure his outfit looked pristine and neat. There were no wrinkles on his casual button up long sleeve shirt and khaki pants. He looked at his hair and applied the right amount of paste and made sure it was sticking up evenly.

He smelled under his pits to make sure that he applied the right amount of deodorant.

The phone vibrated and it was a message from Paula saying she would be ready on time and was looking forward to it. He sent a quick response back saying that he would be there in fifteen minutes, and she responded with a smiley face.

He kept checking his teeth in the mirror and was drumming his hands on the wheel. When he was at a stop, he quickly glanced to make sure his car was clean. He specifically cleaned it out this afternoon to make sure it was spotless.

He came out to greet her, hugged her, and opened the door for her. That was the advice Christopher had given him.

“You look beautiful.”

She was dressed in a simple but elegant black dress that showed her shoulders and went down to her feet. It hugged at the sides of her slim figure. Her lips were a maroon color, and her green eyes were shimmering.

“Thanks, Mark. You look nice.”

“We are going to a nice Italian restaurant. I heard it is one of the best in town. I had to book it right away. Hope that is good with you?”

She looked at him and gave him a glare. She was looking deep into his soul.

Oh shit, did I mess up?

“That look on your face,” she laughed. “I love Italian. I mean, who doesn’t?”

“I figured it was a safe bet.”

On their way to the restaurant they talked about school, work, and what other hobbies they had.

Even after being friends for two years, he was still learning more about her.

Christopher told him not to give away too much too soon. They knew each other well already, let the conversation flow, and not let the awkward silence deter him from pursuing the conversation. A date was much different than just talking about work.

When they sat down at the table, he pulled the chair out for her and pushed it back in. Aromas of sauces, spices, and Italian smells were coursing through the air.

“You are such a gentleman. Thank you.”

“You are welcome. I am trying to do better about being a gentleman and thinking before I speak. I needed some coaching, with my social anxiety and all.”

I didn’t mean to say it, she had no idea. Now what would she think?

“I didn’t know you had social anxiety. You seem to do fine in conversations.”

The waiter came and he let her pick out wine. Even though he had little money, he knew a first date was important. On the table, he noticed that all the silverware, the centerpiece, and napkins were placed perfectly in front of him. He knew this was a good place when everything was the way it was supposed to be.

“I will just have a glass of your house merlot, no need for a bottle,” said Paula.

Mark ordered the same because he liked simple wines.

“Good choice on wine, I like it simple,” said Mark.

“Me too. Nothing too fancy,” replied Paula, “When were you diagnosed with social anxiety?”

Mark was unsure if he wanted to get into that, but it seemed like a general question that she wanted to know about him. “When I was twelve. Not long after I was diagnosed with OCD, but I think I had both long before that. Middle School age is the worst. OCD and social anxiety made it difficult.”

“Middle School is anxious and tough enough. I can’t imagine,” replied Paula.

“It was horrible. Probably the worst years of my life.”

They both realized they hadn’t even looked at the menu when the waiter came with their wines and bread with olive oil.

“I hate choosing Italian, I love all of it,” said Paula.

“Me too. I hate it when there are so many choices. I made sure the menu was simpler. I have a hard time when I go to a place with too many choices, I lock up, order something, and usually regret it,” said Mark.

“I hate when that happens, when you expect something good and it just tastes awful.”

While they waited for their food, they talked about life. Mark felt that Paula was easier to talk to than anyone he knew.

She may be easier to talk to than Christopher.

“What made you choose to go to MIT?” asked Paula.

“Well, I guess because I wanted to prove to people that I could, but I also loved the campus. I fell in love with Killian Court, and I am closer to the Adirondack Mountains. Even with my asthma, I love hiking and being out in nature.”

“Yeah, me too. With all of what happened in my past with my family, I just wanted to get far away from them. MIT was a middle finger to my dad for what he did. He never gave two shits about me and when he finally tried, I left. The military really messed up his psyche. He treated my mother like shit after coming back from the Middle East, she died, and I was left with what was left of him. I told him to get help, but he refused to. We had lots of fights about that.”

“I am sorry. You don’t deserve that. I am glad you came to MIT,” he smiled.

“No big deal anymore. I have made my own life and he can’t do anything to me anymore. He has to make his own choices.”

“Where is he now?”

“The hell if I know. He called me the other day from an unknown number, a habit of being in the military, saying he wanted to meet and apologize. I told him it was too late for that, and I told him to go to hell.”

“You think he maybe wants to try for real this time?”

“Ha, he is like being in an abusive relationship. He has done this repeatedly. Each time we try, he goes back to drinking and drugs and then abandons me. No, I am done with his games.”

