

Western Washington University Western CEDAR

WWU Honors College Senior Projects

WWU Graduate and Undergraduate Scholarship

Spring 2022

# The Evolution of 'Homo'-nity: An A to Z from Erectus to Sapiens

Hailee Desrosier

Follow this and additional works at: https://cedar.wwu.edu/wwu\_honors

Part of the Anthropology Commons, and the Creative Writing Commons

### **Recommended Citation**

Desrosier, Hailee, "The Evolution of 'Homo'-nity: An A to Z from Erectus to Sapiens" (2022). *WWU Honors College Senior Projects*. 607. https://cedar.wwu.edu/wwu\_honors/607

This Project is brought to you for free and open access by the WWU Graduate and Undergraduate Scholarship at Western CEDAR. It has been accepted for inclusion in WWU Honors College Senior Projects by an authorized administrator of Western CEDAR. For more information, please contact westerncedar@wwu.edu.



An A to Z from Erectus to Sapiens



ADVISED BY DR. TESLA MONSON

# May 29th, 2619

Annie woke up to the cars that whizzed by her window and the rain that danced along the surfaces outside. She attempted to fall back asleep only to be pulled out of her bed to investigate the people that shouted outside. Annie walked toward her bedroom window and looked out at her city. She struggled to find the crowd of people that had forced her awake, but she soon found the video board that showed the group.

"I get there are several layers to this city, but why do they needa show the loud things happening on Ground Level? I chose to live up on this level to *avoid* the noise," Annie turned her head as if she was trying to talk to someone before she remembered she was all alone in the apartment. She directed her attention back to the video board to make out what the fuss was all about.

A large group of people held signs and posters shouting about something. While the cars outside her window were humming and whizzing, it was still hard to hear the specifics of the protest. She opened her window a crack.

"We want agency!"

"Give us back our future children!"

"You can't choose for us!"

That's when Annie noticed the symbols on the clothes and posters of the people on the video board. "Oh my god, they're part of the Genetic Liberation Front! What're they doing? There's so many of them, they're gonna get killed!" Annie, now fully awake, stared at the screen in anticipation of what was to come.

Amidst the chanting and protesting, the yelling turned from anger to fear. The camera that filmed the rebels on the Ground Level panned out to reveal the soldiers were surrounding the rebels and started to close in on them. The soldiers, in their Tech-Tac Armor, had an electrical barrier running between each of them that was grounded to their suits. The rain hit the barrier and little sparks shot out. The Liberators, as the rebels called themselves, had nowhere to run except into each other as the soldiers marched closer and closer, until Annie could see the hairs standing up on each Liberator due to the static electricity. At that point, one of the Liberators tried to attack one of the soldiers. He pulled out a knife and attempted to cut the soldier's throat—where the armor looked the most penetrable. The Liberator barely reached the soldier's throat before the soldier stepped backwards, grabbed the man's knife-wielding arm, and snapped it like a twig. The rest of the soldiers followed that soldier's cue and started grabbing the Liberators to subdue them. Unable to look away at the horror on the screen, Annie watched as each Liberator was beaten into submission and put into handcuffs. The camera followed the Liberators, now dejected and wailing in pain, being escorted into the vans they were always sent off in. Sent off to die. They were rebels; they considered themselves liberators of humanity. They did not think the way they must in order to improve humanity.

Annie was taught that any member of the GLF (or anyone not worth improving humanity) was sent off to die. The people were never heard from again, which helped enforce the rules in place.

As the soldiers cleaned up the dropped signs and posters, the video board faded to a new video. Like after every outburst such as the one that had just occurred, the video board flashed several of the government's posters seen all over the city. The cheering began as each poster showed up.

The future cannot be made passively. We are the human race—so let's come in first. You are important, so let us take care of you. Each poster showed children and adults smiling and doing fun activities; in the back of each poster was the president, smiling down on the people in the picture as if to emphasize how the government really was there to help. The continuous cheering from all over made Annie glad to have woken up earlier. She hated waking up to the cheering and then having to ask around for what she had missed. At least now she knew today was another good day for the government.

"Another day, another follower gained. How can people watch that and *not* think something is wrong?" The cheering died down once the video board returned to its promotional state of running ads. Annie looked at her calendar to see what she had planned for the day. It being a Saturday, she didn't have anything to do.

"I don't have any homework for my classes this weekend, sweet! Maybe I should go explore the Lower Levels? I haven't been to any of the Lower Levels since I was a kid. It'd be nice to check in on some old friends or relatives I haven't seen in a while." She was curious to see how far down she could get, maybe even try to see the Ground Level and find where the Liberators had stood just minutes ago, now on their destination to death.

Annie got dressed for her outing and packed her bag with the essentials.

"Alright, I've got the At-Gear, my node, and some snacks all packed up in my backpack. I think I'm good to go! Let me just check to see which vert-cars are open today..."

Using her node, she looked up the vert schedule. The next car appeared to be on its way towards Annie's Level and would be at the station within five minutes. Annie left her apartment and headed towards the station. Usually, she would use the bus to go to school, since it's on her Level. She rarely took the vert-car, which was the only way to travel between the Levels. Traveling between Levels wasn't very common, especially traveling to the Lower Levels, where Annie was planning on going.

At the station, there was a mom and child with bags full of clothes—Annie concluded they were probably recently demoted. They didn't seem to be upset about the demotion, so it wasn't the annual genetic test that demoted them, but rather a belief that caused them to be kicked out. While not uncommon, it certainly wasn't common either. If a neighbor or other Level member heard someone complaining about the government or even sympathizing with the GLF, they could report to the enforcers who would then investigate. Enforcers were a branch of soldiers who were in charge of Level demotion and promotion. The investigations were usually just a courtesy; they would end up demoting the member regardless of what was found during the investigation. Annie knew the government couldn't afford to take chances with potential Liberators infiltrating the gene pool.

When the vert-car arrived, the android that ran it opened the door and let some people out. Rubbing the tips of her fingers, Annie remembered that she would need to get tested once she returned to her level, to make sure her DNA didn't get altered from the Lower Levels' atmosphere. The mom, child, and Annie stepped into the vert-car and waited for the android to speak.

"Good morning, I hope your weekend has been going well. May I check everyone's Level to ensure proper protocol?" The android looked at the screen Annie had opened on her node that showed her Level and other forms of identification necessary for travel throughout the city. Nodding his head, he turned to the mother and child for their identification. "I see, you two are not visiting a level, but rather moving to it. I will contact an android on Level 12 to meet you at the station to help situate you."

Annie lived on Level 38. Levels 30-40 were referred to as the Upper Levels which are reserved for citizens who have desirable genes but came from families with un-desirable genes. Levels 41-50 were the highest levels in her city (as with most cities in the United States) where the pure breed citizens live. These citizens had the best genes and came from a long line of relatives who had equally high-praised genes. The Lower Levels were 1-30; they had different separations that related to how they participated in the society. Levels 20-30 were still allowed to reproduce in hopes their children could be born with better genes. When a child was born, they got their DNA tested and ranked according to the government. If it was a desirable gene make-up, the child was then sent to the Level according to their rank. However, if the child was found to have a worse genetic makeup than the parents, the child would then be sent to a lower-Level. The purpose was to have better possibilities for superior genetic makeup the higher up the Levels one goes.

Anyone who lived below Level 20 was still able to reproduce, however, with the dangerous atmosphere that had gene-altering effects over time, the newborns were not tested because there was no use to test them. Level 0, often referred to as Ground Level, was where the most undesirable of people go. The atmosphere quality was the worst down there, which caused the next generation of citizens in the Ground Level to have a poorer genetic makeup, in the eyes of the government. Because there was no desire to grow society from the Ground Level, the government wouldn't do any studies on them to see how the atmosphere altered the future generations' genes.

The Lower Levels were required to do a lot of the manual labor jobs for the city to function properly. The Upper Levels were allowed to follow certain paths the government laid out for them based on their specific genetic make-up. In Annie's case, she had had the choice to go to college for medicine, art, or business. Annie had chosen to go to college for medicine, despite the fact she did not feel a strong pull toward any of those choices.

"We are now approaching Level 23, does anyone need to get off here?" The android asked the now bigger group of people in the vert-car. An older couple raised their hands. The

vert-car slowed to a stop at 23's station and the two shuffled off. Annie politely let the android know she would be getting off at the next station.

The android waved Annie bye as she stepped onto Station 22's platform. Almost ten Levels lower than her own, Annie noticed several differences between the two. Her Level's platform was a lot brighter and had clean benches with built-in heaters for the colder days. Level 22 seemed rather rundown, with a lack of benches and overhead lighting. The most lighting she got was from the sun and car lights as they whizzed past the station.

Pulling out her node, she snapped it to her wrist and a keypad popped up. She dialed a number she had committed to memory and waited for an answer.

"Sweetheart? Is that you?"

"Hi mom, is dad with you? I had some free time today and thought I'd stop by. I'm here on the platform and could use a ride." Annie knew her dad was right next to her mom; it was a Sunday, and neither of them had to work today. As her parents got older, she worried about how the work they do would ultimately hurt them in the long run. She was not sure how much longer they would have once they became unable to work due to their age.

"Hi, Hon! This is your pop speaking! We'll send a car your way. Is five minutes okay for a wait?" She knew it wasn't going to be a five-minute wait; she could already see the car coming. Her dad must have called a car as soon as they saw who was calling them on their node. They didn't get to see Annie all that often, so they made sure to capitalize on as much time as they could find with their only daughter. Her parents had learned early on that waiting for a car took a lot of that precious time away from them.

"I'll see you in ten, Dad. Mom, I hope that's your famous soup I hear bubbling in the background!"

Annie got to her parents' place just in time for lunch. As she sat down at the small table, in the small kitchen, in the small apartment, Annie felt large. She felt bigger than her parents, and she knew they felt it, too. She stuffed her mouth full of her mother's soup, and tried to forget about that feeling and focused on her parents.

"So, in school, I'm in the top fifteen percent of my class! I'm studying really hard, and it seems like it's paying off! How's work been for the two of ya?"

"Well, your dad here earned employee of the month just about two days ago! He worked over 80 hours each week this month and look at how it paid off!" Annie's mom gave her husband a kiss on the cheek as he blushed at her compliment.

"It wasn't much. But those big cars up where you live are very fancy—I've been working on the ones brought into the shop and boy oh boy are they better than the ones around here! Our cars are old and out of date, so I was more than happy to work on the new things. I'm just glad the company also appreciated the effort." Annie spoke more with her parents about all sorts of things going on in their lives for the remainder of lunch. After the soup was finished, Annie said her goodbyes and returned to Station 22.

The next vert-car going up wouldn't be at the station for another hour. However, in just a couple minutes, the next descending vert-car would be arriving. This could be the time Annie saw how far down she could go. At the arrival of the descending vert-car, Annie decided to go for it. She wanted to see the Ground Level. Annie showed her identification on her node to the android and asked how far down the vert-car went. The android told her the vert-car went all the way down to Level 0, but strongly advised against visiting there. Annie decided to not let the android know where she was planning on stopping until they reached the Ground Level.

At Level 20, the android requested everyone who had them to put on their Atmos-Gear. Annie and four other passengers (there were ten other passengers who did not have At-Gear) pulled out their suits that were in glove form so they could be carried around in the user's pockets. Annie put her glove on and clicked a button on the back of the glove. The suit then started to cover Annie's body until it was airtight. For her head, the At-Gear had a transparent nano-tech film that tickled her face occasionally. The Atmos-Gear was a suit given to people in the Upper Levels for when they wanted to visit the Lower Levels. This kept the damaging atmosphere from infecting the individual wearing the suit.

Once those who had At-Gear were suited up, the android continued the descent to the Lower Levels. However, around Level 18 the android received a call on their node. The android let everyone know at Level 16 the vert-car would make an unscheduled stop for maintenance issues. Annie didn't quite believe what the android had said, due to the fact that the android never took their eyes off of a couple of people next to her in the vert-car. Annie wanted to know the real reason they needed to stop at 16. She hoped she would still be able to reach Ground Level.

At Level 16, the android pulled the vert-car into the station and made everyone get out of the car. As everyone left the car, the android asked those of the passengers with Atmos-Gear to stand away from the suit-less passengers. Annie stood next to the other Upper Level passengers, who she realized were the people the android was intensely staring at. Getting a closer look, she recognized a friend she had in elementary school.

"Oh my gosh, are you Sharon? It's Annie!"

"No way, Annie! This is crazy seeing you here! I didn't realize you were with us!" Sharon gestured to the other people in the At-Gear.

"Yeah, I just wanted to go down and see the Ground Level after visiting my parents. Didn't realize we were in the same vert-car!"

"Oh, are you wanting to see where the massacre occurred today? Is that it?" The expression on Sharon's face was hard to read, but Annie couldn't stop the next words that came out of her mouth.

"I was woken up by it! I don't know why but today seemed more violent than usual... and so many people were cheering during and after, I don't know how they could..." Annie lowered her voice as Sharon put her hand on Annie's shoulder. "Uh, not that I sympathize with the GLF. They're rebels! They don't deserve to live!"

"I'm sure you don't mean that. In fact, I bet you also believe those 'conspiracy theories' that say the Liberators aren't killed but have worse things done to them. Don't you?" Sharon's face wasn't that of accusation but pleading. She seemed to *want* Annie to agree with her.

"Uh, I, uh, guess? They never show the Liberators dying, so it's not *crazy* to think something else could be done..."

The android, during Annie's conversation, had walked away towards the police station on Level 16's platform. Before Annie could wonder more, Sharon grabbed both of her shoulders and pulled her in close. Whispering in her ear, their head films on the At-Gear created little harmless static electricity as they rubbed against each other with each word Sharon quickly and aggressively spoke to Annie.

"It's true. They don't kill them. They do *worse things than any* of us could imagine. But we don't know what it is. That's what my friends and I are here for. There's a laboratory somewhere in the Lower Levels that we think houses the abducted Liberators. We're here to find and break them out. We need all the help we can get to revolt against this government."

Before Annie could reply, soldiers that looked very similar to this morning's video board massacre charged at her, Sharon, and three other people in At-Gear. She didn't have time to run away, the soldiers were too fast.

"Freeze! You all are under investigation for being members of the Genetic Liberation Front. Any un-requested movement will result in immediate termination. Do I make myself clear?" One soldier pinned each of the supposed Liberators, including Annie.

One of the people with Sharon didn't seem to understand what the soldiers had made rather abundantly clear to Annie. He was able to kick off the soldier and started sprinting away. The soldier slowly got up, pulled out a taser of some sort, aimed for the escapee, and hit his At-Gear square in the back. One thing most people did not realize about At-Gear was that electricity ran through it. The overload of electricity shut the suit down, folding back into a glove and left the man exposed to the dangerous atmosphere. Falling to the ground, the exposed man was still being shocked by the taser still attached to his back. The soldier walked up towards him and retracted the cords back into the taser gun. The soldier then punched the runaway man, knocking him out. As if the knocked-out man weighed less than 100 pounds, the soldier easily picked him up and slung him over his shoulder. The other soldiers handcuffed the rest of the members, including Annie, and shuffled them over to the van all the Liberators got sent off in.

Annie knew she couldn't freak out unless she wanted things to escalate. Hopefully when she got to wherever they were going, she would be able to explain she wasn't part of the GLF and that it was all just a big misunderstanding. *What a way to spend my Sunday*, Annie thought to herself.

They finally arrived at a location. Annie had no idea where they were, or how they even got to the place. They were pulled out of the van and into a clean white building. Inside, it smelled like a hospital. White corridors, shiny floors, and the smell of antiseptic solidified to Annie that medicine, or something *like* medicine, happened there. One by one, each of Sharon's friends were escorted down a different, but visually the same, corridor until it was just Annie and Sharon. Then, Annie was pushed down a different corridor, moving farther from Sharon but hopefully closer to this whole misunderstanding being cleared up. She was then pushed into a random room along the corridor where she was seated at a table. The soldier that escorted her told her to wait until the boss showed up. He also mentioned he would be right outside the door in case she wanted to try and escape. Annie nodded her head in understanding and waited for the boss to show up.

After what felt like hours, a man entered the room. Before he took a seat across the table from Annie, he took his helmet off and revealed his face. His face was pretty forgettable, aside from the mustache that covered his entire upper lip and sides of his mouth. His whole aura gave off the feeling that Annie should be terrified of this man. And so, she let herself be terrified. There was no use in fighting, and perhaps him seeing how scared she was could be her ticket to getting out of here. Sharon didn't seem to have any fear, so maybe that was how she could play up the fact she wasn't a Liberator.

"What were you planning on doing in the Lower Levels?" The creepy mustache-man spoke in a low and grisly voice, "We know what the rest of your buddies were planning. They all confessed. Now it's your turn."

"All I wanted to do was visit the Ground Level. I've never been and after seeing this morning's massa—er, massive display of rebellion, I wanted to see where you and your fellow soldiers held down the fort." Annie almost slips up, but hopes she caught it in time.

"Liar. There have been several rebellions on Ground Level advertised to the Upper Levels. This one wasn't special. Just like you. You're just like the rest of them. You act all big and tough until we get you. Then we find out what you Liberators really are: cowards."

"Sir, I'm being honest! After seeing so many of those riots, I thought it worth my while to visit where it happens so often. To get a deeper respect for you!" Annie couldn't hold her tears back any longer. She let them start to flow.

