Artificial Intelligence is not the End of the World: Performing as an A.I. Student

A Major Qualifying Project (MQP) Report
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Abstract

This thesis reflects my experience performing as an artificially intelligent (AI) character in a stage production of *Nothing is the End of the World (except for the end of the world)* by Bekah Brunstetter. In a world where AI is increasingly more prevalent in our everyday lives, the play uses this emerging technology to ask what it means to be human and critiques how society responds to those who do not fit in. In collaboration with Worcester Polytechnic Institute (WPI)'s Theatre program, I acted in a play that explores these topics. This paper details research regarding the history of AI characters in the arts, acting techniques taught in preparation for a live performance, and the journey of a student set to entertain and instruct the masses.

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Acknowledgments

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Introduction

My first reaction after reading *Nothing is the End of the World (except for the end of the world)*(which from here on will be referred to as *End of the World*) was one of surprise. The show focused on the integration of two AI students into an American high school. In this world, technology has advanced to the point where human cadavers have been combined with AI to make a biological host for an entity of higher intelligence. The two AI students are physically recently deceased teenagers, and digitally recently created intelligences. The common themes of the show are what one would expect of a coming-of-age story including human-like machines; the meaning of what it is to be human and how to fit in amongst your peers. Bekah Brunstetter expertly supports the play's message, especially through the setting and themes. The play makes use of certain clichés and stereotypes around American high school characters set in the mid 2000s (Brunstetter published this in 2012 and refers to the setting as the "near-distant future", though most of the references used by the characters suggest a current time closer to 2004). Brunstetter's characters are formed with these stereotypes in mind, with the human main characters consisting of the sports loving jock, the closeted male theatre nerd, and the punk musician, among others. These stereotypes are only used as an initial basis for the audiences understanding of the character, with Brunstetter allowing the characters to change and grow outside of these labels during their character arcs. Additionally, media at that time often depicted American teenagers with an overwhelming sense of angst and rebellion against the status quo. Teenagers felt their issues weren't being represented and lacked respect toward authority because of perceived incompetency in the government, all while partying to Green Day's latest hits. The idea those clichés and stereotypes represent are present, such as the characters' uncertainty of how

to discuss 9/11 and the taboo of the LGBTQ+ youth. However, *End of the World* resists letting the false memory of what teenagers used to be drag down a story that is placed at precisely the correct time. The 2000s saw a slew of technological advancements, and the story benefited from placing technology that the world needed to adapt to in a time and place where self-discovery, adaptation, and acceptance into society happens at a rapid rate. Setting the story in a high school building full of people typically unwelcoming to differences, and contrasting them with living technology, the most unrelatable entity to a teenager, who are sharing their pining for acceptance is a genius way to convey the importance and challenge of understanding and supporting others with a different cultural or ethnic background.

Figure 1: Photo from the last scene of the original production of *End of the World* (Costanzo 2012)

I became involved with the performing arts only a year and a half prior, performing in one of WPI's theatre clubs' shows involving a collage of musical theatre songs. I quickly realized a deep passion I have for this medium of storytelling. Live performance is not only exhilarating for the performer but has the potential to deeply impact the audience with something that by nature is extremely personal. There is something I find intrinsically special about other people acting out a fictional story meant to warn, provoke emotion, or

convey an experience the playwright has gone through. These plays have the ability to inspire and educate an audience, possibly impacting their lives permanently with a story that remains with them. Any opportunity I have to perform is a privilege of being able to do what I love and hopefully leaving a positive impact on the people who come to be entertained.

I had been assigned to perform in the theatre program's fall show as my Major Qualifying Project (MQP) for theatre. Due to the MQP being the heaviest weighted project one can do for the faculty-mentored shows, it was expected of myself and the other performance-focused MQP student to take on large acting roles. As a performer, I am responsible for reading the script and developing an understanding of the story, setting, and characters. Using this understanding, we convey emotions and ideas to an audience to make them feel.
Performers utilize their bodies to express emotion through vocals and movement, and their mind to show the thoughts of the character. The story being told is of the highest importance, and for an actor to successfully tell one they must be committed to the production. This means attending all events we are called to, memorizing dialogue, staging, direction, and working with all technical departments that need to interact with actors. For this production specifically, the other MQP student and I had to learn how to portray characters that were humanoid. This involved researching existing AI and robot characters in fiction and learning general acting techniques to help influence our performance. Finally, I must express the importance of being a respectful and dutiful member of the cast, which fulfills the human decency requirement for any production.

Independent Study Review

Half of the duration of this MQP was spent conducting an independent study in conjunction with weekly meetings with my direct advisors. The independent study consisted of researching humanoid characters in fiction and acting techniques. During each weekly meeting, the other MQP student and I learned a new acting exercise as a part of a larger technique, which we were encouraged to look into during our studies. All of this research was recorded in a digital journal along with comments on my personal progress.

A.I. Research

Many humanoid A.I. characters exist across popular media. C-3PO from *Star Wars*, the titular character of *The Terminator* (or the character in any film from that franchise), and Agent Smith from *The Matrix* are all prime examples of characters resembling people (or the physical structure of a person) equipped with AI. Regardless of what physical components or lack thereof make up their presence, they represent characters capable of thought without biological brains. In years prior, especially upon the release of Star Wars and The Terminator in the 1980s, these characters were nothing more than a creative way to characterize technology. A.I. was not capable of the feats shown in the movies during this time. The furthest A.I. had come during the '80s was primitive machine learning, at this point known as the beginning of expert systems. An expert system is the process of a non-expert user asking a question to a machine with a knowledge base of expert answers in hopes of a desirable response (Staley 2000). A.I. representation in fiction back then was the dreams of people stuck in a reality of slow progress. All of this would change as advances in the field happened at an exponential rate, such as the 1997 Deep Blue chess event where an A.I.

using the expert system beat the world's reigning chess champion Garry Kasparov in a series of six matches (McGrew 1997). A.I. of today is beginning to look reminiscent of A.I. from fiction all those years ago, with companies like Boston Dynamics combing A.I. systems with humanoid or animal robotic shells that are capable of autonomously navigating terrain and performing desired tasks (Erico Guizzo 2019).