“Sorry, Paula. I hope one day he changes.”

“So do I.”

Their food arrived and Mark could smell the aroma of shrimp, garlic, and lemon. They ate, mostly in silence. Not because it was awkward, but Mark had a hard time not wanting to finish his food. He hated when it got cold and when the food arrived, it was about eating, not talking.

Paula was looking at him as he finished organizing his food and making sure it was not touching.

“Mark?”

“Yeah?”

“Do you always have to organize your food that way?”

“I can’t stand it if they touch. It drives me crazy.”

“When did that start happening? I know that you told us, but I never knew when it happened. I could tell something was different about you, but you had it under control until the incident with your grandma.”

Mark looked at her and he could remember when it first happened when he was in sixth grade. He told her the story, making sure to take bits of food in between.

The apples must be here... the sandwich placed here...and the chips perfectly laid out in the corner of the plate.

Mark saw Cary come over and he hid his arms around the food. “Don’t touch my food, Cary! I mean it!”

Cary sat next to him. “Why are you so weird?”

Mark was protecting his food. He wasn’t going to let Cary destroy his meal.

Cary tried to reach for the food, but Mark pushed his arm away.

“I just want a chip,” said Cary.

“You can’t have one,” cried Mark.

Cary pushed Mark’s arm and the food got jumbled. Mark was horrified, exploded, and shoved Cary to the ground. “You messed up my food!”

Mark sat back up on his seat ready to place it back in order when Cary shoved Mark. Mark's face crashed into the food on his plate.

No! No! No! Food is all over my face! I can't eat anymore!

Mark started crying.

"Don't you dare shove me; you creep!" said Cary, walking, and ramming his shoulder into Mark's.

People were now staring at Mark as he wiped tears from his eyes. He ran out of the cafeteria and into the bathroom.

Mark started washing his hands in a repeated pattern. *One, two, three, four, five, six, seven, eight, nine, ten...One, two, three, four, five, six, seven, eight, nine, ten.*

Then he wiped his face in the same pattern. *One, two, three, four, five, six, seven, eight, nine, ten...One, two, three, four, five, six, seven, eight, nine, ten.*

Why can't I stop this? Why am I so weird?

Tears flowed down his face wondering when this would all stop.

"That is horrible, Mark. I am so sorry."

"I was only ten, it's alright, thank you though. We couldn't figure out what was wrong with me. My dad would blow up at me and my mom was worried. I would wash my hands until they were raw. Eventually, I got help from Mrs. Foyer and medication. I thought I had conquered it, but my grandma's death a little while ago made me relapse. I couldn't stop counting, organizing, and obsessing over her death. That is when you and Christopher told me to see someone again and brought in Mrs. Foyer. I still must do certain things, but it is bearable now."

Yet, I still feel obsessed over this experiment. I don't need them to worry about that. Not yet anyways.

“I am glad it is better. I will help as much as I can.”

“Thanks, you two have done so much already.”

She smiled. There was silence. Mark’s face went slightly pink.

“Enjoying the food?” asked Mark, quickly.

“Yup. I see you are too,” she said, smiling.

“I don’t like it to get cold, that is why I was eating during the story. I don’t care for leftovers either.”

“I could see that. I like leftovers myself mostly because I hate grocery shopping. One less meal to buy.”

Paula ordered another glass of wine, but Mark held off. He knew that one was enough. She talked here and there while he ate. She explained about being an only child and how much she loved her mother. Mark just nodded, smiled, and asked simple questions until he could not eat anymore.

“You really don’t talk much until you are finished,” she said.

“Told yah. I love my mom too, even if she drives me crazy. You would love her. My parents did a lot for us so we could have a good life. Both sets of my grandparents had nothing. My mom and dad met in the same town and decided to leave and start a new life in New Jersey. My mom went to school while she was pregnant with me and became a nurse and my dad has worked at the airport as a mechanic for over thirty years. Never had to fix anything in my life nor had to worry about what sickness I had.”

“I wish I had that.”

“It wasn’t easy though. Me and my dad are trying to talk now, and my parents almost divorced because of me. I could never live up to my dad. He wanted me to play sports, but I couldn’t, not with my asthma, social anxiety, and OCD.”

“At least he tried. I had to do everything myself and try to fix things after my mom died because my dad became addicted to drugs and alcohol. I hate talking about him. Are any of your grandparents, besides your grandma, still alive?” she asked.