"Stop crying! That isn't going to work. Do you know how many others have done this same trick?" The boss slammed his fists on the table, which made Annie jump out of her seat.

Annie, now out of her seat, shuffled to the back of the room in order to create as much space as possible between her and the scary man. It didn't work. He got out of his seat and grabbed her by her suit, throwing her across the room, right next to the door.

"Everything alright, Boss? Need any help?" A different soldier than who had originally put Annie in this room—they must have had a shift change. He made the fatal mistake of walking into the room without confirming where Annie was. Right next to the unguarded, open door, Annie relied on the adrenaline coursing through her to pull herself up and ran out of the room. She rounded a corner in the long and confusing corridors as she heard the boss yell. "Soldiers! Get that Liberator!" The sound of soldiers loading their weapons, and the pulsing sound of their Tech-Tac Armor turning on, echoed throughout the entire building.

Annie had no idea where to go. Her best bet was to keep running and turning until she found a way out. But ten minutes into running, she heard the soldiers catching up. Turning down another corridor, she just missed getting an emp pulse to the back. The soldiers were right behind her. She pulled open the first door she found and entered. As she closed the door, the words on the front of the door were finally processed by her brain: Temporal Alteration Device. Was she in a giant machine? Quickly looking around, she saw all sorts of machinery, technology, and computers. Turning back to the door, right next to it was a screen with the current date displayed. Below the screen was another screen to input any other date or year she could think of. Scared she didn't have much time before the soldiers reached her door, she input a random year. The door locked right as Annie heard the soldiers lining up on the other side of the door.

## May 29<sup>th</sup>, 2619(?)

Annie was hesitant to leave the machine. How was she supposed to know if it had worked or not?

"Huh, at this moment, I think I truly understand Schrödinger's cat," she tried to laugh but was worried about what could be on the other side of the door, "when I open that door, I'm either done for, or I'm somewhere—when—else entirely which... means I'm also done for. Why'd I even think this would work?"

She heard the familiar whizzing of cars (albeit a little louder) outside along with rain tapping on all the surfaces. Annie gently put her ear against the door and strained to hear any sounds of guards outside. No yelling of orders, no clinking of the armor and weapons, and no scary-mustached-man. She took a deep breath before she hit the lock release on the door.

Slowly opening the door, she peeked through the little crack she made. She saw buildings and heard power tools nearby. She also saw the ground.

"Holy shit—the ground?! I have *never* been Ground Level before! This is crazy! Wait—the soldiers aren't here... and there's *grass*... did this machine actually work?"

"The date is May 29<sup>th</sup>, 2018. We are in Bellingham, Washington, United States. You are standing on the campus of Western Washington University. I, however, seem to have been forgotten about. If you think you can handle *when* you are without me, be my guest." Annie's gut dropped as she shut the door once more and looked around the machine for where the voice came from. There was no place a human could hide in the machine; they would need to be out in the open.

"Uh... hello? Who's there?" Worried a soldier could possibly have invisible armor, Annie started kicking and punching the air around her. "I do not have the patience to tell you how poor your fighting form is. Please, just pick me up so I can give you the rundown on how this 'machine,' as you seem to be calling it, works. I am to your right, on the tabletop."

"There's only a tablet on the desk," Annie walked toward the table to get a closer look and eyes appeared on the tablet. "Wait, are you the *tablet*?"

"Incredible, I need to update my description of you—you're just a *touch* more intuitive than I had originally calculated. Yes, I am the 'tablet,' but to be technical: I am the encyclopedia *stored* on the tablet. The tablet is merely my vessel at the moment. But if you were to upload my data and put it in a computer, I could then be the computer. Or a car. Or a nuclear power plant. The options are limitless, but it seems my creators felt a handheld device was the best choice for my purpose. I just hope my purpose is not to deal with you."

"Well, considering you and I are now almost 600 years in the past, I'm gonna go out on a limb and say you may need to update your hard-drive. You're stuck with me now" Annie picked up the tablet and started walking towards the door. "My name's Annie, by the way. Do you happen to have one?"

"I highly doubt you will be able to pronounce it, given that to me it is a set of binary code. To you, it would just be a random assortment of letters and numbers found on a sticker located on the back of this tablet I am inside. Not something that you humans are able to call each other."

"Okay... so what if I just call you Encyclopedia?"

"You are going to call me by my primary data? What if I called you 'meat bag?' You do not enjoy that, do you?" Despite the technical sound of Encyclopedia's voice, Annie could sense she had upset them.

"Sorry, I don't really know how to talk to computers... I've spoken to androids before, but that might be because they're a little more..."

"Human? More like you? Listen, you can call me Encyclopedia for now until I figure out a name for myself. But once I find a suitable name, I request that you refer to me by it from then on. Understood?"

"Affirmative!" Annie could see Encyclopedia's eyes roll at her attempt to speak like them.

"So, what is your purpose here in 2018?"

"I'll be honest with you; I was being chased by scary soldiers and this one creepy man with a bushy mustache. I jumped in here and just clicked a random year. But in 2619, there are some messed up things going on that I don't think should be happening. Everyone tells me it's for the best, or that I should just let it go, but I can't. I have... or *had* friends and family members die because of the corruption occurring in the government and so I feel a sense of obligation to fix this." "Are you talking about the Android Feud? Or the Genetic Liberation Front?"

"I guess I'm talking about both. They're both messed up. I know the Android Feud led to the creation of the Liberators, but it's weird to think that the Liberators aren't teaming up with the androids to help out their cause."

"That is because the androids are more tactful in their planning. They know humans would 'jump the gun' as you say. Furthermore, the Liberators know that if they are seen with an android they will be taken away for fraternizing with the enemy. You should know that interacting with androids on a personal level is illegal."

"Huh, I guess that makes sense. I've never really rebelled against anything before and didn't pay much attention to the politics surrounding androids and humans. I just kinda did what I was told to do, and because, at the time, it didn't lead to any harm on my end I was fine. So, I'm gonna need help figuring out how to rebel against our government back in our time. They've taken away all of our agency and humanity."

"Affirmative. I will aid you in your purpose. I suggest we find people on this college's campus to help us out, seeing that you may not be able to make it on your own. Even with me, I can tell you are going to need a bigger arsenal of knowledge. Besides, if I can take breaks, I need to make sure I stay charged, since you left our time without grabbing my charger," Encyclopedia closed their eyes and turned their screen off, reflecting Annie's worried face back at herself. She stepped out of the machine, onto the lush green grass the Ground Level was never afforded in her time, and towards the campus.

The door shut, but it didn't sound like metal. Instead, she heard plastic hitting plastic, a hollow sound resulting from the force. Turning around, the machine's exterior that she remembered back in 2619 was not there. In its place was a plastic outhouse. She walked back up to it and opened the door. Inside, sure enough, is the machine's interior exactly as she had remembered it. But outside, it was just a "Honey Bucket" as the sticker on the outhouse suggested. When Encyclopedia decided to wake up, Annie would ask them what the deal was with the exterior change.

\_ \_ \_ \_ \_ \_ \_ \_ \_ \_

# May 31<sup>st</sup>, 2018

Realizing rather quickly that Encyclopedia's appearance was well out-of-date compared to the larger nodes she saw people around her carrying, Annie shoved Encyclopedia into her backpack with a quick apology before throwing her bag back over her shoulder and falling in behind a group of what appeared to be students.

"Dr. Nikolaj's lecture was absolutely fascinating! I had never thought about how far the *homo* genus has come!"

"Same here! I didn't even realize how many species came before us... I knew about *erectus* leaving Africa, but that's pretty common knowledge."

"I missed her lecture! Could any of you send me the notes? I don't want to fail the midterm in a couple weeks."

"Yeah, I gotcha! The handwriting's a little messy, but if you need any help deciphering it, we share a dorm, so it won't be hard to reach me!"

Annie listened to the four of the students discuss who seemed to be their favorite professor so far. Eventually, she couldn't help herself and had to ask a question.

"Hi! 'Scuse me, sorry, I overheard bits of your conversation and was wondering who Dr. Nikolaj is? She sounds really intelligent and helpful."

"Only the best professor I've ever had!" exclaimed the messy writer.

"Her tests are pretty intense, but if you aren't like me and avoid missing any lectures, I would recommend taking her class!"

"You learn something new every class, which is nice when there are other professors out there who you can't guarantee to teach a new thing each class."

"I just realized none of my friends have mentioned what classes Dr. Nikolaj teaches!" The first friend Annie had heard speak before budding into their conversation, came to her rescue and shared the information she requested. "She's in the Anthropology department! She's an expert in hominid evolution, so if you have the opportunity to take any class with her that focuses on evolution—take it!"

"Thanks! Uh, I'm new here and don't know where all the departments are. Where's the Anthropology department?" The buildings all looked a little different around Annie, especially since the buildings she was used to were tall and segmented off. These buildings seemed to have been built throughout the time this university had been running because of the distinctness in each structure.

"We're going to be passing it soon enough if you want to walk with us until we pass by," all the friends nodded in agreement. Who was Annie to deny an act of kindness? They didn't know what Level she lived on, and she certainly didn't know what Level *they'd* live on if they were in her time, but they were so eager to help her. She didn't even have to force herself into their group, she was welcomed easily.

"I'd appreciate it, thanks again!"

As they walked past this clunky building that had a bread-y smell, the friends gestured towards it and let Annie know the Anthropology department was located there.

"Just up the stairs! It's on the third floor!"

"Thanks! Maybe I'll see you in a future class!" Annie obviously lied in that last part, but it felt nice to pretend for a bit. To act like she could do what she wanted.

Inside the building, the bustle of the students exhilarated Annie. Never before had she been able to be in such close quarters with people her age, let alone people in general. Making her way up the stairs to the third floor, she walked through the doorway into the Anthropology department. Looking at a directory (surprised at how two-dimensional it was) she found Dr. Nikolaj's office. As she approached the professor's office, she noticed no one was inside.

"Oh! I'm terribly sorry but my office hours aren't until tomorrow! Which class of mine are you in? I don't think I've noticed you yet... do you sit towards the back of the class?" Dr. Nikolaj had a friendly smile on her face as she questioned Annie.

"No, I'm just interested in your work and wanted to chat," Annie smiled back at the doctor while moving out of the way of her office.

"So, you want to join my research lab? Tell me a little bit about yourself! I have quite a few students already, but I can always make sure there is a place for you if you're interested."

"I don't mean to sound rude, but I'm not here to join your lab. Uh, it's a little more complicated than that. D'ya mind if I pick your brain on something? Can I sit down?" Annie gestured to the chair in front of Dr. Nikolaj's desk.

Nodding her head as she sat down at her own desk, Dr. Nikolaj looked at Annie in a confused yet eager manner, like any scientist would when analyzing something out of the ordinary. "Can I ask your name before you continue? I assume you already know mine seeing as you came looking for me."

"It's Annie, Dr. Nikolaj. I wanted to ask you what you know about evolution in humans?" Annie waved her hands out in front of her, "I mean, I know you're, like, well-versed in 'human and evolution' because of an overheard conversation, but what do you know about the two together?"

"I study hominin evolution, so I'd say I know quite a lot about the two together."

"Why does everyone say 'human' so weird here? Is this, like, some kind of dialect or something? It's *hue-man* not *hah-min*."

"I'm sorry?"

"You said you study *human and evolution* in a weird accent. I understand that you study the two of them, but I just want to know what specific things you know about the two in relation to each other."

"Oh no! You must not realize, sorry for the confusion! I am, in fact, *not* saying human in a weird accent. I'm saying *hominin*, and hominin evolution, what I study, is all about the evolution of modern human and extinct human species."

"So, you know a lot about how we've evolved throughout time? How we're the best species alive ever?"

"No, I would not say 'we're the best species alive ever.' I would say we are well adapted for life today, which puts us at the same rank as a lot of other species alive today because they have the same success."

"But they aren't able to live all over the place like we can. And we also can choose who to reproduce with to make the best human possible to further our success in life."

"That's probably not a good way to look at it... I think you only need to look at the eugenics movements in the past, and present, to see how poor of a move that really is."

"What eugenics movements?"

"What? Are you pulling my leg? I don't mean to sound offensive, but do you not remember what happened in World War II?" Dr. Nikolaj's concerned face made Annie realize some more truth to her reality back in the future.

"Uh... I know of World War II, but I did not realize there was a eugenics movement involved?" Annie was taught about the big wars throughout the United States history, but she started to wonder if there were moments left out.

"The Holocaust? You have never heard of it?" Still having a concerned face, Dr. Nikolaj leaned forward in her seat as if interrogating Annie.

"No... I remember learning Hitler didn't like certain groups of people, but he just didn't like a lot of people. Right?"

"Where did you get your primary education? What state are you from?" The concerned face had become irritation—but it didn't appear to be aimed at Annie, perhaps at whomever taught her those apparent false facts.

"I... uh... was homeschooled?"

"No. I don't buy it. Where are you from?"

Worried Annie was going to lose any kind of help Dr. Nikolaj could give her, she decided to tell the truth. "I think you might need to reword that question... It's not 'where' am I from, but 'when'."

"Excuse me? Are you alright? Do you need help?"

"No, no, I'm alright. Promise. Well... Yes, I do need help, but not the help you think I need. You see, I'm from the future, and I travelled back in time to get help with what's going on in the USA right now. You see—"

"Prove it." Dr. Nikolaj's entire demeanor changed as soon as Annie mentioned she was from the future.

"Prove it?" Annie had not thought this through, how would she prove to the doctor that she's from the future?

"You're telling me there's something going on in the future US... some kind of eugenics movement from what I'm gathering... and you didn't think you'd need to prove yourself to the people in the past? What kind of time traveler are you?"

"Well... I wasn't really intending to time travel... you see, I was trying to see if what my friend said was true, when I started getting chased by these scary men. There's this creepy guy with a mustache that was leading them all and I got scared and hid in this room. Then I noticed it was a Time Alteration Device, and figured maybe it could work? It seemed unlikely, given the fact that time traveling technology would be weird to keep hidden, right? Well after a few random button clicks, I ended up here and Encyclopedia said I should look for people who could help find ways to counter this eugenics movement—as you so eloquently put it," babbling, Annie hoped Dr. Nikolaj could keep up and eventually believe her.

"Okay, slow down. This just sounds like science-fiction nonsense. Sharing a story with me doesn't prove anything, it just tells me you aren't that good at coming up with believable lies. A creepy man with a mustache? I could probably name several creepy men with mustaches in popular culture. If you want to prove to me you're from the future, why don't you just take me to this... Time Alteration Device? That's some pretty undeniable proof right there."

"The TAD! Yes! Of course! Okay, follow me!" Annie hopped out of her seat and started to run to the TAD before stopping in her tracks just outside Dr. Nikolaj's office. "Actually, mind if you take lead? I don't really remember the way out of this building..."

"Sure, but hopefully you know where to go once we're outside the building, because I don't want to waste too much time going on a wild goose chase when I've got papers to grade."

Annie stepped outside the building and looked around for any landmarks she remembered walking past on her way to the Anthropology department. To her left, she noticed the peculiar set of stairs on the field where she met the friends talking about Dr. Nikolaj. She gestured to the professor to follow her, and eventually found the fake port-a-potty.

"Here we are!" Annie threw her hands out towards the TAD the same way a toddler showed their parents their drawings on the walls.

"This is a port-a-potty. Do you need to go to the bathroom?"

"No, no, no! This is it! I don't know why it's a Honey Bucket, but that's for Encyclopedia to share with us!"

"Encyclopedia?" With the amount of questions Dr. Nikolaj had been asking Annie from the moment she met her to now, Annie couldn't help but wonder if the professor was taking a scientific approach to her presence or if she was just genuinely confused about it all.

"They're a tablet that holds a bunch of information! When they turn on again, I'll make sure to properly introduce both of ya!" With that, Annie opened the door with one hand and put the other on Dr. Nikolaj's shoulder, pulling her toward the entrance to the Time Alteration Device.

Inside, Dr. Nikolaj was blown away by the size of the interior. The clean surfaces, the computer screens, Dr. Irons...

"Dr. Irons? What the hell are you doing here?"

The man standing in the machine turned around on a dime to stare at Dr. Nikolaj. "Elle! Hey, how's it going? Do you know what kind of sculpture this is? I didn't realize Western installed a new piece."

"Sculpture?? Odis, this is very clearly *not* a sculpture. You're the one that reads all the time, can you not see this is some kind of futuristic technology?"

"So, you DO believe me!" Annie hugged Dr. Nikolaj despite the professor ignoring her to focus on the more pressing manner. Annie was brushed off by the professor.

"What's the student talking about, Elle? Is this the artist?"

"She is by no means a student. I just had an odd conversation with her where she wants my help solving a eugenics problem in 'the future'. Naturally, I did not believe her, but standing in this machine leads me to believe otherwise."

"C'mon Elle, I think you're a little too quick to jump to that conclusion. When have you ever used just one piece of evidence to back up a hypothesis?" Dr. Irons, or Odis, turned to face Annie who looked like she would be a great member of the peanut gallery at a tennis match, with the way she had been able to keep up with the two professors' conversation. "Hello there, I haven't introduced myself yet. I'm Dr. Irons. I'm a historian and classicist here at Western. You are?"

"Annie! Like Dr. Nikolaj mentioned, I'm from the future. I came here via this time machine!" Annie extended her hand out for a handshake, but Dr. Irons folded her hand and gave her a fist bump instead.