“No, my grandma and grandpa on my mom's side died a couple of years ago. We were not close with them, but they always sent me cards. They both had lots of health problems. My dad’s dad was an alcoholic, but he was a kind man. Then there was my grandma whom I loved dearly. She told me stories of my ancestors and it is part of the reason why I love nature. The natural beauty in the world and in people was what was important. She always listened to my grumblings. For some reason she always knew what to say and when to say it. She helped me in understanding why I am the way I am.”

“Do you have any left?”

“Nope. My dad’s mom died when he was a teenager and never knew his dad. Then my mom’s parents both died in a car accident a few years ago. I kept in touch with them but sparingly. I was busy at school and being from California made it hard to go and see them.”

“Were you close with them growing up?” asked Mark.

“Kinda. It was complicated. My mom had me when she was young, and my grandparents were from a conservative Christian family. It took a long time for them to heal. After she died in a car accident, I rekindled it a little, but it always felt awkward, the baby born out of wedlock and all of that.”

Mark and Paula ordered a piece of cheesecake each and ate while continuing their conversation about life, family, and school.

He paid for the whole meal.

“You don’t have to; I don’t mind paying for something.”

“I got it, my treat.”

She switched to talking about work on their way out the door of the car.

“What did Dr. Kreuger say by the way?” she asked.

He opened her door and waited until he got into the car. “He was worried I was not thinking about all the moral implications and not wanting to lose me. He later found me and told me that he trusts me because he cares about me.”

She put a hand on his jeans and looked at him. “That is true. He cares a lot about you. I agree with him, and I also don’t want to lose you. I care for you Mark because you can see the natural beauty in everything. Even with my broken past, you genuinely care about me. Most guys have a hard time being genuine. They just want to get me into the bed, but not you. You embrace who you are.”

I can feel her warm touch on my leg, it is intoxicating.

He quickly glanced at her. “You won’t lose me. I will make sure that doesn’t happen.”

“Mark, I know that you won’t stop until it is complete. I know that you want it to be just right. I do know though that you will do whatever it takes. To be honest it scares me, what you are willing to do.”

I am not even sure of that myself.

He replied, “I won’t sacrifice myself, okay?”

She took her hand off his jeans and looked at him with her piercing green eyes. “I like you for who you are. Don’t change that, promise me that.”

“I won’t, I promise.”

But can I really do that?

When he parked the car, she looked at him. “I don’t want us to move too fast, okay.”

“What do you mean?” he asked.

“You are definitely a guy,” she laughed.

“What?”

“Oh Mark, you are too cute, thank you for the wonderful evening.”

She turned his head, kissed him on the lips, and he awkwardly kissed her back.

“We will work on that,” she said, touching his lips.

His heart was beating fast, and he uttered something incomprehensible.

After composing himself he said, “You are welcome.”

She kissed him again and gently touched her cheeks.

“Much better. Good night, Mark.”

“Good night.”

CHAPTER 9: HIKING, HEREDITY, MORALITY

Mark awoke the next morning, in good spirits because of his successful date with Paula. Christopher had already texted him that he would be there in thirty minutes and to tell him all about the date. They were going hiking at the Hoosac Range Trail, which was two and half hours away. He had been up since five A.M. dressed and ready to go. His morning routine was already complete and treated himself to a few moments of relaxation.

He sipped his black coffee and scrolled through his computer. While reading he found a particular interesting article by an MIT genetics professor whom he had met a few times. She often wrote about the moral implications of genetics. The article was titled “The Dire Impact of Genetic Manipulation.”

In the article she stated the importance of studying heredity genes that caused diseases, importance of the Human Genome Project, but also the consequences of what impacts of replacing DNA and chromosomes could have on humans. Sex-change therapy and the shifting of the political landscape could have a huge impact on the future of genetics. Manipulating certain genomes and sequences could cause the society to lose a sense of identity and what it means to be human.

Mark leaned back in his chair. He couldn't help but feel that all these questions were being raised while he was trying to figure out this experiment. He went to the calendar on his computer and made a note to schedule a meeting with Dr. Abernathy about the article.

Am I taking this too far? Am I really erasing what it means to be human?

We are flawed and that is the way the world is. But I want to make it better. I don't want to get rid of all abnormalities, just life altering ones. Everyone is telling me how it may be going too far. She is an expert in genetics and the philosophical questions behind them. If I can get her approval, maybe they could get off my back a little bit.

When he finished there was a knock on his door at precisely six A.M. He closed his laptop, grabbed his bag off the floor, chugged the rest of his coffee, washed it out, and went to the door.

“Good morning,” said Christopher, holding a Starbucks coffee cup.

“Let's go before it gets too busy,” said Mark.

They were on the highway and out of the city going along highway MA-2 with the beautiful fall colors of early October. Tinges of orange, red, and yellow were glittering the slides of the highway in the early morning light.

Christopher had asked him about his date and Mark told him just about everything that happened and what they talked about.

“You didn't have to tell me every detail, yah know,” replied Christopher.

“You know me. I like to be detailed,” said Mark.

“It drives me crazy sometimes, but I am happy for you and Paula. She has been through a lot in her life.”

“How do you know that?” asked Mark.

“Oh Mark, she is my friend too yah know. She told me some of the stuff you mentioned to me. Geez, don't worry, we are just friends.”

“Sorry, I just get a little jealous how much easier it is for you two to have and make friends.”

“It is not easy for me, not after Lisa died. I am thankful I had you. I lost a lot of friends during that time, but not you. You and Paula didn't give up on me, not after the incident. No matter what I have heard other people say, you do have a great heart, Mark.”

“Well, what happened to you would make anyone fall into despair. It was not only logical, but I wanted to be there for you. You and Paula have helped me to overcome my social anxiety and told me to go to a therapist for my OCD after that incident with my grandma.”

“We make a good team.”

“And we need to find you a woman to add to that team.”

“Maybe someday, they would have to be as crazy as us.”

Mark laughed.

They decided to hike the trail called “Spruce Hill,” which they have done before. It would take them five hours because of Mark’s asthma.

Mark was taking in all the beauty while they were climbing. There was cold and the wet dirt caked to their boots and the trees dripped from the defrosting of the morning. Decaying leaves were creating a kaleidoscope of colors.

Why is the death of a living thing so beautiful?

The colors of the trees and their radiance made him think about his experiment and about his goals of what he was trying to accomplish.

As I walk, I can feel the ground beneath my feet.

The world is connected with the spirits of animals and trees. I can feel the natural world in this closed space.

I am embarking on a journey. A difficult choice and path are set before me. There will be barriers and obstacles, like this trail.

“What are you thinking about?” asked Christopher.

“The journey we are about to embark on,” said Mark.

“Mark, you are getting metaphorical.”

“Ha-ha. I am not always scientific, yah know. My grandma told me stories of how the Cherokee people believed that all life was connected.”

“My dad told me stories of what he learned in school about the traditional religions in Ghana from his grandparents. There were different deities connected to nature and acted as a mediator to the higher order gods. He told me so that I would know where he came from. I believed he missed his home dearly.”

“But your parents were Roman Catholic. At least that is what you told me.”

“Yeah, they were scientific and loosely Roman Catholic. My dad always blamed his loss of religion on coming to America.”

“We went to church on and off when I was younger but slowly, we just stopped going. After my diagnosis with OCD, it was hard to go. I think they still hold to some of those ideals, but I think they just like taking what is good from all religions.”

“Mine too. My mom was always the less religious one and I think when my dad died, she gave up on God and focused on what was in front of her.”

“I want people to experience the beauty that is in front of them. If people have the plant DNA and genes implanted in their system, they could experience a deeper connection to nature.”

Mark could feel his breath starting to constrict. He stopped, extracted his inhaler from his pocket, and took a deep breath. His airways opened and the medicine filled his lungs. He hated that he had a hard time breathing when others could just keep going. Christopher could run seven-minute miles for long distances without breathing hard.

It is okay.

I am here in nature.

This is where I feel at home.

“People already have a connection to nature through religion and personal experience,” replied Christopher.

“Maybe, they could see or experience something different. They could see the world through the life of a plant or tree.”

“Can I ask you some questions?” said Christopher.

“Sure, go ahead,” said Mark.

“I know this more about your area, but I wanted to ask about it.”

“Don’t be shy.”

“Say this works. Say a person has plant DNA and genes implemented successfully into their system. The transformation works and they can survive. What happens to their reproductive system and how is it affected? Will the next generation have the plant DNA, or will it be recessive? Will the child be able to survive?”

I bet Dr. Krueger emailed Christopher to tell him to ask that. Christopher doesn’t know much about heredity. It’s okay, deep breath. Christopher just wants to help.

“Dr. Krueger asked you to ask me, didn’t he?” asked Mark.

“Yes, he did. How did you know?”

“Come on, Christopher. You don’t care about heredity or the implications of reproduction; that is not your field.”

“Maybe I do care, how do you know?”

“Sorry, maybe you do, but that is the type of question he would ask me. I honestly haven’t given it any thought.”

“If I am being honest, I think your obsession may be blinding you. We all can be blinded by something.”

This was true. I am blinded by the stopping disease and death because of my grandma and to make my dad proud.