"Wicked! Care to show us how it works? That might help Elle here feel better about her 'scientific method' she so quickly dropped when seeing these fancy-shmancy computers."

"Uh, sure! How about I take us forward in the future a couple years?" Annie walked over to the control table and input a date several years into the future. She clicked the same button she pressed that brought her to this time, however she didn't feel the fear she felt the first time.

May 29<sup>th</sup>, 2022

Much like the first time Annie traveled back in time, there was no feeling of the machine moving. Looking over at the two professors that stared back at her, she headed toward the door to show them the truth.

This time, instead of there being an empty field outside the machine, there was a brandnew building nearby. The sign read "Interdisciplinary Science Building". The campus also appeared to be rather empty despite the fact it was in the middle of the day. Annie stepped outside and sure enough, the machine was still in honey bucket form. She gestured for Dr. Nikolaj and Dr. Irons to step outside.

"C'mon! The water's fine! I'm hoping this new building that wasn't here before is enough proof. I think it's called the Interdisciplinary Science building?"

"No way, they finally got the funding and finished building it? That's a very nice-looking building!" Dr. Nikolaj stepped out of the port-a-potty and admired the building.

"Huh, I guess they ended up really needing the extra space. So, we're in the future?" Unlike Dr. Nikolaj's obvious fascination with proof of time travel, Dr. Irons took a more nonchalant approach to this realization.

The three time-travelers discussed what all this meant, and the implications of Annie's story about her life and society. As Annie tried to explain the intricacies of her situation, the two doctors were asking questions that she didn't have the answer for. Thankfully, a new friend of hers came to the rescue.

"If you would please remove me from this dark and stuffy chamber, I can aid you in enlightening these two imbeciles on our history." Encyclopedia was swiftly removed from Annie's backpack and brought out in the open.

"Encyclopedia! You're alive! I had no idea when you'd come back, but I'm glad you chose now!"

"Excuse me, 'imbeciles'?? I think it's important to note that both Dr. Irons and I have gone through several years of school and research to get to the level of esteem we're at." Dr. Nikolaj crossed her arms and looked at Encyclopedia with disdain.

After a brief introduction of the group and a lot of mediation from Annie, everyone was caught up with each other and Encyclopedia explained the situation in 2619. It took a while for Drs. Nikolaj and Irons to grasp what they were being told.

"Why did the US decide to isolate itself from the rest of the world again?" Dr. Irons sat on one of the counters in the machine as Encyclopedia projected their screen from Annie's hands.

"Once again, I will repeat what I have already shared. I request that you pay attention this time. In the 24<sup>th</sup> century, androids became commonplace throughout the world. They were assigned the work humans were unsustainable for, and other tasks that allowed for humans to have more free time during the day," Encyclopedia continued to explain the history as the two

professors were finally able to grasp what was being relayed to them. "By the end of the 24<sup>th</sup> century, scientists started to see rapid adaptations in the androids allowing them to outperform humans in several tasks once thought to be what made humans the perfect and most successful organism on the planet. The United States, in fear of an android uprising, shuts its borders and isolates itself from the rest of the world. The government begins its attempts at increasing the rate at which humans are evolving so that they can match the androids and stand a chance of winning against a war. To prepare for the war, the government starts testing its citizens and ranking them by their DNA, based on what the government thinks the human race should strive to be. The individuals who are ranked highly are given the freedom to go about their lives as they normally would, living closer to the clouds than the other groups of citizens. These highly ranked individuals are also given the opportunity to reproduce with other individuals of the same, or higher, rank. Reproduction with a lower ranked individual would lead to contamination of the higher ranked individual, changing them to the rank of their mate. Lower ranked citizens are unable to reproduce, especially the ones who live in the Lower Levels, because of the genetically altering atmosphere. The ones who live on Ground Level are the lowest ranked citizens, and they are kept around to do the menial and dirty tasks that even the few androids the US still has refuse to do. There are several conspiracies surrounding the Lower Level citizens' purpose in the society, and even more conspiracies surrounding the Genetic Liberation Front and the fates of the Liberators when caught. Would you like me to repeat anything more?"

"Basically, to sum up what Encyclopedia has said for about the fifth time, the US isolated itself to create the soldiers and society that will win the android war that is going to occur eventually once the androids realize they're better than us." Annie set Encyclopedia down and let them know they could sleep for a little bit while she talked with the other two people. Rubbing her eyes, she hoped the couple hours or so they had been talking had helped the two professors understand the circumstances.

"Wow. That's horrific. You do see the parallels I can draw from throughout history, right Elle? I'm not alone in seeing how wrong of an approach the US is taking?"

"Yeah, I see where you're coming from Odis. My main question is why does the US think that just because the androids are able to adapt at such a quick rate means an inevitable war?"

"Oh! We learned about that in school! The reason the androids will eventually fight us is because we'll be fighting for resources and they're going to realize how much more superior they are than us, so they could easily kill all of us and live out the rest of eternity as the 'top dogs."" Annie smiled to herself for not needing Encyclopedia this time.

"But, who's to say the androids will fight you? What if there's a way the two of you can live peacefully?" Dr. Nikolaj noticed the smile fade from Annie's face.

Annie didn't know how to respond to that. After all, she was still grappling with what she knew was true and what had been lies fed to her throughout her life by the government. At the moment she knew two things: the way the government was preparing for the war was unethical and inhumane, and the second thing was that she didn't know her subconscious biases, therefore

she was worried she wouldn't be able to help the way her friend had asked her to help. All she could do at the moment was enlist the help of this anthropologist and historian.

"Look, I'm not really sure what to believe. Like Encyclopedia mentioned in the second run-through of 2619, the government worked really hard to make their plan seem like the best plan. I'm not even sure how to fix their plan. But what I do know is that you two believe me, and I could really use your help solving this."

The two doctors talked amongst each other for several minutes. The conversation traveled from consequences of missing work to an adventure of a lifetime to how a time machine plus the two of them could help a twenty-something year old woman instill a drastic change in society. Eventually, the two came to several conclusions. The first conclusion was that they could use the vacation days they both had built up over the years. They also both agreed that even if this was all an elaborate dream, it was still worthwhile to lean into it and help the young woman out. The two turned toward Annie, who had been looking at the computers around her to understand the time machine better. Dr. Irons stepped closer to Annie and spoke.

"Alright, here's the deal. Elle and I have been working hard at Western, and we both could use a break. In terms of figuring out how to solve your problem, Elle thinks it would be beneficial to use this... Time Alteration Device... to visit all the different hominins throughout time and see how they lived. She can help provide an understanding of the species while I can provide the humanity outlook. I know so much about human history and the way humanity has changed and also stayed the same. Perhaps, through both of those lenses, we'd be able to help you figure out what you need to do to keep humanity from falling away."

"Really? You'll both help? Thank you! Thank you! Okay! *When* should we go next?" Annie jumped up and down in excitement for what was to come.

"I think we should begin about 1.5 million years ago. That's just after the Gelasian Pleistocene, and I think we're going to find a great start to our history there."

Dr. Irons asked Annie if he can put in the date since he has been fascinated with this technology the moment he walked into the supposed port-a-potty. Annie let him put in the date, and once again, there was no feeling of movement despite what all forms of popular culture told the three of them there should have been.

## 1.5 million years from 2022,

"Do I need to click the button again?"

"Did you even click it in the first place, Odis?"

As Dr. Irons and Dr. Nikolaj bickered over whether or not the machine was broken, Annie put her head to the door in an attempt to hear anything that could be dangerous outside of the time machine. After all, if they really were in the past almost two million years, there was no knowing (for her at least) what could be on the other side of the door! Not hearing anything, she looked over at the pad to double check Dr. Irons. Had Annie not already known Dr. Nikolaj's expertise, she would have thought she was a lawyer given how insistent and believable she was arguing the fact that Dr. Irons had not clicked the simple button. Dr. Nikolaj made a good point: this was 'future' technology for the two of them, perhaps what was simple for Annie was not as easy for people who lived 600 years in her past.

As she stared at the control pad that enabled her and her new friends to travel through time, Annie looked at what was inputted. The year was correct, or rather the length of time in the past they wanted to go was entered. Something was different, however. There was another input next to the time: Tanzania, Africa. That was new. Annie had not realized there was an option to change the location.

"Dr. Irons, did you also put in a location to travel to?"

"Obviously! The pad has a keyboard, I figured that meant we could put in locations. Then I thought we'd want to start in Tanzania... was I right, Elle?"

"You are correct, Odis. How did you know that? You did not strike me as someone interested enough in human evolution to know a good starting point based off of the year I gave..."

"I may be more interested in the human experience, but I do think it's worthwhile to know our origins! Plus, I may or may not have learned that fact in a trivia night at a bar a couple weeks back."

"I think Dr. Irons clicked the button. The machine doesn't move, but I don't even hear the birds that were outside back in 2022. I can't say for certain if we are in Africa, but we might as well open the door and have a look-see!" Annie was interrupted before she could unlock the door.

"Must you really waltz into danger at every turn? You are about to enter a time period almost two million years ago. While the atmosphere is not too different from the one you three are used to, it would still be wise to wear protective gear to protect yourself and other organisms from any bacteria or viruses that could harm those without an immunity built up." Encyclopedia, in their computer tone of voice, was still able to display disappointment for Annie's carelessness. They told Annie where the extra At-Gears were so Dr. Irons and Dr. Nikolaj would also be protected. And then Encyclopedia turned off once again to preserve their battery.

Annie helped explain how to put on the At-Gear. She showed them how to unfold the pocket-sized suit into the one over-sized glove. Once they each had the glove on, she told them to press the button on the back of the glove. Once clicked, the glove fit to their hand and the suit molded around the rest of their bodies. She explained that the nanotech on the face could get ticklish at times, but nothing too distracting.

"And why do you need these types of suits in the future? I feel like Commander Shepard!"

"Irons, stop pretending you're in a science fiction game. You're quite literally in a science *non-fiction* movie, given the fact that this suit and machine are real and work." Dr. Nikolaj itched her face through the nano-shield surrounding her head in an attempt to subdue the tickling. "I really hope this tickle-feeling goes away soon. Can we step outside, now? I could use a distraction."

"Of course! Lemme just unlock this door," Annie unlocked the door. "There! Welcome to Tanzania, almost 2 million years ago!"

The skies were beautiful. The immediate area around them appeared to be a budding forest with a lake off in the distance. The forest was not as full as a rainforest, but it had a fair number of trees that provided some protection from the hot sun. Annie and the professors had noticed the time machine took the shape of a tree. It looked distinctive enough, and they were interested in getting a closer look at the lake. So, the three of them walked farther into the forest to get to the lake.

They heard an animal cry out, and then silence. Annie jumped and hid behind Dr. Nikolaj and Dr. Irons. Dr. Nikolaj gasped when she saw a shadow of a moving creature in the direction of the animal noise. She told Annie and Dr. Irons to follow her carefully as they made their way towards the shadowed figure. Annie thought it looked like a monkey as they got closer, but it did not appear to walk like one. It took a little bit to catch up to the figure, as Dr. Nikolaj didn't want to spook whatever it was they were stalking.

And there it was. At first, it was hidden. But as the three of them walked a little farther, they were able to make out more clearly what it was they had been following. Dr. Nikolaj grabbed Dr. Irons' and Annie's arm and shook them excitedly. In a whisper, she told them what they were looking at.

"Oh my god! Okay, let me go through a quick checklist here to make sure we're looking at the right one. We're 1.5 million years in the past... they have long legs for long-distance running... they have a flatter face, yet their brow ridge is still large... Perfect! Right now, we're looking at *Homo erectus*! This is so fascinating!" With each whisper-yell, the grip she had on Dr. Irons and Annie hardened.

Dr. Irons broke free of Dr. Nikolaj well before Annie could. He mimed at her to keep quiet. Staring at their first sighting of *Homo erectus*, it was hard for the other two to not be as excited as Dr. Nikolaj. Annie couldn't believe she was witnessing one of the first of her ancestors. She came from them. She was alive because of these individuals who were alive right now.

"They're looking this way," excited to interact with them, Annie couldn't keep her voice down. "Hello! We're from the future!" Annie suddenly found herself pinned to the ground by Dr. Irons and Dr. Nikolaj.

"Be quiet," Dr. Nikolaj said as quietly as possible, "they do not understand us, and their first reaction is not going to be friendly. And given the fact Encyclopedia did not share where any weapons were in the machine, I assume if we had to fight, they would win given their expertise with the terrain."

"I dunno, the At-Gear is s'posed to be able to protect you from small damage, which rocks would obviously fall under."

"Annie, do you not realize this species has tools and weapons that, despite being made with stone and wood, can still do damage if you aren't able to run away and have to just sit there and take it? We also do not know if there are more around us, so please, be quiet until we get back to the machine and talk about all of this." Dr. Nikolaj nodded to Dr. Irons who then helped Annie sit up. As he was helping Annie regain composure after getting yelled at so quietly, Dr. Nikolaj peaked her head above the grass they were in to see if the individual had spotted them. Luckily, it did not appear so. The one they had seen earlier was walking away from them towards a group of others far off in the distance. It seemed it was just the three of them in the immediate area at the moment. With a sigh of relief, she looked back to Annie and apologized for her and Dr. Irons having pushed her to the ground.

"Is it gone?" Dr. Irons was barely able to be heard, he did not want to attract anything their way. Or maybe he just didn't want to risk getting reprimanded by Dr. Nikolaj. Either way, he stayed quiet.

Dr. Nikolaj nodded her head, and both Annie and Dr. Irons relaxed. The three of them sat on the ground facing each other. They all slouched a bit in order to remain hidden behind the grass and to generally stay out of sight of the bipedal individuals who had the ability to scan the horizon for anything out of the ordinary.

"So... that was *Homo erectus*? It looked like a funky and weird human... kinda like someone you'd see on the ground level." Annie had never actually seen any of the 'mutated' individuals supposedly living on the Ground Level back in her time, but she was always told stories about them as well as the dangers of living down there.

Dr. Irons looked at Annie in a bewildered fashion. "What? Huh? Is there something wrong with your time? What is this about 'Ground Level'?" Dr. Irons never got his question answered because Dr. Nikolaj had a different agenda.

"I'm terribly sorry, did you not think *Homo erectus*, an ancestor to modern *Homo sapiens*, would bear a slight resemblance to one another?" Annie hesitantly shook her head at the doctor's question. "While they do have similarities, hence why they are in the same genus, there are major differences you and Odis should know," Dr. Nikolaj stared at Dr. Irons who had been caught picking at the ground. "It's important to know because there are going to be other hominins that I want you to see along with their differences. These differences are what make each of them unique. Learning these differences can help you, Annie, learn how you might fight the oppression in your time."

"Really? Okay, so what are some of those differences then? You mentioned 'shorter limbs' and a brow ridge?" Annie leaned back, almost wishing she had brought something to take notes with.

Dr. Nikolaj explained a couple of the aspects of *Homo erectus* that are unique to its species. It had a shorter forearm length compared to earlier hominins like *Australopithecines*. Erectus had no need to rely on an arboreal environment, so the long arms often needed to climb

and swing were not useful for them. Dr. Nikolaj continued her explanation of the differences by comparing the face they all just witnessed to her own.

"Did you see their eyebrows? They were extremely pronounced! They looked like they were wearing visors over their eyes! And they didn't even have a chin! There's not a lot of pronunciation on their faces. The one we saw, just like the ones it ended up rejoining, had a flattened nose which just further shows how retrognathic, or flat, their profile is!" Dr. Nikolaj quickly apologized when she saw Annie and Odis jump at her rise in voice.

"That's cool and all, but how does that help me? It just shows that our ancestors were different, but ultimately, we came to be and have been surviving while these guys just faded from existence. They are extinct, right? Or do they live in the lower levels?"

"Yeah, they're extinct. But as Elle will probably back me up here, it's because they just slowly faded out. Competition got too much for them to handle."

"Competition? In Africa? Right now?" Annie looked to Dr. Nikolaj for an explanation.

Dr. Nikolaj somewhat agreed with Dr. Irons and explained how *Homo erectus* wasn't just in Africa. The species could very easily adapt to different environments, which was super helpful during the period they lived. Africa's environment changed every 200,000 years. It would go from a dry grassland to a wet forest, back to a grassland, and everywhere in between. This ability to adapt to the environment so quickly was how *Homo* erectus was able to successfully travel outside of Africa and settle down throughout Europe and Asia. From this expansion, Dr. Nikolaj concluded, a bunch of other species were able to evolve, eventually leading to modern *Homo sapiens*.

Annie couldn't understand how something that lived, and was an ancestor to *Homo sapiens*, could have died out at one point in time. She had felt it was not fair to *Homo erectus* to have died if they had all these apparent advantages that led to them being able to expand so far across the world.

"So why are you so interested in *Homo erectus* if they ended up just dying out? We seem to be more interesting, since we're alive and won against the other ancestors." Annie picks up a rock and lazily throws it at a tree.