They found a good place to stop. Mark pulled out a meat stick and Christopher a Cliff bar. The air was starting to warm, and the colorful leaves were beginning to gently fall on the ground. Mark picked up a huge oak leaf and twirled it. He studied the patterns and the veins. The intricate designs that were also part of his experiment.

I haven't thought about the hereditary complications. Maybe, I keep missing things because I am blinded by my own ambitions.

What would it do to the body? Would it inhibit them more than help them?

“Sorry that I didn't tell you about where the question came from. We have had lots of great professors, but he is different. He really cares about you. You are like the son he never had,” said Christopher.

“Of course, he cares because I am his student, and he is my mentor. It is part of his job.”

Christopher gave him a look that Mark knew well. It was a look of stop being so thick. “Mark, come off it. It is more than that. He lost his son at childbirth and was never able to find a student that he could relate to at an intellectual level. You are that person.”

“Has he told you that?” asked Mark.

“No, but I get that feeling when he talks to you. And it seems you like him more than you let on. With all that has happened with your dad, I am not surprised.”

“Me and my dad are trying to do better. Dr. Krueger did tell me he cares about me the other day. It was the first time he ever said something as a friend and not a boss.”

“He wants to make sure that you think of all the consequences and to do the right thing.”

Information is passed down from one person to the next through the sperm and the egg.

Each one has different genetic codes. Plants and animals are similar. Mendel was able to see different traits in peas and Morgan saw it in the fruit flies.

Would this create a mutant person?

It certainly could.

They reached the top, after a long silence. The cool breeze shifted through his hair, and he could see the vibrant colors stretching around them. Even though it was busy, the people were relatively quiet. They were taking photos on their phones, trying to capture the beauty that could never be replicated.

“This is beautiful all year, but when there are the colors, it's spectacular,” said Christopher.

Mark agreed and they sat down on the smoothest rock they could find.

Mark tried to imagine if people would sprout leaves, branches, and roots from their body. “What do you think the person will look like when they have the plant DNA implemented into their system? I mean would they be like Groot from *Guardians of the Galaxy* or more like Peter Parker from *Spiderman*?”

Christopher replied, “No idea. I mean it could go either way. It is still weird to me but pretty amazing that it may be possible. I think it may depend on how the person reacts to it.”

“It could change how we create life, fight diseases, and the way we live.”

“It could also damage the ecosystem or fall into the wrong hands. Do you remember those genetically modified people from *Iron-Man 3*?”

“Yeah, they blew up. He was altering their DNA to help their deformities.”

“What if someone tries to weaponize it?”

“Come off it. Why would someone weaponize plant DNA?”

“I am not talking about necessarily plant DNA but what if they could use some other type of DNA, say for instance an animal, insect, or other living thing?”

“Christopher, why would someone do that?”

“Power, man. Science can be power. Look what the atomic bomb did. It altered how we fight wars. Look at what eugenics and altering DNA has done. Then there is cloning. People could use your idea to push it further. If you get this to work, we would have created something from fiction to reality. We would be entering into the next phase of human evolution and people will do whatever it takes to be part of it.”

Mark knew it was true. He was no historian, but he knew that science was often used in horrific ways. People would maybe use their knowledge to take it even further. If they got ahold of Paula’s program or his file, it could spread.

Would I be a monster?

Would I be condemned by society?

No, I can’t think like that. I am here to change the world.

“I hear you. I won’t let that happen. We will not.”

Christopher eyed him suspiciously and said, “Mark, all of us that are involved in this want it to succeed. We want to make the world a better place but not everyone does. Dr. Krueger is right. Eugenics, heredity, DNA splicing, and creating a new human species could have consequences both for good and for evil.”

Can’t they see what I am doing?

I will stop at nothing to make sure that it doesn’t.

I may be obsessed, but I am not evil.

I will put things right.

Mark took a deep breath and closed his eyes, picturing the beautiful scenery and the spirits of winds and trees.

My ancestors were the ones who believed everything was connected.

By implementing plant DNA, a new mutation could help those who struggle.

Paula would understand what I am doing. She would support me and love me no matter what.

Christopher and Dr. Krueger will know why. They will still love me for me.

I want the world to know the power of nature, of trees, and the power we can hold.

Mark breathed in the cool mountain air and exhaled.

I am willing to risk it all.

CHAPTER 10: A WORD OF CAUTION

“If you prefer an “academic life” as a retreat from reality, do not go into biology. This field is for a man or woman who wishes to get even closer to life.” Herman Muller

Mark was looking at his computer screen and yawning profusely. There were heavy bags under his eyes. It had been three weeks since their latest breakthrough. Since then, they were making sure to enter the correct combinations.

The man on the screen was jogging, moving, and eating correctly. He put it on x-ray mode and surveyed the screen. He zoomed in to see all the vitals and they seemed to be functioning. This was the 100th plant that he had used, and it was finally working. Christopher had given him the redwood tree DNA. It seemed to be sturdy, strong, and could survive within the human genome.

The human bodies looked normal. There were no horrible pieces of bark protruding through their skin, no leaves growing out, and the reproductive system looked normal. When looking at the blood, he could see that the bodies had adapted to the DNA. The bodies were slowly becoming more plant-like but not to the point where it was anything abnormal. Diseases and abnormalities were taken over by the new DNA.

The hum of the lights was lulling him to sleep when his phone vibrated and made him jump. Paula messaged him that he needed to get some sleep. She always seemed to know when he was up too late.

He saved the data, put it on his hard-drive, and closed the program.

Mark took a deep breath knowing that it was time for the next step, one that he had been dreading.

Paula was knocking on the door. He slowly got up and looked at the clock as it read 7:45 A.M.

Perfect, four hours of sleep.

He got dressed, she came in, and gave him a kiss on the cheek.

Paula said, "Good morning. I got you one of those awful Chick-fil-a biscuits you love. You know they are not-"

"I know they probably are not organic, or farm raised. It's a special treat. Can I share something with you?" he asked.

"What crazy idea are you thinking about now?"

"It is ready, I believe it is ready to test."

She didn't say anything.

"You think it is too early?"

"I want to do this, but I don't know."

"We are so close. How will we know if it works if we don't try it?"

She went to his fridge and cracked open a Diet Coke and took a sip. "Man, this stuff is filled with so many chemicals. How do you drink this crap?"

"No idea, I didn't think you liked soda," replied Mark.

"I don't. Just wanted to make sure."

"You owe me a Diet Coke."

"We share the same germs; you can still drink it."

"There are too many cooties on it now. Let's go."

She laughed and Mark gave her a kiss on the cheeks as they walked out together.

It was another fine day on campus as he walked with Paula. Her hands were so smooth and soft.

He was close to completing his experiment, was dating Paula, his dad was responding to his texts, and the world felt right.

“This is the happiest I have seen you in a long time,” said Paula.

“The world may be in chaos but the life around me is going so well. I don’t think life has ever been this good.”

“Mark, I am happy for you. Have you ever thought to ask me how I am doing?”

Oh...no... it's that dreaded question that I always heard one of my parents ask and it usually ended in a fight or someone getting hurt.

I do not want to be like that. I want to be better.

“Sorry, Paula. I have been so consumed with my life that I have missed out on yours. I mean we see and talk to each other all the time, but it is consumed with my work. I have been an ass.”

“I am doing this, so you understand. I know you are new to dating. You have been single for so long it is hard to break that habit.”

“Sorry. Growing up I never got to say anything or do anything. No one outside of my family really cared about me. I would come-”

“Mark, we all have our past shit to deal with, but I want to build new ones. Don’t let work or selfishness get in the way of that. I know that you want to be liked and well respected, but I respect you as do many others. I am trying to help.”

He stopped walking and looked at her green eyes, smooth face, and her silky hair. He ran his hands through it, looked at her, and kissed her.

“Well... that was unexpected,” replied Paula.

“I am sorry, Paula. I will stop being a selfish prick. You are important to me, more than any experiment or accomplishment. I don’t want to lose you.”

Was this true though?

How far would his obsessions take him?

Was her love greater than his grandma’s memory?

“You won’t. Just stop looking at the past and using that as an excuse. Move on, grow a pair, and man up.”

Damn, I love her.

What will happen when I do this experiment?

What will she say?

When they got to the lab Christopher was already there and unusually early.

They started working on the experiment right away when there came a knock on the door.

Mark got up from his seat and felt agitated at being interrupted. There was a middle-aged woman before him. She was slender, had stripes of gray hair interspersed with blonde hair, and looked rather lovely. He knew who she was and remembered that he had forgotten to email her to talk about the article he read a few weeks ago.

“Can I help you, Dr. Abernathy?” asked Mark.

“Dr. Bovert, correct?” the woman asked.

“Yes, that is me.”

“My name is Dr. Emilia Abernathy. I think we met a couple times. I work for the Biology and Philosophy Departments and teach classes on Ethics and Genetics. Dr. Krueger referred me to you. I was wondering if you have a few minutes.”

Of course, Dr. Krueger did. He wanted me to handle this on my own.