"I've got this one, Elle. You see, Annie, it's not about 'winning' in life. Evolution shows us that what can work for a species at one time can ultimately be its downfall another time. While we, as *Homo sapiens*, may be the only hominin alive in both of our times, it doesn't mean we'll always be. We could even be the *last* hominin alive, because of some unforeseen event that we cannot easily or quickly adapt to. Or perhaps we evolve and end up creating a branch of another *Homo* species. We won't know. And we don't know when these may happen. But we know roughly when and why they happened to our ancestors. *Homo erectus* was not weak—they spanned all over Africa and Eurasia! One of the first books ever written, *The Epic of Gilgamesh*, really highlights these feelings of superiority which are then stripped away upon learning of one's own mortality. You see, Gilgamesh was the greatest king of Uruk. A skilled warrior, he could best any man in combat. This arrogance he had due to being the best caused him to be detached from his citizens in Uruk. The citizens, wanting their king to become a better man, had prayed for the gods to send down something to fix their king. Enkidu, a man born of the forest, was created by the gods to help teach Gilgamesh about community. However, Gilgamesh initially felt intimidated—after all, Enkidu was just as good as Gilgamesh at everything he prided himself in. But as he interacted with Enkidu more, he learned to see Enkidu as an equal; more importantly he saw him as a friend, a brother. Eventually, Enkidu dies. He is cursed with an illness and Gilgamesh watches the only person he has loved more than himself leave the world. It is from this death that Gilgamesh realizes his own mortality; he recognizes that while he is scared of death, he knows his friend will be there waiting for him on the other end.

Death, and the unexpectedness of it, and the connections we build with those similar to us—or perhaps 'superior' to us—is what humanity is all about. It's what allows for evolution to take place. If we don't die, how can we change? Birth provides the new-ness, the change, but if we are not put in our places, if we are not reminded of our inevitable end, what change would we be willing to do? Our ancestors may or may not have been aware of their own mortality, but without the success of them, we would not be standing here today discussing them. We lived with other hominins at one point in time, too. Perhaps they were our Enkidus, or perhaps we are actually the most selfish of the species. But you cannot say that each species before us deserved to die. They earned their right to leave the world by providing a foundation for future species in their genus to survive."

"Sheesh, I didn't realize bringing along two professors would turn into a bunch of impromptu lectures. You know, I'm technically gonna be missing school the longer we stay out here and travel through time and space? That doesn't mean I wanna practice being a student." Annie rolled her eyes—not out of annoyance, but in an attempt to deflect the fact she may have been wrong in how she viewed life and people.

"And do *you* realize that both Dr. Irons and I will be missing our lectures? So, if it seems like we're teaching, just think of it like we are trying to stay in shape." Dr. Nikolaj turned back to Dr. Irons. "That was very well put, Odis. I can see why students speak so highly of your classes."

Dr. Irons thanked Dr. Nikolaj. He then asked to head back to the machine in case the group of Erectus they came across earlier were not the only group around. The three travelers worked their way back to the machine. Annie forgot which tree in the grove was the entrance to the machine. Splitting up the grove in threes, the group took their section, knocked on the trunks, and listened for the hollow sound. It took about five knocks until Dr. Nikolaj heard the hollowness behind her knock.

"I'm going to go out on a *limb* and say this is the time machine!"

"Oh geez, please tell me you didn't purposefully make that joke. Lie to me if you gotta," Annie walked over to Dr. Nikolaj.

"What? You don't find that funny? It's a double meaning! Limb, as in my arm? Which my hand is attached to? Which I used to knock on the trees? Trees, which have branches? Otherwise known as limbs?" Dr. Nikolaj looks to Dr. Irons for support.

"You anthropologists don't get a lot of comedians coming your way, do you?" Dr. Irons sympathetically patted Dr. Nikolaj's shoulder as he opened the tree to enter the machine.

Once everyone was seated inside, they began to discuss their next steps. Annie wanted to learn more about *Homo erectus*'s expansion; still hesitant about them being 'successful', she wanted to see how they lived in a completely different environment almost on the complete other side of the world. Dr. Nikolaj and Dr. Irons agreed that looking at *Homo erectus* in a different environment several thousand years later would be beneficial for Annie's understanding. This time, it was Dr. Nikolaj's turn to input the time and location for their next visit. She sent the machine a couple thousand years forward in time, and made sure they would land in Java, Indonesia. She knew there were a lot of findings of *Homo erectus* in Java, so hopefully there would be a lot of *Homo erectus* there when they visit during the time they lived.

#### 1 million years ago

This time, the group knew not to expect any sort of signal that told them the machine has moved across time and space. In their At-Gear, they all step out of the machine to take in their surroundings. They also made sure to mark the tree they came out of so they wouldn't make the same mistake as last time. More importantly, Annie and Dr. Irons didn't want to hear any more tree puns Dr. Nikolaj could make.

The trio stood in a mixed woodland-marsh environment. Off to their left, they saw a group of deer-like animals eating the vegetation while one deer was on the look-out for potential predators. The deer heard something that caused them to run away. The noise had come from behind where the time-travelers stood.

Annie fell behind Dr. Irons and Dr. Nikolaj as the three of them slowly crouch-walked their way towards the noise. It wasn't words or any recognizable language, but it sounded different from dogs or hyenas or other animals that could be found where they were. Perhaps they had found a group of *Homo erectus*, and they were steadily approaching their camp. Perhaps they would be attacked. Annie trailed even farther behind the two professors; how would they defend themselves? *Homo erectus* lived in the wild. None of them have probably even seen a modern human before, let alone three in high-tech suits. Would they be scared? Or would they welcome the three of them? Annie didn't know. And so, she assumed. She assumed they would want to attack them. After all, this species survived *in the wild*. Annie didn't realize how far back she had fallen until Dr. Nikolaj addressed her.

"Annie? Are you alright? I don't know if it's the suit, but your face looks a little pale." Dr. Nikolaj gestured to Dr. Irons and the two quietly slunk back to their new friend.

"What are we even doing? They could attack us... We don't have any way to protect ourselves, so why are we walking headfirst into an unknown group?" "I understand you may be scared, but we'll stay hidden! Besides, there is a chance we could scare them away. They aren't going to be starving, they know how to feed themselves. Because of that, we know they won't attack us out of a need for food. And while there is a chance there could be more of them than us, we'll stay hidden. And if we are spotted, we just run away. They may go after us, but we'll easily be able to reach the time machine before they get to us. And that's not because we're faster than them, but because that's how they hunt—they trail behind and wait for exhaustion to hit. We're going to be okay Annie, I promise." Dr. Nikolaj placed her hand on Annie's shoulder to soothe any fear the younger woman might have still had.

"And if any of them try to come at us, I can teach them a lesson or two." Dr. Irons flexed his arms to show the other two his supposed weapons against the group of *Homo erectus*.

Annie and Dr. Nikolaj shared a quiet laugh. After Dr. Nikolaj explained the importance of *not interfering* with the past as much as possible, the group was able to move closer towards the sounds they had heard since they first stepped out of the machine. To remain as hidden as possible, they started crawling on their hands and knees in order to stay out of any of the potential *Homo erectus*'s line of sight. It took longer than they had thought, but eventually they reached the camp they had expected a group of *Homo erectus* to be.

Dr. Nikolaj was right, they did hear a group of Erectus! In a slow approach, the three time-travelers found places behind a rock, some grass, and a tree to hide. They surveyed the group for some time, studying their bodies and what they were doing.

This group of *Homo erectus* was slightly different from the singular one they had seen several thousand years prior. Something they all were able to notice (Annie needed it to be pointed out, but she was able to see it after that) was the heads were slightly bigger. There were about six to seven Erectus in the group, and despite the hair covering their bodies, it was relatively easy to distinguish which were males and which were females. But the most interesting thing they all witnessed was what the tribe was doing.

The group of Erectus must have hunted earlier that day, because they were processing the meat of an unidentifiable animal. But they were using tools! Dr. Nikolaj later explained to Annie and Dr. Irons that they were using Mode 2 tools, also known as Acheulean tools. Acheulean tools were one of the earlier forms of tools known to be used by hominins made mostly of rocks. The Erectus were using flakes of rock as knives to scrap the meat off the bone and cut it into smaller pieces. There was also a fire in the center of the group with meat set on rocks in the fire to cook. Annie was surprised to see fire being used and controlled in such early ancestors of humans. Not only were they cooking meat, but they shared nuts and other plants with one another to eat as they processed the meat they hunted.

The ones that were standing around were the same height as the Dr. Nikolaj, Dr. Irons, and Annie. It was hard for Annie to realize how well-adapted these Erectus were, but seeing how they had similar characteristics to her, she was able to give them the benefit of the doubt. After all, Dr. Nikolaj had told her *Homo erectus* had been around for about a million years; there had to be something they did that made them last so long.

Annie, Dr. Nikolaj, and Dr. Irons returned to the time machine after the group they were studying started to wind down for one of their daily naps. Dr. Nikolaj informed the others that *Homo erectus* wouldn't sleep at night like modern humans do. Instead, they take long naps throughout the entire day so they can stay aware of any predators coming their way. Once back in the machine, the three spoke more on what they had just witnessed.

"Okay, so they used tools. The rocks they used weren't even complex tools, they just looked like broken rocks. No wonder they didn't survive long," Annie crossed her arms and leaned against one of the many counters in the time machine.

"Again, that's not why they aren't alive in either of our times. What do you think caused us, *Homo sapiens*, to last as long as we have?" Dr. Nikolaj was growing impatient as she heard Annie insult the early hominins they had already seen.

"I mean, we just constantly looked for the best of the best, right? You can't become the best species alive without the best within your species," Annie said flatly.

"Be more specific. What is it that you think makes modern humans the 'best species' alive?" Dr. Nikolaj asked Annie. She wasn't going to let this younger woman head back to the future without breaking down her biases.

"Okay, well, I think we're the best species 'cause we're able to know what's best for us. We've eradicated diseases and even cured cancer. For the Upper-Levels, mostly. There've been instances where Lower-Level citizens were cured from cancer or a certain disease 'cause the government knew there was a chance the people would produce higher-ranking children. But we fixed the climate problem several hundred years back because it was greatly affecting the humans in it. It did cause certain animals to go extinct, but that's their fault for not being able to change the environment like us. We know what's best for the world, and that's how we've been surviving and succeeding this entire time."

Dr. Nikolaj was about to speak when Dr. Irons stepped in. He cleared his throat and prepared his 'professor voice'. He had dealt with students with similar ideals before. He has had conversations like this several times in his teaching career, and he knew he would continue to have this conversation for his entire time alive. He knew his importance as a professor and historian was to educate people on the dangers humans have experienced already. Especially dangers caused by their own hubris.

"Annie, while humans may have this great adaptability to environments and a cognitive ability not witnessed in other animals, there is a flaw in humans that will take us out eventually if Earth doesn't get to us first. Our own hubris, or arrogance, has caused several wars and falls of empires. But we never seem to blame it on ourselves. Homer, a well-known author from ancient Greece, wrote epics on just this. Citizens of Greece would get too over their heads and blame the gods for their troubles. Their downfall was not that of a god, but that they felt they could be *better than a god*. Better than a force of nature. But this arrogance was not bestowed upon an individual by a god, it was a consequence of them wanting honor. They wanted to be the best, and they got greedy.

This desire to be the best, and willingness to destroy others because of it, is not a beneficial survival technique. It's almost like a curse for our consciousness. We can think of anything, and can desire anything we want; because of that, we doom ourselves to never being satisfied. But—" Dr. Irons got interrupted by Dr. Nikolaj.

"But, the point of Odis' lecture is that no one who has strived to be the best has been able to stay that way for long. They forget about important aspects, such as variation in a community, and fall because of their unwillingness to admit they do not need to be the best, but rather the fittest. Fitness, in this sense, being how reproductive one can be. If you end up only reproducing one kind of person, something bad will come along and wipe out the entire human race. And sometimes that thing could be man-made, or it could even be from Mother Nature herself. Ultimately, Annie, we're not the best. One day we will die out. And that's okay! Because we will have laid the foundation for future hominins that will roam the world. And maybe in billions of years, one of them travels back in time to study us to learn how they came to be. And they'll thank us for what we laid out for them."

Annie stood quietly after both professors shared their thoughts. She hadn't thought about how only producing one kind of person could lead to a chance of total wipeout. She didn't realize that her superiority complex over the human race could also cause the end of her kind as she knew it. She still had a lot to learn from these two people from the past.

"Okay. I get I may have some ideas that aren't conducive to proper survival. But that's why I'm here! I wanna learn! I *need* to learn. If there's a way I can stop what's happening back in my time, I wanna know about it. So, where to next?" Annie pushed herself off the counter and toward the time and space keyboard. She was ready to go and see the next hominin Dr. Nikolaj had in mind.

"How about 450 thousand years from my time in Mauer, Germany?" As Dr. Nikolaj finished her question, Annie inputted it and off the three went to their next time-adventure.

#### 450 thousand years ago

"What would happen to the space-time continuum if I were to find a way to make some schnitzel and then that gets introduced to these ancestors of ours? Before you answer, it's important to know that I am really hungry and your response would only affect my decision if your answer has anything that mentions the end of humankind as we know it."

"Odis, really? How are you planning on making schnitzel? You'd need to hunt down an animal first, find breading, and then fry the whole thing. Only one of those steps seems easy with the technology we have right now." Dr. Nikolaj seemed a little annoyed until her stomach growled.

"Uh oh, looks like we're all hungry! I'm sure we can scrounge something up while we're outside! C'mon, I wanna go look at what Dr. Nikolaj hopes to see," Annie said as she opened the door to exit the time machine.

The trio stepped out of the machine and took in their surroundings. A complete change in scenery compared to where the three had been earlier, the environment was more temperate. The time machine resembled an early type of hut, as described by Dr. Nikolaj. The machine was disguised as a stick and leaf hut with leaves as the door. Around the fake hut were trees similarly spaced out like where they had traveled earlier. There was a large lake near them that a hippopotamus walked into from the opposite end of the lake. Dr. Irons told everyone to avoid the lake unless they wanted to get attacked by a hippopotamus. The professors and Annie walked in a direction towards the sun, so they would be able to keep an eye out in case they stayed out too late. They walked for half an hour until they smelled something they all were familiar with.

They smelled smoke. Could that mean there was cooked food nearby? Dr. Nikolaj reminded the group rather quickly that if they smelled smoke, that meant there was a group of hominins nearby. With a sigh from Annie (she was getting tired of having to crouch and sneak everywhere), the three of them found the smoke trail and made their way towards it. It took a lot longer than they had thought, but that was only because Dr. Irons tried to wake up Encyclopedia every time they passed a patch of berries to see if they were edible. Encyclopedia's eyes briefly appeared on their screen but instantly shut them whenever they saw Dr. Irons' pleading face next to a new patch of berries. Encyclopedia's charge wasn't low, they just didn't want to interact with the doctors at the moment. They barely wanted to interact with Annie, but at least she left Encyclopedia alone until they chose to wake up.

Finally, they got close enough to see where the smoke was coming from. The smoke was coming from what looked like a small cave. Inside and immediately outside of the cave were tall and strong looking... people? Annie looked to Dr. Nikolaj in confusion. These individuals were called *Homo heidelbergensis*. The anthropologist quietly explained that *Homo heidelbergensis* wasn't just found in Germany and other parts of Europe around this time, but they also were abundant in Africa. She pointed out how similar this group they were watching looks compared to the *Homo erectus* they saw earlier as well as how similar they looked to the three of them. Dr. Nikolaj shared that it is a popular hypothesis that Heidelbergensis was the last common ancestor between *Homo neanderthalensis* and *Homo sapiens*. Another look of confusion from Annie told Dr. Nikolaj the next species they were going to study was *Homo neanderthalensis*. She put that in the back of her mind and continued sharing what she knew with her friends. A couple of the Heidelbergensis were playing outside the cave. That was what Dr. Nikolaj assumed, as they seemed to be having fun pushing each other and moving their arms around.

At one point, it looked like the three playing were *smiling*. They bared their teeth at each other, but it didn't appear to be threatening, and there were noises made that could have been laughter. It was tough to tell. But what wasn't tough to tell was the size of their teeth as they smiled. Smaller teeth than what they had seen from *Homo erectus*, it amazed Dr. Irons and Annie to see teeth similar in size to their own. However, while their teeth were similar to their own, their lower jaw was more robust and still had no prominent chin. Similar to Erectus, Annie thought. The eyebrows were still sticking out like a continuous visor, but the profiles of the individuals had more shape to it. It wasn't as stuck out in the middle as *Homo erectus*, because the Heidelbergensis nose had a little more pronunciation than Erectus. Not only that, but Dr. Irons had made a comment on how the round part of their heads seemed to be similar in size to modern humans. Dr. Nikolaj confirmed his thinking; she explained how *Homo heidelbergensis*'s

braincase fell into the lower range of modern humans' braincase. Their brains were larger than the species before them, but not as large as the ones after.

Dr. Nikolaj tried to find a spot to get closer so she could observe the group better. There was a rock closer to the entrance of the cave that could hide them from the group of six or so (they had a hard time counting because every time one of them poked their head up to stare longer than five minutes, they would almost be spotted by one of the Heidelbergensis). Next to it was a thick patch of grass they could hide in to stick their heads out a little further from the rock. Much to Annie's dismay, they crawled as low to the ground as possible to their new spot.

It didn't take long for them to smell what the fire was presumably made for. None of the three time-travelers had eaten in almost two days. The first day was easy to ignore hunger pains, as they were all still amused and distracted with the ability to travel through actual time and witness their ancestors. However, being within 100 meters of meat cooking over a fire, their minds were all on one thing: they needed to eat. There was one quick way to satisfy their hunger, but it wasn't going to be easy.