Mark shut the door and asked, “What can I do for you, Dr. Abernathy?”

I know what she is here for, she can't change my mind. It is too late for that, and I have come too far. I guess I will hear her out though.

“Well, me and Dr. Krueger have been working together for over ten years and I have the utmost respect for what he does and what you all try to do. Science, medicine, and technology are the forefronts of our society.”

Mark just nodded in agreement.

Get to the point. I don't have all day.

“Sorry, I know that you don't have a lot of time. I will come out and say it. The experiment that you are doing is dangerous and, in my opinion, unethical.”

“And why is that mam'?” asked Mark.

“Dr. Krueger tells me that you are intending to splice plant DNA into human DNA.”

“Yes, that is correct.”

Why did he break his confidentiality?

“And you don't find this to be unethical? What will this do to the physique of a person? What will it do to the world?”

“Dr. Abernathy, what me and my colleagues are doing is transforming the human body to a better potential. We are creating a way in which people can live without deformities and we don't have to worry about the dwindling oxygen levels.”

“You are dealing in eugenics, Dr. Bover. You're trying to recreate humans. Have you ever thought we needed deformities, maladies, diseases? They are part of the evolutionary chain.”

“You seem to know a lot about this, Doctor Abernathy.”

“I have an undergraduate degree in Biology and Medicine along with Philosophy, so yes I know the science, Dr. Bover.”

Why was she here? Why did Dr. Krueger send her to me? I know about the evolutionary chain.

“Okay, let me ask you something, Dr. Abernathy.”

“Go ahead.”

“Have you ever had someone close to you die from a disease?”

“Yes, I have.”

“And if you could have stopped it, would you?”

“Well, yes but-”

“Doctor, what we are trying to do is prevent that. Plants, with their DNA structure can mend and bring together a way to fight those diseases. I am not trying to fix everyone, I just want to help those who struggle, who don't have to live with the thought of their death. This experiment will also create more oxygen within the earth's atmospheric system.”

“But at what cost, Dr. Bover?”

“It is a cost I or we are willing to risk.”

“Now, can I ask you a question?”

“Before I answer that I am curious as to why Dr. Krueger sent you?”

She spoke plainly, “He cares about you, Dr. Bover.”

Well, there it is. He is trying to stop me from going too far, but I won't have it. If he truly cared, he would let me do this.

I need to do this.

She continued, "He really does yah know. And now can I ask you a question?"

"Do you believe in God, Dr. Bover?"

"I do not. I believe that the universe is all connected with each other. All living things have a connection to the earth."

"I do. Although I respect your decision, I believe you are teetering the line of playing God. Many will not take that lightly and there could be consequences."

"He has already told me that, thanks Doctor, but I have lots to do today. If there is nothing else, I must wish you goodbye."

He turned to open the door and she said, "A word of caution. Be careful with what you are doing here. Dr. Krueger has received death threats before, and he doesn't want you to make those same mistakes. Religion and eugenics are powerful motivators for all. People will die for those morals and for power. They will both find ways to either stop this or make it into something that you didn't wish for."

"Good-bye doctor," said Mark, shutting the door.

He stood at the door.

Why did Dr. Krueger keep insisting that this was wrong, yet let him keep doing it? Why did he send a friend and not come himself? I am sick of people telling me this.

I am going to prove them wrong.

I have come too far to stop now.

After Christopher left, Paula sat on his lap. “Mark, I see that look in your eyes.”

“You all say that. I don’t have a look.”

“Mark, are you going to do it?”

“What?”

“Don’t give me that shit. Are you going to perform the experiment on yourself while we are not here?”

She is perceptive. What will it do between us? I don’t want to lose her.

Yet, I can’t stand by and let this go any longer.

“Umm...”

“Don’t give me that. Not sure why you didn’t tell Christopher.”

“I told him...well kind of. Maybe not tonight, but soon. He understands and I told him why.”

“Why do you want to do this, Mark? What do you have to prove?”

Mark sat in silence for a moment wondering if he wanted to tell her the truth. She had earned that from him.

“Because I can’t stand disease and death. I can’t stand my OCD and asthma. After my grandma’s death it was an obsession, I was holding on to it. I could see the possibility and couldn’t stop. If I do, I may relapse again.”

Tears were trickling down his face. She wiped them away with her finger, held his cheeks, and looked at him.

“You know, I love you for you. I hope you know that. I fell in love with the Mark that has both of those things. Are you willing to risk us? And be honest.”

Oh no, I don’t want to lose her.