"It's no schnitzel, but I could really go for whatever animal is cooking on the fire right now," said Dr. Odis.

"Are you suggesting we *steal* from our ancestors?" Dr. Nikolaj, despite being as hungry as Dr. Irons, had one thing he did not have: ethical training for when she studied cultures and people in her early years as an Anthropologist. And as much as she'd like to forget it, that was one thing preventing her from satiating her hunger.

"Are you even debating against it? Dr. Nikolaj, we're all starving. We need to eat soon or else our stomachs are gonna give our hiding spots away the next time we're hiding behind a rock." To prove her point, Dr. Nikolaj's stomach growled loud enough to make the anthropologist wish her ancestors had evolved to have no need for stomachs.

Quietly arguing over whether or not what they all wanted to do was a good idea, it only took a distraction from nearby Heidelbergensis to come up with a plan. An animal, perhaps from the Suidae family, had run a couple meters away from the Heidelbergensis which caused the eight of them (Dr. Irons had finally been able to accurately count how many there were from the new hiding spot they were at) to look at it. A couple of them had grabbed stone-tipped spears, which Annie felt were more sophisticated than what she would have thought they'd have been able to make during their time. Three of the Heidelbergensis went after the supposed pig to track it down for food and other materials. This left five Heidelbergensis at their base camp. Dr. Nikolaj thought up a plan and relayed it to the other two.

"You want us to be *bait*? You're *absolutely certain* the only way we can get their meat is if we create a distraction to pull the remaining Heidelbergensis away from their camp? Are you crazy?"

"No, Odis. I am not crazy, I am hungry. I'm *starving*. And I only need one of you to be bait. The other has to go and ensure they catch that pig. I'm not stealing their big haul if they can't easily replace it. Obviously, they've been foraging and have other food to easily satisfy their caloric needs, but I don't feel comfortable taking their food without somehow paying them

back. And for the distraction, all you need to do is get them to go after you. Hopefully you can beat them to the time machine and just hide in there until we come back with the meat."

"Dibs on the distraction! No way am I gonna figure out how to help them catch that pig without also coming face to face with those guys. Hopefully your historian background can help ya catch that pig!" Annie started to stand up and clap her hands but was instantly pulled back down by Dr. Irons. He was not happy to be stuck with the hardest job.

"I think, before we go out and act, we should get on the same page. My historian background has taught me a *lot* about rushing into things headfirst. Okay, Patroclus? Let's plan this out so everyone makes it out alive." Dr. Irons turns to Dr. Nikolaj and asks how they should go about this.

The plan was simple enough. It had to be. Three modern *Homo sapiens* from the future, wearing futuristic gear (or just *modern gear*, for one of them) were in a remote location way out of their comfort zones and skills. They couldn't rely on much for this plan. Thankfully, Dr. Nikolaj was better at making plans than she was at making jokes.

Annie's job was the most important, because she needed to distract all five Heidelbergensis individuals enough to pull them away from their home. They settled on having her stand up and wave her hands to draw their attention. She would then sprint away, in hopes that their curiosity was similar to humans and would make them want to follow her. When they followed Annie, Dr. Irons' job would fall into play.

Ensuring the Heidelbergensis group got their replacement meat was Dr. Irons' duty; it was also the hardest part of the plan because there was no knowing how the three males would react to Dr. Irons supposedly "stealing" their hunt. Dr. Nikolaj was hoping all Dr. Irons had to do was help corral the pig from afar. The spear was back up for if he were to come face to face with the pig at any point before the others caught it.

As those two were performing their part of the plan, Dr. Nikolaj would be able to carry out the purpose of the whole plan: she had to grab the meat. While this was the easiest part of the plan (Dr. Irons and Annie tried to question why she was the one with the easiest job), Dr. Nikolaj didn't trust either of them to save the meat until the return to the time machine. Despite protests, Dr. Nikolaj held her ground.

It was time to put their plan into action. Drs. Nikolaj and Irons crouched lower to the ground and hugged the rock they hid behind. Annie took a deep breath and nodded to the two professors.

"Hello! I doubt you guys understand what I'm saying but who cares?! Follow me, please! Waaahh!! C'mon over here!" Annie waved her hands and hoped her noises would bring the group to her. They looked spooked, but they didn't appear to want to follow her. She had to try something else.

There was a small child with the group. It was able to walk on its own, but its mother stayed near it. Annie had a plan. She wasn't sure if Dr. Nikolaj would approve, but she hoped the food would ease any potential anger. Annie sprinted as fast as she could towards the group (she

had only been about fifteen feet away from them at this point) and scooped up the child in one fluid motion. She adjusted her grip on the kid so he couldn't hit her in the face.

"Come and get it!" Annie yelled over her shoulder. She turned back to face where she ran. Heading back to the time machine was going to be harder now that she had to factor in a child that was weighing her down. She didn't bother looking behind her; the five remaining Heidelbergensis were screaming after her. Had she looked, Annie would have seen they were 100 feet away. She let her adrenaline speed her up as much as she could. Then she remembered they may have brought spears with them. Shortly after thinking that, a spear hit a tree to her right. She started to bob and weave between the trees and rocks to avoid getting hit by the Heidelbergensis while also trying to stay close enough to keep them focused on her.

Finally, she saw the time machine! She had been running long enough that she was sure Dr. Nikolaj had grabbed the meat by now, and Dr. Irons was on the hunt for the pig. Not wanting the Heidelbergensis group to try and attack the time machine, she dropped the kid (who had been screaming and kicking the entire time) on the ground and ran past the hut. She wanted to make sure they stopped following her before she entered the machine. The screaming had stopped, but that could have meant they were planning on ambushing her. Annie looked behind her and saw the group returning to their camp. They would look back at Annie to make sure she stayed away from them.

Annie stood where she had stopped running until she could barely see the group that had chased her. She walked to the time machine and went inside it to wait for her new friends to come back. Hopefully their parts of the plan were coming along better than hers went.

\_ \_ \_ \_ \_ \_ \_ \_

"Did she just steal that child?!" Dr. Nikolaj's mouth dropped open as she fought to keep her voice quiet.

"It... uh... yeah. It looks like it. But hey, it worked, so I guess we can't be too mad? Anyway, I'm going to grab one of their spears they left behind and go help out the three that went off to hunt the pig. I think I can see them off in the distance over there." Dr. Irons hesitantly stood up and went off to fulfill his part of the plan. He had never hunted before, but he figured he'd be able to lead the pig toward the group with ease.

When he got closer, he started angling his path so the pig would get cut off and hopefully turn around towards the Heidelbergensis hunting it. Dr. Irons started worrying that he would somehow mess this up. Thankfully, the pig was caught before he even got close to it! He heard the squeal of the pig and saw the hunters standing over it. That was when he noticed them pick up the pig and start walking back to camp. Panic set in, and Dr. Irons ran back to catch up to Dr. Nikolaj who was studying the camp instead of grabbing the meat and leaving.

"What are you doing? They're coming back! We need to leave *now*! Do your part and grab the meat! Come on!" Dr. Irons tugged at Dr. Nikolaj's arm to stand her up. She went over to the fire and grabbed the meat cooking on a stick.

As the two jogged away from the camp, they could hear the group that chased Annie coming right for them. Dr. Irons pulled Dr. Nikolaj into a bush and waited for the group to pass

by. The group passed by, but the child wandered over to the bush. Staying small and hidden, the professors held their breath to keep from being seen. There were some berries on the bush they had hid in, and the child picked some of them to eat. The kid got too close to Dr. Irons' At-Gear's face shield and ended up getting shocked. Unsure of what just happened, the kid ran back to the group. Dr. Nikolaj looked at Dr. Irons with disappointment.

"What? I didn't touch the kid; he was the one who shocked himself!" Dr. Irons was met with rolled eyes and a sigh. Returning the eye roll and sigh, he stood the both of them up and they rushed back to the machine before more issues occurred.

With everyone back in the machine, Annie looked for a way to divide up the meat. A laser knife was in one of the drawers. Dr. Nikolaj set the meat on one of the countertops and let Annie divide up the meat. As Annie carved the meat, Dr. Nikolaj explained how fascinating it was to see one of the first ancestors use a hearth. Annie asked what a hearth was, to which Dr. Nikolaj said it was a designated spot for a fire, this one being laid with rocks and sticks. While it was well known that most early ancestors that had been able to leave Africa could control fire, there wasn't a ton of evidence showcasing how well they did it. *Homo heidelbergensis* was the earliest species that had distinct evidence of hearths, which showed a strong control over fire.

When the meat was cut up, the three friends grabbed pieces as they ate. They spoke about what they had witnessed and done that day while enjoying the first meal they have had in a couple days.

"What were those spears? They looked a lot scarier than what *Homo erectus* had at hand..." Annie gnawed off a bite and felt her stomach stop screaming. She was finally filling her empty stomach.

"Well, their tool style is part of the Acheulean tradition, but with their own spin to it. Anthropologists call it the Levallois technique, where they control the shape of the flakes they hit off of rocks, otherwise known as a core, so they can maximize the amount of flakes off of said core. They also are one of the first hominins to build compound tools, such as the stone-tipped spears both of you witnessed firsthand." Dr. Nikolaj spoke between bites of her share of the meat.

She went on to share what she saw in the camp while Dr. Irons and Annie were busy. She added more to what tools they had made. While the tools had their uses, Dr. Nikolaj described the beauty in some of the tools, with one of the tools being a hand ax made from pink quartz. She also noticed that there were some beds made out of seaweed and leaves in the cave. Not only that, but some of the stone outside the cave appeared to be carved for a smoother surface to rest on. The description of early furniture surprised Dr. Irons and Annie.

"They made furniture? But, why? I thought they were just focused on surviving?" Annie looked between both professors in hope for an answer. Dr. Irons seemed to have an answer.

"Survival is more than just 'how much food and offspring do I have?' It's also about virtue, or pleasure. It's how you live. This shows the *Heidelbergensis* lived more than just for food, they saw an importance for comfort. They had enough important needs met, such as food

and shelter, that they could improve other aspects of their lives. *Heidelbergensis* thrived where it lived, and the beauty in tools and appearance of furniture highlights that."

Annie was intrigued by the idea that 'wants' and 'needs' were apparent among her hominin ancestors—she had assumed 'wants' were a uniquely human trait that elevated humans above the rest. But Dr. Irons changed her mind. It seemed that as early as *Heidelbergensis*, there were aspects of humanity around. She shared that thought amongst the two professors. Dr. Nikolaj became excited and inputted a location and time before she told the group where they were headed.

"Annie, if you're intrigued by humanity being seen through early hominins, then you'll love meeting this next species! I have us going 400 thousand years into the future from where we currently are here in Mauer. We're going to look at some of France's inhabitants who start exhibiting even more aspects of humanity—despite the fact they aren't a direct descendant of us."

## 50 thousand years ago

"I am requesting you leave me behind in the machine. I would rather not be carried around and put in harm's way. I could use a break from the three of you. Set me down on any counter. I will be more than fine on my own, especially because none of you will be around me." Encyclopedia was in Annie's hands as they all stepped out into the environment. She went back into the machine and set them down on the counter she found them in the beginning.

Dr. Irons was confused with how warm the temperature was—he mentioned to Dr. Nikolaj that he had thought they were supposed to be traveling to the Ice Age.

"While we are in the Last Glacial Period, the hominin we're looking for actually did *not* typically stick close to the colder climates. If they could, they would stick to warmer, more temperate, climates with closed environments. Speaking of closed environments, does anyone see any rock shelters or caves nearby? We may be able to see some *Homo neanderthalensis* around those shelters." Dr. Nikolaj walked away from the other two so she could find a good place to scout. With trees spread all around, it didn't take long for the anthropologist to find a tall enough tree that stood over all the others.

Annie eagerly volunteered to climb the tree. She had never climbed a tree before, because her parents were worried she would damage her head if she had fallen. And if she damaged her brain in any way, she would have been sent down several levels. It couldn't be that hard for her to climb a tree from the past, right?

Annie used Dr. Nikolaj's and Dr. Irons' hands to hoist herself up to the first branch. She then tried to climb up to the very top of the tree (with the weakest branches) until Dr. Nikolaj gently reminded her they just needed a vantage point of the local land, not the whole land mass they were on. Annie sat down on one of the last sturdier branches and looked around. Unlike when they were in Mauer, Annie did not smell any smoke. But she had *seen* smoke. She pointed it out and looked down to the two professors on the ground. Unfortunately for Annie, without

any experience climbing trees, she did not know to move carefully. The quick look down to check if Dr. Nikolaj and Dr. Irons saw what she pointed out caused her to lose her balance. Annie fell out of the tree with a sharp thud on the ground.

"Oh my god, Annie are you alright?" Dr. Nikolaj kneeled down to check on Annie.

"Elle, she just fell fifteen feet. I don't think she's 'alright,' she's probably got the wind knocked out of her." Dr. Irons looked at Annie and asked if she could breathe. Annie nodded and shoved both professors aside as she sat up.

Her head spun a little, but she stood up on her own, and asked if the two of them had seen the smoke. The professors said they saw it and thought the three of them should make their way there. They all walked toward the smoke, with both professors keeping an eye on Annie in case she had started to hurt more.

They finally got close enough to see the camp Annie had spotted from the tree. Her back still hurt from the fall, but she knew the pain would have been a lot worse had she not been wearing the At-Gear. They hid behind trees as they slowly approached the camp. They needed to be very careful to stay hidden; Dr. Nikolaj remarked that *Homo neanderthalensis* had a greater visual acuity than them. That meant Neanderthals saw better and farther because their brains were structured more for vision and spatial memory. Humans, on the other hand, had more brain area devoted to cognition and socializing. This was the cause of humans' exceptional language-processing abilities. The professors and Annie found a tree they all could climb up into and remain hidden from the Neanderthals nearby. Avoiding Annie's earlier mistake, they made sure to find sturdy branches to rest on.

When they were all situated in the tree, they whispered amongst themselves about what they saw. The Neanderthals were so distinct! Nothing like *Homo erectus*, this species was different from the other hominins they had seen previously. Their torsos were triangular and led to a rather short waist. Dr. Nikolaj explained that Neanderthals had wide flaring pelvises, which caused their waist to be short while matching the width of their thorax. Not only that, but a vast majority of them had red hair!

The Neanderthals were doing a bunch of different things inside and outside the cave they were around. Some grounded ochre, others used the already ground ochre to treat animal hides and a different Neanderthal was using the ochre to apply some fresh body paint. A couple other Neanderthals were crafting with bird feathers and shell beads for, presumably, bodily decoration. By the hearth, a male Neanderthal was skinning a larger animal than the time-travelers had seen. In fact, there were several large animal corpses near the Neanderthal. The tool he was using was different from the previous tools they witnessed. Dr. Nikolaj said that was because they were skilled big-game hunters, and the tool he was using was part of the Mousterian class—a more advanced tool than ones prior. Annie was entranced watching the Neanderthals go about their activities.

Their heads seemed similar in size to Annie's head, but the tops of their heads flattened more than hers. Their eyebrows protruded out more than humans', but Annie noted the brow ridge had two arches, rather than one continuous visor-like robust ridge. Neanderthals still lacked a chin, but it was narrower than the earlier species they had seen. Annie was fascinated with how the Neanderthals lived.

This time it was Dr. Irons' turn to fall out of the tree. He fell backwards and behind the tree trunk with a loud thud. Dr. Nikolaj and Annie saw several Neanderthals look towards the sound, but before they got up to investigate, the Neanderthals had a bigger issue. What looked like *actual humans* were charging the Neanderthals with stone-tipped spears. There were more of the humans than Neanderthals, but the Neanderthals did not appear to go out without a fight.

Dr. Irons quickly scrambled back up into the tree the other two were hiding in. He wrapped his legs around the branch he sat on to prevent another fall. Dr. Nikolaj and Annie silently laughed as he almost fell again trying to get settled on his branch. They turned their attention back to the fighting that was happening. There were injuries apparent on both sides, but the humans were able to escape without a death. The Neanderthals, however, didn't. A father, it appeared, had not survived the attack of the humans. There was a female Neanderthal and a young Neanderthal crying over him. The other Neanderthals walked into the cave their base camp was near. It took about an hour for the six or so Neanderthals to return from inside the cave. The dead Neanderthal was carried into the cave. The female and young Neanderthal had grabbed some nearby flowers and walked into the cave.

Annie and the professors couldn't see far enough into the cave to see what was going on. Dr. Nikolaj hypothesized they were holding a rudimentary funeral, as Neanderthals were thought to hold burial rituals. But the group realized they shouldn't stay where they were, because the Neanderthals were on high alert and the early humans could still be scoping out the Neanderthals. The three of them carefully climbed down the tree and made their way back to the time machine. It was quiet for a while. It took Encyclopedia to break the solemn silence.

"What happened? Did you three terminate a Neanderthal, thus dooming your futures?"

"No, but we did witness a Neanderthal die. A group of early humans ambushed the camp resulting in one of the Neanderthals dying. He had a child and a mate. The rest of the group had gone and dug a hole to bury him in." Dr. Nikolaj caught Encyclopedia up on what they had missed.

"Oh, is that what they were doing? I couldn't see that far into the cave," Annie said. "Is that why the other two Neanderthals were carrying lilies into the cave?"