“I don’t want to lose you, but I just can’t stop thinking about her death. I can’t stop thinking about what life would be like without my OCD, rituals, and having my breath constrict me. Every day I wrote down why I was doing this. I am willing to risk it all, but I also want you, too.”

She pierced him with her beautiful green eyes and then kissed him softly on the lips. Tears were rolling down her face. “Mark, I love you. I truly care about you, more than anyone I have ever met. I think there was a part of me that hoped you would stop this. Yet, I knew you wouldn’t stop. I am not saying we are done, but I need some time to think.”

She stood up and he held both of her arms. He kissed her and stroked his fingers through her hair. “I am sorry. But you know I can’t stop.”

“I know, and it's okay. I still love you.”

He let her go as she left the room.

Tears were streaming down his face as he went to the mirror. His face was contorted with pain, suffering, and loss.

He began washing his hands and counting *One, two, three, four...*

After he calmed down, Mark looked over the contents of the bottle after splicing together the DNA within his blood. In this glass phial he had successfully implemented plant DNA into the human strands. He made sure that the machine had done it right. He had doubled and triple checked. This machine was state of the art and if Paula had helped design it and create the system for it, it would be perfect.

Oh god, I miss her already.

One, two, three, four...

“No, I can’t. I must do this!”

There was a text on his phone from Paula telling him that he should stop working and come see her. He knew she was trying to stop him. Then, Christopher did the same. They were both worried. He ignored them because he knew that this was it. He had hesitated long enough. It was ready. There was nothing more he could do until he tried it on himself.

Am I really doing this?

I am forever altering my body.

How will my body react? Will I die?

I made sure that the gaps were constructed perfectly. How long would it take to become effective?

Mark sat on a chair with an IV that had the mixture in it.

He thought about the terrible reality of a possible death. Computer systems were different from actual tests.

I am willing to risk my fears.

Tears were rolling down his face as he thought about those that he loved.

What will they all say?

I don’t want to lose them.

But I can’t stop.

He sat there looking at the needle, which didn’t bother him any but at what his consequences would be.

Is this what Dr. Jekyll thought before he drank that potion? Look how that ended up, I don’t want that.

Mark got up and went to the mirror, washed his raw hands, and looked at his face. He could see the bags under his tear splashed eyes, and his disheveled hair. Mark splashed water on his face, dried it, washed his hands again, and sat down on the chair.

He grabbed the IV as his body shook. The IV was inches from his veins. He set it down on the desk.

His feet and other arm were tapping *One, two, three, four, five, six, seven, eight, nine, ten...*

I can't think about it anymore. I just have to do it.

He stopped tapping and spoke, "This is for you, grandma and to show you dad who I could be. This is for all of you who suffer or had to suffer. No more. I am done suffering, I am done."

He grabbed the IV off the desk. The syringe went into his arm. Paula and Christopher came crashing through his door. He pushed it down allowing the contents to be emptied into his system before they could stop him.

Works Cited

Atwood, Margret. *Oryx and Crake*. New York, Knopf Doubleday Publishing Group, 2004.

Brown, Dan. *Deception Point*. New York, Simon & Schuster, 2001.

Card, Orson Scott. *How to Write Science Fiction & Fantasy*. Ohio, *Writer's Digest Books*, 1990.

Crichton, Michael. *Jurassic Park*. New York, Random House, 1990.

Crichton, Michael. *State of Fear*. New York, HarperCollins, 2004.

Egan, Jennifer. *A Visit from the Goon Squad*. New York, First Anchor Books, 2010.

Hesser, Terry Spencer. *Kissing Doorknobs*. New York, Laurel-Leaf Library, 1998.

Huxley, Aldous. *Brave New World*. London, Chatto & Windus, 1932.

Kean, Sam. *Violinist Thumb: And Other Lost Tales of Love, War, Genius, As Written by Our Genetic Code*. New York, Bay Back Books, 2013.

King, Stephen. *On Writing: A Memoir of the Craft*. New York, Scribner, 2000.

Lee, Stan, writer, Ditko, Steve, artist. *Amazing Fantasy*. Vol.15, Marvel Comics, 1962.

Mooney, Chris. *Blood World*. New York, Berkley Books, 2020.

Mukherjee, Siddhartha. *The Gene: An Intimate History*. New York, Scribner, 2016.

Shelley, Mary. *Frankenstein, or The Modern Prometheus*. New York: Oxford UP, 1994.

Stevenson, Robert Louis. *Strange Case of Dr. Jekyll and Mr. Hyde*. London, Longmans Press, 1866.

Stine, R.L. *Stay Out of the Basement*. New York, Scholastic, 1992.