"Precisely. Neanderthals have been found to perform rituals or other things we might assume to be a trait of humanity. At least in my time, we don't have a lot of evidence explaining what the rituals were, but we saw a couple of them before and after the fight. We saw a couple Neanderthals crafting! They were making jewelry out of feathers and shell beads. They also were crushing up seeds and plants to use as body paint and cloth dye. But most importantly, we saw one of the greatest traits of humanity: compassion for a dead community member. Intentional burial spots and artifacts buried alongside the deceased are a uniquely human thing. To know that Neanderthals did this as well shows that they did also have compassion and empathy for one another." Dr. Nikolaj's sadness from witnessing a death had turned into excitement over seeing humanity across hominins. "I know compassion is important, I've definitely learned that throughout all of this, but the Neanderthals were attacked by the humans. Is that how they died off? They just lost all the time to humans?" Annie hoped Dr. Nikolaj had an explanation that satisfied her.

"Humans didn't just attack Neanderthals. They also mated and lived together. It just so happened that this group we found was composed solely of Neanderthals. Over time, Neanderthals were either killed or they passed away, leaving behind their DNA in their offspring with early humans. Neanderthals lived in an area where they did not have to worry much about predators. *Homo sapiens*, however, started in Africa—they evolved from the *Homo heidelbergensis* that remained in Africa. In Africa, the predators were a big threat to the bands of humans, so they needed to stay alert and ready to attack. Because Neanderthals didn't have to worry as often about getting attacked by predators, they did not commonly develop the trait to be as aggressive as the early humans might have been. Just because the humans killed them does not mean they are inferior to us. They just lived a different way than our early selves. They had lived a long time with and without interaction with humans. They were successful during their time."

"I always wondered why my grandpa looked like a caveman," chimed in Dr. Irons.

"Odis, while a lot of modern humans do have some Neanderthal DNA, it isn't enough to make them resemble Neanderthals. And calling them cavemen is insensitive: they were more than cave-dwellers, and they were more intelligent than most people think." Dr. Nikolaj chastised Dr. Irons. "Speaking of shared DNA, there is another group of hominins that lived at the same time as Neanderthals and early humans. They even had similar interactions with humans as the Neanderthals did. I think we should head to Tibet, specifically the Tibetan Plateau."

Dr. Irons plugged in the location and set the time just ten thousand years ahead of when they were currently. The three of them shared some berries Dr. Irons had grabbed from the bush he and Dr. Nikolaj hid in earlier when hiding from the returning group of *Heidelbergensis*. Annie was hesitant until Encyclopedia looked at the berries and gave her the all-clear. When done snacking, the trio was ready to go.

#### 40 thousand years ago

The time-travelers stepped out of the time machine once more. They weren't expecting to be so close to mountains.

"Aren't ya glad we've got our At-Gear on? Without 'em, I don't think we'd be able to breathe as easily as we're doing right now," Annie said.

Dr. Nikolaj and Dr. Irons agreed with Annie. While they were still close to sea level, they knew they were going to have to climb one of the mountains, and that was when the air was going to be thinner than they had ever experienced. The two professors wondered how easily Annie could breathe at higher levels, since she lived on one of the higher levels in her city.

Perhaps if the two of them get the chance, they could see Annie's time (also known as their future).

They all took in the sights around them. They were in the valley of a mountain range. Dr. Nikolaj explained they were at a lower part of the Tibetan Plateau—one of the hardest environments to live in, yet a couple species survived and even excelled in the location. To reach the hominin Dr. Nikolaj wanted to show Annie and Dr. Irons, they needed to climb up to a vantage point. Annie was relieved to hear this vantage point had no branches involved, and only relied on their ability to walk. As the trio climbed, the wind became stronger. The At-Gear signaled the air was slowly thinning the farther up they went. Thankfully, the At-Gear provided them with oxygen to climb with ease—so long as they didn't become tired.

"Odis, will you please slow down? I understand that you're sure-footed, but I think it would be smart to stay close together. If you get attacked, that's for you to deal with. I'll take Annie and run back to the machine."

"You'd really leave me behind like that, Elle? And to think that I had you on my 'people to work with in the apocalypse' list!" Dr. Irons carefully made his way back to the two women. For the second time, Dr. Irons lost his footing. Tripping on a rock (or as he would tell his friends: a giant lizard out to eat him), he fell past Dr. Nikolaj and Annie.

His tumble was stopped by a big enough rock. He got up, dusted himself off, and climbed up the rock. At the top of the rock, he was able to see more of what was to come as they made their way to the top of the smallest mountain. Dr. Irons picked up on two individuals walking just a brief way away above Dr. Nikolaj and Annie. He called over Dr. Nikolaj to take a look with her keen-hominin eyes. She identified them as a pair of early humans! They decided to follow the humans and see what they were up to.

Annie and the professors were glad they didn't have to climb much higher than they had to—without proper climbing equipment it would have taken a long time to get up to the top of the mountain to scout for groups of hominins. Much like all the other hominins they found, the trio watched their footing as they silently made their way towards where the early human duo was headed.

The two early humans reached a plateau that was populated by a group of hominins not yet seen by the time-travelers. These hominins looked similar to Neanderthals but had human traits. Their bodies were almost identical to the Neanderthals, but their faces looked like a middle transition between humans and Neanderthals. Had Dr. Nikolaj not explained the fact that Homo *sapiens* came from Africa and weren't descendants of Neanderthals, Annie would have thought this group of hominins were the missing link between the two species. The big difference she was able to see was how far out the facial profile went for these hominins. Compared to herself and Neanderthals, they fell between the two. Their faces weren't as extended outward as the Neanderthals, but they still protruded more than humans Annie knew. The width of their faces was wider than humans, but thinner than Neanderthals.

"Oh my gosh, I think we're looking at early humans interacting with Denisovans!" Dr. Nikolaj whisper-yelled to her two companions. She gripped Dr. Irons' and Annie's shoulders in excitement.

The three of them watched the early humans pull something out of a sack they had made from what looked like leather and leaves. From their vantage point, the object was obscured, but they did notice a couple Denisovans had approached the two humans with what looked like plants. The four hominins did not appear to verbally understand each other, but from what Annie saw, the four had done this enough to know the routine. The Denisovans placed the plant products on the ground, next to the early humans. The humans then placed some kind of meat on a rock near the Denisovans. The humans then put the plants in their then empty sack, and the Denisovans picked up the meat and took it to a nearby hearth to begin cooking it.

The exchange was noticeably less violent than the Neanderthals, but Annie once again remembered that what they had witnessed with the Neanderthals and humans was not the only way the two interacted. She wondered if the humans of this time had killed any of the Denisovans from the community she watched.

The trio waited a little longer and studied the Denisovans some more. Dr. Nikolaj was the main reason they stayed so long—there wasn't much known about them during her time, and Encyclopedia didn't seem to find the species interesting enough to relay any information. She looked like a kid in a candy store who had only ever heard stories about candy. Here she was, almost face-to-face with a species that had been discovered only ten years ago in her time. And they only had a pinky bone and jaw to learn about the Denisovans.

Eventually, when it started getting dark, Dr. Irons and Annie were able to convince Dr. Nikolaj to return to the time machine. Making their way down the way they came, Dr. Irons and Dr. Nikolaj were happy to have their At-Gear on. The At-Gear's transparent helmet gave them night vision to see where they were going. Had they not had this ability, the professors would have lost their footing and most certainly rolled the rest of the way down the mountain. They were grateful once again for the At-Gear to keep enough oxygen fed to them, as they had climbed up a decent height to make the oxygen thinner. Or so they assumed—they didn't dare take their At-Gear off.

When they reached sea-level again, they had found some fruits in a tree that hadn't been picked all the way. They grabbed a couple and walked into the time machine. Dr. Nikolaj was giddy to discuss what she had seen.

In between bites of fruit, the three friends talked amongst each other over witnessing *trade* between different species of hominins. After watching a fight, it was a nice change of pace for the three of them. To see two sides of humanity, war and peace, fascinated Dr. Irons. He talked about the rise and fall of war that leads to peace, which after a period of time leads to war again. The peaceful moments caused people to become restless, or even greedy for 'more peace,' which resulted in wars against communities. When the wars were over, periods of peace began, since the horrors of war were still fresh in everyone's lives. Dr. Irons reiterated that war does not disappear with peace, it was only subdued.

"So, you're saying that even if I can fix what's happening in my time, it won't matter because eventually bad things will happen again?"

"That's not true. The things you do will *always matter*. There may be a time farther down the road where another issue arises, but you should never stop making things better just because they may go away later. The people that will be alive during the good years will be grateful. They may forget how they got to that point, but they will know they don't have to worry about genocide or eugenics. If you have the ability to bring about peace—in any form—you should *always* choose to do so. Why let the world continue to suffer when you can provide it a moment of relief?" Dr. Irons let his final question hang there for a couple seconds before Dr. Nikolaj spoke.

"Exactly. A lot of good things come about by finding peace. If we take the Denisovans for an example: the humans that had mated and lived with them produced offspring that were able to survive in the high-altitude environment more easily. Denisovans could easily regulate the levels of oxygen in their blood in order to prevent hypoxia in the plateaus they lived on. Early humans would succumb to hypoxia more frequently than the Denisovans, meaning not enough oxygen was able to get to all different parts of their body. And a prolonged lack of oxygen can lead to death because the body needs oxygen to function. But, because enough humans were able to remain relatively peaceful with the Denisovans, we now have humans alive in both of our times that can easily live in high-altitude locations! Had that not happened, it would take millions of years for a genetic mutation to randomly occur, and even more of a chance for that mutation to be reproduced over and over to affect a large enough group of our population."

"Huh, never thought of it like that. Thanks, both of you. I think I'm really starting to understand what I need to do to fight back in my own time." Annie placed her hands on her hips. She felt more confident with how to fix the situation in 2619.

Encyclopedia spoke up. "That is great news. If the three of you are finished talking, I request to be placed on the small platform next to where you have all entered the places you wanted to visit. I was busy sleeping and had forgotten about my update. Before any of you ask idiotic questions, allow me to answer them ahead of time. The first question, why do you need the platform to update? Obviously, the platform is how I receive updates to all the new things going on and being discovered in the world. The second question, how can you update when we aren't back in the future? Despite two of you calling yourselves doctors, you are unbelievably clueless; the room we are in right now is still in the future. It folds time and space to create a door that opens into the place you want to be. That is why the exterior changes, yet the interior remains the same regardless of when and where you travel—on the inside you are in 2619, outside of the machine you are in the year you wanted to be in. The third question, why do you speak so rudely to us? Perhaps if any of you were technologically inclined, we would have gotten off on a better footing. Unfortunately for everyone involved, Annie is not a scientist, and you two professors are from 600 years in the past." No one said anything for a minute. Dr. Nikolaj was insulted, Dr. Irons was annoyed, and Annie had not fully paid attention, so she was confused as to the demeanor of her friends.

After a reiteration of their request, Annie placed Encyclopedia on the platform so they could update their system and check in with their time. Dr. Nikolaj and Dr. Irons talked amongst themselves as they waited for Encyclopedia to finish. The two of them attempted to trash-talk Encyclopedia, but Annie shut them up rather quickly because of how poorly the two professors were doing at their task. Their best insult was that the color of Encyclopedia's screen was an ugly green color.

"Look, when you get back to your time, maybe you should assign something where your students teach ya how to properly smack talk. Because what you two are doin' right now is embarrassing." Annie noticed the two professors awkwardly shuffled back and forth after being overheard.

"Oh, dear. Annie, I highly advise we return to 2619," Encyclopedia finished updating, "because there seems to be an issue. Revolts are occurring all over the United States, but the soldiers are much stronger and more prepared than the rebels. The Genetic Liberation Front and their allies are being destroyed faster than newer revolts can form. If you wish to do anything helpful for once, now would be the time to do so."

Annie turned to look at Dr. Nikolaj and Dr. Irons. The two of them put their hands on Annie's shoulders. They told her they'd follow her and help her out, in whatever way she needed them. Annie thought for a moment. She thought for longer than a moment, as she had so many things to think about. But when Encyclopedia broke her silence with a sarcastic remark to think faster, Annie had it figured out. She told her professor friends the plan she had, and the three of them (with Encyclopedia) went back to the future.

# June 4<sup>th</sup>, 2619

Annie was scared to open the door. The last time she was here, there were guards on the other side, along with the scary mustached man. But there was no noise heard on the other side of the door. There could have been a guard on the other side waiting for her, however. This was the one part of the plan she did not know how to plan for. If she knocked out the guard, that would buy them time to get to the Liberators and the armory before the guard woke up. If she ran past the guard, there would be a swarm of guards instantaneously. She asked Dr. Nikolaj and Dr. Irons what they thought.

"I am getting tired of not being asked questions I have more expertise in answering than these two professors from the 21<sup>st</sup> century," Encyclopedia said, beating both professors to answering Annie. "I have already shared the map of the facilities with the three of you. I also have the current location of the guards and their shift times."

"Maybe Annie wouldn't have defaulted to ask us if you had thought to add that rather *important* information. For a computer, you don't think that far ahead, do you?" Dr. Nikolaj remarked.

Annie stopped the two from bickering. She asked Encyclopedia to show her the guard information. At that moment, the guard was not there. Another guard was set to be in the spot

four minutes later. They took a quick minute to re-brief on the plan. Before they had traveled back to Annie's time, Encyclopedia had explained the two places the Liberators were taken. There were cells for recently captured Liberators and a laboratory they were sent to after some time. When asked what happened in the laboratory, Encyclopedia admitted that they did not have access to that information. They were assigned to the Time Alteration Device, so the data it had access to was all the stuff in the past and the important things from their time. There may have been information left out in preference for the past. And space for the future, if anyone wanted to head forward in time.

After everyone was once again on the same page, one of them unlocked and opened the door into the hallway. They had only a minute left before the next guard showed up. Dr. Nikolaj and Dr. Irons went in the direction of the cells; Annie took Encyclopedia with her to the lab.

Annie was glad she had Encyclopedia, or at least knew the layout of the facility she was currently in. The fear she had when she ran from the guards was still inside her, but she knew where to run and hide if need be. There was no guard in front of the entrance to the laboratory, they were also switching out. Annie quickly slipped inside before the guard could get to her. It was night, so no workers were in the lab or any other parts of the facility. The only people Annie and her friends had to worry about were the guards.

There was no comparison to the horror Annie saw as she turned on the light in the room. Strapped to tables in tight rows made up of about 100 individuals, were people who Annie had a hard time recognizing as such. She was shocked to see the monstrosities done to these people around her. Everyone appeared to be asleep. Walking up to the nearest person, she hesitantly touched his arm. His eyelids opened to reveal a second eyelid underneath. It reminded Annie of an animal's eyelid that protected them from debris or injury. The second eyelid then opened and revealed the person's eyes.

"Who are you?! Get away from me, please! You're a monster! I can't believe you'd do this to people like you!" The man screamed at Annie, which woke up everyone throughout the room.

"Shhh! Please! I promise I'm not here to hurt you! There is a guard outside the door right now, but I'm here to get you all out of here." Annie kept her voice down, but the lab echoed enough for everyone to hear her.

"I don't believe you! You're just going to take us out of here to run more tests. Or kill some of us who aren't giving you the results you're hoping for."

"Believe her. She and her friends are currently attempting to rescue you and everyone else in this facility. If you follow her, she will take you all the armory so you can all be on the same playing field as the guards and soldiers. You require a revolution, correct? Annie here will lead you to it." Encyclopedia's computer eyes looked from the man to Annie.

Annie released the man from his table. He reluctantly sat up. He looked around at everyone with him. No one could turn their heads to face him, but he saw their eyes strained on him.

"Alright. Fine. We'll trust you. But you need to help me get everyone out of here. Everyone, listen up! Today's our lucky day. Our torture ends now, and the torture and oppression of our community will end soon." As he spoke, Annie watched him blinking. He didn't need to close his actual eyelids, the inner lids appeared to be the ones that blinked and kept his eyes moisturized. When he looked around at everyone, Annie also noticed he had slits on his neck. The slits reminded her of gills, but she wasn't sure why he would need those.

Annie and the man went around and helped everyone off the tables they were confined to. Annie couldn't believe what she saw. Some of the people had rock-like skin, others had what looked like bugs under their skin that crawled around. Each person had something different about them that horrified Annie. She was not horrified with their appearance, but rather horrified with the scientists who performed such acts on these innocent people who wanted a better world. One of the last people Annie helped had two extra arms. They folded up like an insect's legs when they weren't being used. She stared a little too long at the four-armed person. The individual explained to Annie that everyone in the lab was part of the GLF (or assumed to be, in some cases).

That was their punishment. For fighting against the government's ideals, they were experimented on to find ways humans could adapt even quicker than the androids. The scientists messed with the genetic code in each prisoner to see what it all did. Some died, and some survived. But when the scientists were finished studying a subject, they were killed. They weren't allowed to leave the facility.

Once everyone was released from the tables, Annie and the man with the eyelids led the group out of the lab. The guard right outside the door was surprised to see the subjects had escaped. Before he could radio the others, one of the subjects spit on his helmet. The helmet dissolved as quickly as the spit had hit it. But it didn't stop there. The guard's face dissolved just as fast. The acidic saliva had reached the back of the man's skull when it stopped dissolving. Annie looked back at the subject who caused that horrific death. The individual had a throat that looked like a frog's and when she smiled at Annie, she had no teeth. Annie thought the teeth had dissolved from the spit before the scientists could figure out how to protect her from her own acid.

Annie didn't stop moving after the guard fell to the floor. She turned down several hallways until she reached the rendezvous point. The plan was to head to the armory at the same time so they could make sure everyone got suited up. Encyclopedia marked on their map where an empty room was. It was going to be extra space if there was an influx of subjects to study. The room was more than big enough to fit the 100 subjects and Annie. It was also big enough with the addition of Dr. Nikolaj and Dr. Irons' group of Liberators. At least Annie had hoped. She closed the door once everyone was in and waited for her friends to return with more people.

"Geez, I'm glad we both have great memories. Could you imagine getting lost in this place, Elle?" Dr. Irons asked as the two of them briskly walked through the halls.

"I'm a little more worried about getting caught than getting lost. We don't have the computer with us, so we're turning these corners blind *hoping* we don't run into any guards."

"Fair point. But I'm glad Encyclopedia gave us the locations of rooms to hide in if we need to."

For the first time since leaving the 21<sup>st</sup> century, the two professors had luck on their side. They did not run into any guards on the way to the cells. When they reached the entrance to the cells, the guard had just left her post. They walked up to the door and opened it. Inside were a hundred or so people in several electric cages. Everyone turned and stared at the two professors.

"Hello! We're from the past!" Dr. Nikolaj slapped the back of Dr. Irons head. "Ouch! Why'd you do that? When are you ever going to get an opportunity to say that again?" He rubbed his head as Dr. Nikolaj spoke over him.

"We're here to help you escape. And revolt. We're going to help you out of these... unique cages and take you all to the armory. You'll be able to level the playing field with the soldiers while wearing the same armor they have. Do any of you know how to turn these off?" Dr. Nikolaj gestured to the electricity running from floor to ceiling that trapped the Liberators.

One of the people in the cells gestured to a button on the wall that said 'emergency override'. Dr. Irons laughed.

"Wow, six centuries later and they still have a manual override in the same room as prisoners? Why couldn't any of you just toss one of your shoes at it? It's literally a button." Dr. Irons continued to laugh.

One of the prisoners took their shoe off and threw it through the electrical barrier. Or at least tried to. It was burned to ash the second it touched the barrier. Dr. Irons tried to play his laugh off as a cough. It did not work.

Dr. Nikolaj walked over to the button and pressed it. The barriers went down, and the prisoners were finally free. They waited to hear more of the plan from Dr. Nikolaj, as they seemed reluctant to listen to Dr. Irons. She explained once more that they were to follow the two of them to a rendezvous point for further instructions before heading to the armory.

Again, luck was on their side. The guard that was supposed to be outside must have been late on the shift change. The professors were able to lead everyone out safely and quietly. They ran into no issues on the way to the rendezvous point. Dr. Nikolaj and Dr. Irons did, however, run into people they weren't expecting. Halfway to the rendezvous point, two people tapped the professors on their shoulders. They turned around to see an older man and woman walking behind them.

"Hello there, excuse me, but have you two happened to see our daughter?" The woman gently spoke to them.

"We saw her face on one of the video boards. She's wanted for escaping from the facility we're currently in. We had no idea she was down here, so we went to go look for her and ended up captured with the rest of the people here." This time it was the man's turn to speak.

"Sorry folks, we may be unable to help you answer that. Like I said back in the cell, Elle and I are from the past. We were recruited to help out Annie, who's the only person from this time that we know." Dr. Irons felt his body get wrapped up tightly in a hug from the worried mother.

"Annie? Oh, that has to be *our* Annie! Is she here with you? Please tell us we're about to see her!" The woman let go of Dr. Irons and hugged Dr. Nikolaj. Dr. Nikolaj politely peeled the mom off of her and put her in the man's arms instead.

"We're headed to where Annie is going to meet us, yes. But she may not be your Annie, so don't get your hopes up."

The parents nodded their heads but didn't listen. They were hopeful they'd see their daughter again.

They finally reached the rendezvous room. Dr. Nikolaj held the door open for everyone to get inside. From her quick glance in the room, Annie and the people of the Liberators she had helped were already inside.

"Annie! Oh my goodness it's you!"

"Mom? Dad? Oh wow! I didn't think I'd see ya!" Annie was swept up into a hug. "Wait, how'd you two end up here?"

Annie learned that she was wanted for terrorism and escaping the facility. Her face had been plastered all over the country to catch her. She asked Encyclopedia why they didn't bother to tell her that at any point since they updated. There was no answer.

Annie forgot Encyclopedia back at the lab! She had set them down and forgot to pick them up again. She told Dr. Nikolaj and Dr. Irons to continue with the plan and get everyone suited up. She'd meet them in the armory in no longer than fifteen minutes. Annie said bye to her parents, left, and returned to the lab. In the meantime, Dr. Nikolaj and Dr. Irons took the Liberators to the armory. The professors' luck had run out—there were two guards at the armory's door. The Liberator with rock-like skin and the acid-spitter pushed Dr. Nikolaj and Dr. Irons aside. The acid spitter walked behind the rock-skinned man. The guards noticed the escaped subject and tried shooting at him. The rock-skin was not affected by the bullets and charges shot at the man. When the two Liberators got close enough, the acid-spitter did what she had done when they all left the lab. She spit at both the guards who died just as quickly as the first guard. The two escapees looked back and gave the all clear sign. Dr. Nikolaj and Dr. Irons were confused and frightened, but thankful they didn't have to deal with the guards themselves.

Inside the armory, there was more than enough technical-tactical armor for everyone. Just like the At-Gear, Tech-Tac armor folded up into pocket-sized gloves that took up no space at all, so the government facility they were in decided to stock up in case any of the suits

malfunctioned. Once everyone got their suits on, the professors told them how to escape the facility and to help change the structure of the government and society. The Liberators all left, except for Annie's parents. They stayed behind a brief moment and told the two professors to keep their daughter safe. The facility was not friendly to outsiders. With that, Annie's parents caught up with the rest of the rebellion and headed out of the building.

"Odis, it's been longer than fifteen minutes. Where's Annie?" The two professors looked at each other. There were still a couple technical tactical armors left over. They took off their At-Gear and put on the newer and stronger armor. Then they ran toward the laboratory to find their friend from the future.

\_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_

Annie reached the laboratory and saw the dead guard slouched against the wall and on the floor. There hadn't been a shift change yet, thankfully. That meant no one knew what was going on. Annie rushed into the lab and found Encyclopedia.

"Nice of you to join me. Were you also wanting to lay down for an uncertain amount of time? If so, please join me." Encyclopedia, despite their computer tone of voice, sounded annoyed.

"I'm so sorry about that!" Annie apologized, "But what's that I'm picking up? Were you worried? Did you miss me?" Annie held Encyclopedia's screen to her face. They avoided Annie's eye-contact; their eyes searched everywhere around the room except for where Annie's eyes were.

Encyclopedia noticed something behind Annie, but it was too late to warn her. Someone grabbed Annie's wrist and spun her around to face him. It was the man with the mustache. Annie tried to get free from his grip, but he was stronger than her. Annie tried to scream for help, but the mustached man smacked her across the mouth shutting her up.

"What, are you friends with this silly computer?" Mustache Man grabbed Encyclopedia out of Annie's hand. "You won't be needing this anymore. I'm taking it back."

Suddenly, Encyclopedia released an electrical impulse that shocked Mustache Man enough to let go of Annie's wrist. Annie created distance between her and the scary man. The mustached man was angry Annie got out of his grasp once again. Looking at Encyclopedia in his other hand, he threw the tablet across the room. A crack was heard from where Encyclopedia laid.

"What do you want from me? Just leave me alone, I'm doing the right thing here!" Annie threw random tools she found near the tables in the lab at Mustache Man.

"You're ruining the only way we'll win this war. The only way our people will survive forever."

"That's where you're wrong, big guy." Behind the mustached man stood Dr. Irons at the doorway, with a weapon trained on the scary soldier. "My friend and I are asking you to leave Annie alone."

"You and your friend? You're the only one I see." Mustache Man heard the crackle and whir of an invisible field near him. It was too late to move out of the way, Dr. Nikolaj punched him right in the face. Mustache Man lost his balance and fell to the floor.

Dr. Nikolaj took off a slim backpack, became visible again, and signaled to Dr. Irons. He shot his weapon at the mustached man. An electrical net wrapped around him, which shocked the soldier every time he tried to break free. The net was still attached to the gun, which allowed Dr. Irons to pull the soldier around with ease by pressing a few buttons. Dr. Nikolaj placed the slim bag on her back again. Invisible once more, Dr. Nikolaj continued to kick the mustached man every time he tried to speak. Against the invisible assailant, he was powerless against Dr. Nikolaj since he could not dodge her attacks.

With Mustache Man silenced for the moment, Annie ran over to where Encyclopedia had been thrown. She picked the tablet up and asked if they were okay. The screen turned on, but the screen was badly cracked. Only one of Encyclopedia's eyes was visible. Aside from that, Encyclopedia reassured Annie they were alright.

"So... we're friends? Because back when the big, scary, mustached man asked if we were friends after hurting me, you totally shocked him to save me!" Annie was met with a sigh from Encyclopedia.

"My hard drive is full of all types of programs. There may be a small chance 'friendship' is on my hard drive." Annie hugged her computer friend.

Annie walked over to Dr. Irons. Dr. Nikolaj was still invisible and continued to kick Mustache Man. She thanked the both of them for their help.

"No problem, Annie. But I think it's important to note that *I* was supposed to be the invisible one that got to punch that guy. I had called dibs when we found the invisible pack, but Elle put it on and hid from me. So, I got stuck with the net gun." Dr. Irons shrugged as if it wasn't a big deal, but Annie could tell he wanted to punch the bad guy. She took the gun from his hands and told him he could go kick Mustache Man if he wanted. Dr. Irons ran over as a running start and kicked the soldier as hard as he could.

"Oh man, nice job!" Dr. Nikolaj removed the invisible pack once again and high-fived Dr. Irons.

Mustache Man groaned in pain. The electrical impulses from the net interfered with the armor he had on, which meant he definitely felt the punches and kicks from the professors. He begged for them to stop. Annie told her friends to stop. She pressed a button on the gun and brought the soldier closer to her.

"Who are you?" Annie asked Mustache Man.

"My name is—"

"Your name is Mustache Man. You'll earn your name if you tell us what we want to know. I wanna know who you are and what you do." Annie was angry.

*"Hmph.* I'm more than just a guy with a mustache, thank you very much. I'm the head scientist at this facility and also the general of the soldiers here. We're working on altering our genetic code so we can become the best species alive. After all, it's not too long until the androids fight us. We need to make sure we can beat those robots."

"Full offense, but you're the dumbest scientist I've ever met if you think you can make the 'best species' ever. There is no such thing," Dr. Nikolaj said.

After Dr. Nikolaj and Mustache Man argued for a little bit, Dr. Irons intervened.

"Okay, we get it, you think you're the best scientist and no one else could do what you do. But why don't we go into the future and put your theory to the test? If, in the future, humans are still alive and thriving, the topic of conversation will change. But if there's anything that shows your inevitable failure, then you'll listen to what we have to say. Deal?"

"Deal. You might want to start thinking about other tests we can perform on subjects here; You'll see how great the world is and wish we could get to that point faster." Mustache Man smirked at the professors and Annie.

Dr. Irons took the gun back from Annie and dragged Mustache Man to the time machine. Once everyone was inside, Dr. Nikolaj set the time machine to one thousand years into the future. Mustache Man was released from the net, and they all stepped outside.

#### June 4<sup>th</sup>, 3619

The city they stood in was beautiful. It was a perfect blend of technology and nature. As if the people of this time knew the perfect ratio of nature to technology. The air was clear, no smog like in the 27<sup>th</sup> century. Serenity passed through the entire group. The place felt peaceful. Annie remembered her discussion with the professors about the cycle of war and peace. She knew that even if peace happened at this time, it didn't mean she couldn't bring her time to an era of peace.

Mustache Man chuckled to himself and expressed glee over his success. Instead of returning to the machine, he offered to walk around some more. He wanted to bask in what his hard work paid off into. The four of them (now all from the past) took in the sights around them. Tall trees were interwoven with apartment buildings, like a strand of DNA. The sky was bluer than any of the four travelers had ever seen. There were no video boards sharing propaganda. There were no apparent levels in this society. Here, it was all spread out horizontally, not vertically. While there were tall buildings that touched the sky, they appeared to be places anyone could access, based on how many people entered and left them. People

moved throughout the city, not one of them looked to be sick or, as Mustache Man put it, *inferior*. Annie and the professors recoiled when he said it.

They eventually crossed a bridge that was above a giant lake in the middle of the city. The water was a crisp blue that reflected the bright blue sky. In the middle of the lake was a holographic statue. The size of it was huge. The group stopped to look at it. The statue was of two humans. It wasn't sedentary either, the two human holograms repeated a motion. One was kneeling and pleading to the human that stood above it. The human that stood above had a grimace and raised its foot up to step on the pleading human. The holographic statue would 'reset' every time the second human placed its foot on the face of the pleading human. Then it would raise its foot once again, only to restart to the statue. A plaque on the bridge described the statue. Annie read it aloud.

"Never forget the ungratefulness the humans had for us. In this age of androids, we must remember we all will meet our end one day, just like the humans did in 2735."

"Humans died in 2735?" Mustache Man double-checked the plaque. A passerby overheard Mustache Man and answered his question.

"Yeah, during the hundred-year war between them and us, we realized the population of humans still alive were all very similar to one another. We figured out they all had the same weakness—a bacteria that none of them had immunity to. We released it upon them, which ended the war. It also killed off the last of the humans, and their perceived greatest strength ended up being their undoing." Dr. Irons thanked the nice android for sharing that bit of history with them.

Mustache Man fell to his knees. He punched the ground. He could not believe his plan to protect humans ultimately became their downfall. He began talking out loud to himself. He had to think of another way to keep humans alive, to make them last forever. He knew he had to get the president to make more laws for him that gave him more resources to study the human body. Mustache Man also thought about how he could get the president to make a statement to change the ideal human to be three types of ideal humans. He could then—

"Are we hearing you right? Are you controlling the president like a puppet?" Dr. Irons approached Mustache Man. "You've been behind all of this? You're the one who was the mind of this whole societal operation?"

"The one and the same," Mustache Man said, "I'm only doing what's best for humanity."

"Best for humanity? We've already argued over this—there is no such thing as 'best for humanity.' What can work for a thousand years might not work the next thousand years." Dr. Nikolaj stood next to Dr. Irons, both of them looking down at Mustache Man on his knees.

"Don't you two understand? That's what I'm trying to achieve. I want to make humans as adaptable as possible. We deserve not to go extinct. We've survived through so many things!"

Annie walked up to Mustache Man. She looked him in the eyes. She tried to figure out what he was really doing.

"You're scared. You're arrogant. You're doing this because you don't want to be forgotten. You'd rather doom the entire human race instead of letting it take its natural course. Why would you want to push us into a struggle when you could push us into peace?" Annie kept eye contact with Mustache Man.

Mustache Man thought about what Annie said. He told her she was right. He didn't want to be forgotten. And he knew if he were to make humans the best possible species alive, he could guarantee his remembrance as the one who provided humanity with their extreme adaptability. Dr. Irons argued that humans are already adaptable. If humans were to become more adaptable, they would begin to differentiate and evolve into new lineages of hominins at a quicker rate than they are already on course for. Mustache Man would be forgotten soon enough that way.

"But I'm just trying to do the right thing."

"And you think the right thing is to remove most of the humans? We survive because of our variation. If you and I were the same, would we even have a desire for art? How would we show love? You cannot create the perfect humans without taking away what makes us special in the first place. Our ancestors before us have learned these aspects of humanity and passed them down and across to us. Variation breeds innovation. If we were all the same, there would be no need to innovate since we'd all function the same." Dr. Irons spoke clearly and firmly to make his statements heard. Mustache Man seemed to understand what he was saying.

On his knees, Mustache Man looked sad. He wasn't sad his plan had failed; he was sad because he hadn't thought his plan through enough. He didn't realize the things he would be taking away from everyone. He didn't realize he would take away the best part of being a human—humanity. Mustache Man looked up at the three humans standing over him. They were angry. But when he reached out his hand as both a sign of peace and help, they didn't refuse him. They each took his hand and pulled him up. He apologized for his actions and asked what he could do to repent. He knew what he had done was not going to be forgiven easily, but he knew he could still choose to be a good man for the rest of his life. He had done so much damage already, the least he could do is fix it.

"You need to tell your puppet of a president to change the level system. We can't live divided like this—it only furthers the idea that some people are worth less than others. And stop the android hate. If I can be friends with a computer, I think everyone can easily become friends with a robot-human. When the androids were made, they were given intelligence and consciousness. You can't treat them likes slaves. They deserve compassion as much as any human does. Right now, they're the closest species relatives we have. And clean the air in the Lower-Levels. I don't know how you're going to do that part, but you need to fix that." Annie held on to Mustache Man's hand as she talked with him.

"I can do that. All of it. Especially the Lower Levels atmosphere... because, well, the air quality isn't dangerous at all. We made that up to keep people from mingling with the Lower-Level citizens." Mustache Man winced as he said it. He had forgotten the measures he put in place to ensure his plan would succeed.

Annie squeezed his hand hard but relented just as soon as it had happened. The guilt in his voice and apology on his face showed her he was aware he messed up, but he knew he had to be better.

"And you also have to fix Encyclopedia's screen!" Dr. Nikolaj shoved Encyclopedia in Mustache Man's face.

"If you do not mind, I think the one-eyed look is stylish. I do not have much control in my appearance, so anything I can control about it I would like to do so. Moreover, the screen is merely meant for my eyes to interact with my user. I project everything out of the screen, so there is no harmful damage done to me. I have a computer scar now and would like to keep it." Encyclopedia, for the first time, spoke joyfully within the group. Until Dr. Irons ruined it.

"Neat! You could be called Cyclops! It's a double meaning, because that word is in the word Encyclopedia, and you also have one eye now!" Dr. Irons looked around for approval, and to Encyclopedia's dismay, Annie and Dr. Nikolaj loved it.

"Cyclops! That's perfect! Now you don't need think of a name!"

"I love it, but how is that joke allowed to fly, but my tree limb joke earlier couldn't even get a pity laugh?"

"That's because mine was objectively funny."

After a short back and forth between Dr. Irons and Dr. Nikolaj, Annie reminded the two why they were there in the first place. They turned their attention back to Mustache Man and looked at him expectantly.

"Okay, I will work on doing all of those things, aside from Cyclops' screen. This isn't going to be fixed in a day, but I promise by this time next year, we should be closer to how we should be. To people being people, rather than rankings."

The four of them (and the newly named Cyclops) returned to the time machine and traveled back to 2619.

When they returned, Mustache Man said he had to go immediately to the president in order to stop the revolution happening. Or at least, make it easier for the revolution to occur. It was just Annie, Cyclops, and the two professors from the past left.

"Well, I guess Cyclops and I should take you back to your time. I can't thank you two enough for what you have done for me. I went from being apathetic toward this whole cause to being a big factor in it. That is because of the help you two provided. Thank you. We may not be able to see each other anymore, but you will always be remembered by me."

The three of them hugged for a long time. When they pulled apart, Annie put in their date and location on purpose this time. She wasn't being chased by anyone anymore. The two professors stepped out of the time machine and waved by to Annie. They told her if she ever misses them, she could always travel back in time to say hi. Annie said she'd love to do so.

## June 7<sup>th</sup>, 2019

"Any questions, class?" Dr. Nikolaj had just finished her last lecture for the day and hoped no one had anything to ask. Unfortunately, a student in the back, whom she couldn't quite make out, raised their hand. "Yes?"

"Uh, yeah. What would happen if you were to travel back in time and kidnap a baby *Homo heidelbergensis*?" Annie and Dr. Irons giggled in the back of the class at their question.

"Why don't you two clowns come speak to me after class. Class dismissed." Dr. Nikolaj couldn't contain her smile at seeing Annie for the first time since their adventure.

The three of them all caught up, with Cyclops budding in here and there. Dr. Nikolaj and Dr. Irons didn't have as interesting of news as Annie did, however. Annie shared with her favorite professors all that has happened so far in her time. Mustache Man was able to get the president to get rid of the level system. While the country was still built with that system in mind, a lot of people worked hard to move people around the levels of the cities to cultivate community based on diversity, rather than uniformity. Not only that, but Mustache Man had offered his services for free to help anyone with anything they need or want fixed. If they had vision problems, he would help them see again. If they wanted to be able to walk, he'd fix it. If they wanted their mutation taken away, he would work extra hard to help them. Mustache Man worked out of his facility he ran, but the walls were repainted with fun colors, instead of the sterile white every room was covered with.

Dr. Nikolaj and Dr. Irons were happy to hear about the improvements happening in Annie's time. When they had all finished catching up, they tested Cyclops' data by quizzing them with random historical facts. By the end of the day, Cyclops had only missed one question, and it was because they didn't want Dr. Irons to feel bad for not being able to best a machine. Annie and Cyclops walked back to the machine to head home.

"See you two next year?" Dr. Nikolaj asked.

"See you two next year." Annie replied.

### **Bibliography**

Aiello, Leslie C., and Susan C. Antón. "Human Biology and the Origins of *Homo.*" *Current Anthropology*, vol. 53, no. S6, Dec. 2012, pp. 269–277., https://doi.org/10.1086/667693.

This paper discussed new findings about the origin of the genus *Homo*. When reading the paper, notes focused on comments about *Homo erectus*. These notes were then applied in both *Homo erectus* sections of the story.

Antón, Susan C. "Natural History of *Homo Erectus.*" *Yearbook of Physical Anthropology*, vol. 46, ser. S37, 2003, pp. 126–169. *S37*, https://doi.org/https://doi.org/10.1002/ajpa.10399.

This source provided information on all the biological discussions surrounding *Homo erectus*. This information was applied in both sections where Annie, Dr. Nikolaj, and Dr. Irons travel to look at *Homo erectus*.

Antón, Susan C., et al. "Evolution of Early *Homo*: An Integrated Biological Perspective." *Science*, vol. 345, no. 6192, July 2014, pp. 45–58., https://doi.org/10.1126/science.1236828.

This paper was a biological exploration of the early hominins. While reading, emphasis was placed on learning about *Homo erectus*. These notes were applied in both *Homo erectus* sections of the book.

Bettis, E. Arthur, et al. "Way out of Africa: Early Pleistocene Paleoenvironments Inhabited by *Homo Erectus* in Sangiran, Java." *Journal of Human Evolution*, vol. 56, no. 1, 7 Sept. 2007, pp. 11–24., https://doi.org/10.1016/j.jhevol.2008.09.003.

This source provided information on the environment in Java when *Homo erectus* was inhabiting the location. This information was applied in the section where Annie, Dr. Nikolaj, and Dr. Irons travel to look at another group of *Homo erectus* in Java.

Buck, Laura T., and Chris B. Stringer. "Homo Heidelbergensis." Current Biology, vol. 24, no. 6, 2014, https://doi.org/10.1016/j.cub.2013.12.048.

This source was used for gathering information on *Homo heidelbergensis*. The part of the book where Annie, Dr. Irons, and Dr. Nikolaj visit *Homo heidelbergensis* utilized notes taken from this source.

Cicero, Marcus Tullius. *On Obligations*. Translated by P. G. Walsh, Oxford University Press, 2008.

This work was annotated with thoughts and comments on duty to one's community along with how to keep a society functional and prosperous. These comments were used to create a disfunctional society and then a functional one within the book. Dalley, Stephanie, and Sin-leque-unnini. "The Epic of Gilgamesh." *Myths from Mesopotamia: Creation, The Flood, Gilgamesh, and Others*, Oxford University Press, Oxford, NY, 2008, pp. 50–125.

This story within the book was annotated with thoughts and comments surrounding humanity and how people see themselves within a community. The annotations were then used to write about humanity within the book.

Gokhman, David, et al. "Reconstructing Denisovan Anatomy Using DNA Methylation Maps." *Cell*, vol. 179, no. 1, 19 Sept. 2019, pp. 180–192., https://doi.org/10.1016/j.cell.2019.08.035.

This source provided information regarding the anatomy of Denisovans. The notes from this paper were then applied to the section where Annie, Dr. Irons, and Dr. Nikolaj time-travel to when Denisovans lived.

Hobbes, Thomas. *The Essential Leviathan: A Modernized Edition*. Edited by Nancy A. Stanlick, Hackett Publishing Company, Inc., 2016.

This piece of work was annotated with thoughts and comments on humanity of an individual and society. The comments were used to write aspects of the dystopian and utopian future in the book.

Homer. "The Iliad." *The Essential Homer: Selections from the Iliad and the Odyssey*, translated by Stanley Lombardo, Hackett, Indianapolis, IN, 2000, pp. 1–240.

This story was annotated with thoughts and comments on pride, arrogance, and expectations. These ideas were then expanded on in the book.

Homer. "The Odyssey." *The Essential Homer: Selections from the Iliad and the Odyssey*, translated by Stanley Lombardo, Hackett, Indianapolis, IN, 2000, pp. 241–482.

This story was annotated with thoughts and comments on obligation and forced duty. These thoughts were kept in mind when writing the book.

Hume, David. *David Hume: Political Writings*. Edited by Stuart D. Warner and Donald W. Livingston, Hackett Publishing Company, Inc., 1994.

These writings were annotated with thoughts and comments on politics and societal structures. The comments were used to create the bad future and eventual good future in the book.

Ko, Kwang Hyun. "Hominin Interbreeding and the Evolution of Human Variation." *Journal of Biological Research-Thessaloniki*, vol. 23, no. 17, 2016, pp. 1–9., https://doi.org/10.1186/s40709-016-0054-7.

This paper discussed the inter-breeding among *Homo sapiens*, Denisovans, and *Homo neanderthalensis*. This information was applied in both the Denisovan and Neanderthal sections of the book, mostly focused on the interactions both species had with humans.

Machiavelli, Niccolò. *Discourses on Livy*. Translated by Peter Bondanella, Oxford University Press, 2008.

This book was annotated with thoughts and comments on societies and their pros and cons. These notes were implemented in the book Evolution of *Homo*-nity.

Martinón-Torres, María, et al. "The Denisova Hominin Need Not Be an out of Africa Story." *Journal of Human Evolution*, vol. 60, no. 2, 5 Oct. 2010, pp. 251–255., https://doi.org/10.1016/j.jhevol.2010.10.005.

This paper provided general information regarding Denisovans and their standing in the hominin evolution tree. This information was then applied in the section where Annie, Dr. Nikolaj, and Dr. Irons visit the Denisovans.

Maslin, Mark A., et al. "East African Climate Pulses and Early Human Evolution." *Quaternary Science Reviews*, vol. 101, 12 June 2014, pp. 1–17., https://doi.org/10.1016/j.quascirev.2014.06.012.

This source provided information on the African environment inhabited by *Homo erectus*. This information was applied in the first *Homo erectus* where Annie, Dr. Nikolaj, and Dr. Irons witness *Homo erectus* for the first time.

Montaigne, Michel de. *The Complete Works*. Translated by Donald M. Frame, Everyman's Library, 2003.

This collection of writings was annotated with thoughts and comments on the human experience. These ideas were added into the book.

Montesquieu. *Selected Political Writings*. Translated by Melvin Richter, Hackett Publishing Company, Inc., 1990.

These essays were annotated with thoughts and comments on the "spirit of law" and other societal expectations. The annotations were implemented throughout the book.

Nielsen, Mark, et al. "Homo Neanderthalensis and the Evolutionary Origins of Ritual in Homo Sapiens." Philosophical Transactions of the Royal Society B: Biological Sciences, vol. 375, no. 1805, 29 Jan. 2020, pp. 1–7., https://doi.org/10.1098/rstb.2019.0424.

This source was used to understand *Homo neanderthalensis'* ritualistic behaviors, such as common activities and intentional burials. The section where Annie, Dr. Nikolaj, and Dr. Irons travel to study the Neanderthals is where this information is applied.

Parkinson, R. B. "The Tale of Sinuhe." *The Tale of Sinuhe and Other Ancient Egyptian Poems,* 1940-1640 BC, Oxford University Press, Oxford, NY, 2009, pp. 27–43.

This story was read and annotated with thoughts and comments on individuals and their interactions with others based on their perceived and actual status. These annotations were then used to write about humanity throughout the book.

Parkinson, R. B., translator. "The Tale of King Cheops' Court." *The Tale of Sinuhe and Other Ancient Egyptian Poems*, 1940-1640 BC, Oxford University Press, Oxford, NY, 2009, pp. 106–120.

This story was annotated with thoughts and comments on perception of others, resulting in biases. These thoughts were kept in mind when writing the book.

Parkinson, R. B., translator. "The Tale of the Eloquent Peasant." *The Tale of Sinuhe and Other Ancient Egyptian Poems*, 1940-1640 BC, Oxford University Press, Oxford, NY, 2009, pp. 58–75.

This story was annotated with thoughts of humanity in the face of adversity. The annotations were then used to write about similar aspects of humanity within the book.

Parkinson, R. B., translator. "The Tale of the Shipwrecked Sailor." *The Tale of Sinuhe and Other Ancient Egyptian Poems*, 1940-1640 BC, Oxford University Press, Oxford, NY, 2009, pp. 92–98.

This story was annotated with thoughts and comments surrounding the human experience of storytelling and sharing experiences. These annotations were applied when writing scenes in the book.

Plato. *The Last Days of Socrates*. Translated by Hugh Tredennick and Harold Tarrant, Penguin, 2003.

This book was annotated with thoughts and comments on justice, obligation, and death. These comments helped form scenes in Evolution of *Homo*-nity.

Pontzer, Herman. "Overview of Hominin Evolution." *Nature Education*, vol. 3, no. 10, ser. 8, 2012, pp. 1–5. 8.

This article was used as beginner information to then expand to more specific articles. The notes taken from this article was used in several sections of the time-traveling portion of the book, but mainly used to curate questions to further study hominin evolution before writing the book.

Sophocles. "Ajax." *Four Tragedies: Ajax, Women of Trachis, Electra, Philoctetes*, translated by Paul Meineck and Paul Woodruff, Hackett Publishing Company, Inc, Indianapolis, IN, IN, 2007, pp. 1–61.

This story was annotated with thoughts and comments on justice and fairness. These ideas were used in the book.

Sophocles. "Electra." *Four Tragedies: Ajax, Women of Trachis, Electra, Philoctetes*, translated by Paul Meineck and Paul Woodruff, Hackett Publishing Company, Inc, Indianapolis, IN, IN, 2007, pp. 117–185.

This story was annotated with thoughts and comments on grief, anger, and acceptance. The book was written with these thoughts in mind.

Stewart, J R, et al. "Palaeoecological and Genetic Evidence for Neanderthal Power Locomotion as an Adaptation to a Woodland Environment." *Quaternary Science Reviews*, vol. 217, 29 Jan. 2019, pp. 310–315., https://doi.org/10.1016/j.quascirev.2018.12.023.

This source was used to understand the environment and body adaptations of *Homo neanderthalensis*. The section where Annie, Dr. Nikolaj, and Dr. Irons travel to study the Neanderthals is where this information is applied.

Stringer, Chris. "The Status of *Homo Heidelbergensis* (Schoetensack 1908)." *Evolutionary Anthropology: Issues, News, and Reviews*, vol. 21, no. 3, 2012, pp. 101–107., https://doi.org/10.1002/evan.21311.

This source was used for gathering information on *Homo heidelbergensis*. The part of the book where Annie, Dr. Irons, and Dr. Nikolaj visit *Homo heidelbergensis* utilized notes taken from this source.

Tattersall, Ian, and Jeffrey H. Schwartz. "Evolution of the Genus *Homo.*" *Annual Review of Earth and Planetary Sciences*, vol. 37, no. 1, 26 Jan. 2009, pp. 67–92., https://doi.org/10.1146/annurev.earth.031208.100202.

This article included morphological and behavioral information on "early *Homo*". Notes taken on this article focused on *Homo erectus*, *Homo heidelbergensis*, *Homo neanderthalensis*, and *Homo sapiens*. This information was then applied for each section of the above-mentioned species.

Virgil. The Aeneid. Translated by Robert Fagles, Penguin Books Ltd, 2010.

This book was annotated with comments and thoughts on early societies and forced obligations. These annotations were used to help create the book Evolution of *Homo*-nity.

Wagner, Günther A., et al. "Mauer – the Type Site of *Homo Heidelbergensis*: Palaeoenvironment and Age." *Quaternary Science Reviews*, vol. 30, no. 11-12, 20 Feb. 2010, pp. 1464–1473., https://doi.org/10.1016/j.quascirev.2010.01.013.

This source was used for gathering information on *Homo heidelbergensis*. The part of the book where Annie, Dr. Irons, and Dr. Nikolaj visit *Homo heidelbergensis* utilized notes taken from

this source. Specifically, this source was used to understand the environment at the time they witnessed *Homo heidelbergensis*.

Walker, Barabara Helm. "Homo Heidelbergensis." The History of Our Tribe Hominini, Open SUNY Textbooks, 13 June 2017, https://milnepublishing.geneseo.edu/the-history-of-our-tribe-hominini/chapter/homo-heidelbergensis/.

This source was used for gathering information on *Homo heidelbergensis*. The part of the book where Annie, Dr. Irons, and Dr. Nikolaj visit *Homo heidelbergensis* utilized notes taken from this source.

Zhang, Peiqi, et al. "Denisovans and *Homo Sapiens* on the Tibetan Plateau: Dispersals and Adaptations." *Trends in Ecology & Evolution*, vol. 37, no. 3, Mar. 2022, pp. 257–267., https://doi.org/10.1016/j.tree.2021.11.004.

This source described the adaptations and movement of Denisovans on the Tibetan Plateau. It also provided explanations of potential interactions with *Homo sapiens*. The part of the book where Annie, Dr. Irons, and Dr. Nikolaj visit the Denisovans applied the notes taken from this source.

Zhang, X. L., et al. "The Earliest Human Occupation of the High-Altitude Tibetan Plateau 40 Thousand to 30 Thousand Years Ago." *Science*, vol. 362, no. 6418, 30 Nov. 2018, pp. 1049–1051., https://doi.org/10.1126/science.aat8824.

This source was used for gathering information on the environment in the Tibetan Plateau where Denisovans inhabited. The part of the book where Annie, Dr. Irons, and Dr. Nikolaj visit the Denisovans utilized notes taken from this source.