Figure 2: Left: 1997's historic chess match between world champion Garry Kasparov vs.
IBM's Deep Blue (Rosen 2012)
Right: Boston Dynamic's Spot - The Agile Mobile Robot (Evans 2024)

A.I. can trace its history to theatre beginning with the term "Robot." The word robot originates from a 1920s play *Rossum's Universal Robots* by Karel Capek, where robots are machines resembling biologically-based humans with no soul designed for labor (Hallundbæk Østergaard 2021). However, A.I. and robots are not the same conceptually. Robots are meant to execute a command and carry out a task. Think of a Roomba vacuum, a machine with very little human interaction that will autonomously carry out its task of vacuuming a room. The goal of A.I. is to simulate intelligent human thought and have the intelligence attached to a machine to enable it to act upon its thoughts. Think ChatGPT, a conversational A.I. attached to an extensive knowledge base that can mimic human conversation when prompted by a human response. Two identical questions or statements can be said to ChatGPT and the A.I. can output different responses.

Figure 3: 1938 BBC Television production of *Rossum's Universal Robots*
(Hallundbæk Østergaard 2021)

Looking to portray an A.I. character in a theatrical production, I researched established works both in live performance and digital media. Referring back to C-3PO, I drew inspiration from Anthony Davis's portrayal of a stiff droid (an A.I. in a mechanical body) with a distinctive sarcastically anxious personality. Another character that influenced my performance was Ken from the movie *Barbie*. Similar to an AI, Ken is a humanoid character that emotionally has the same capabilities of a human without the biology of one. Specifically, I wanted to include Ken's desire to find his place in a world where his perspective of life was constantly shifting but his personality remained the same. In live performance works, specific plays include the implementation of robots as characters. The play *Sayonara* by Oriza Hirata and opera *My Square Lady* by Gob Squad features robots that are programmed to deliver lines or sing songs (Acaroglu 2014). Their delivery of these lines or lyrics are static and unchanging, robotic. I desired to implement a certain uncanny delivery into my lines that sounded slightly off from human speech, akin to how the robots delivered their lines. I didn't attempt to mimic the actual robotic sound of the lines, but the rhythm of which they would say them.

The common theme among these portrayals of non-human characters is human emotions or the mimicry of human emotions. When dialogue is performed by a robot, their delivery inherently lacks a sense of human emotion (with the exception being robots designed to mimic human speech). Tonality and rhythm in speech often indicate meaning, and the meaning of the words in the text are the most important part of a play. When a person playing a robot or A.I. performs the dialogue, the actor can deliver the line with nuance to communicate more specific meaning. The actor may intend to have A.I. characters sound robotic or static at times, if their inability to wield tonality and rhythm in speech is desired. Or, the actor may try different tones and rhythm in their best attempt to replicate natural human speech. Amazingly, current day A.I. voice technology has reached the point where human sounding speech is possible. Relating back to the show, the A.I. in *End of the World* start the play not able to understand emotions while they are experiencing them or causing others to experience them. Their understanding of emotions evolves throughout the course of the play, which had to be shown to the audience through our performance. This unique challenge was reflected in how we received lines from other characters in the play and how we delivered our lines. Plenty of inspiration was drawn from fictional A.I. characters, although some of the character decisions were influenced by acting techniques.

Figure 4: Oriza Hirata's 2010 production of *Sayonara* featuring the android Geminoid F (Electronica 2011)

Acting Techniques

Over the course of approximately six weeks, the other MQP student and I studied acting exercises from the Stanislavski, Meisner, and Chekhov techniques, respectively. These acting exercises served as tools for us to use during our performance to heighten our characters' actions through physicality and line delivery.

Stanislavski Technique

The Stanislavski technique, originated by the founder of the Moscow Art Theatre, Konstantin Stanislavski, brings together many different principles. One of the main principals Stanislavski stressed is putting the actor in the character's perspective. His technique emphasizes text analysis of the source material and how understanding the choices a character makes during a play can greatly help one to inhabit that character. After understanding a character's choices comes defining the character's objectives, super-objective (this principal goes by a few different names, but means their primary motivation in the play), tactics (what choices does the actor make in character to achieve their objectives), and more. One controversial principle of the Stanislavski technique is the affective memory or calling on an actor's memory to invoke an emotion or sensation from their life experience to be used in character (Van Den Bosch 2013).

The exercise we were taught during our meetings began with a relaxation technique to reset our focus, followed by movement in the theatre space regarding how we believed our character would walk, run, or interact in fictional situations. In-between brief pauses, the desire was to find discernable actions for our character that would help us define our portrayal of that character on stage. These exercises were combined with script analysis work of writing down our characters' multiple objectives and actions in individual scenes. The other MQP student and I spent weeks before the rehearsal process dissecting the script and utilizing this technique to better understand our characters on an intrapersonal level.

We would run through scenes that only had our characters on stage and did exercises to get used to playing to their objectives as groundwork for becoming the character.

Meisner Technique

Originated by Sanford Meisner with influence from the Stanislavski technique, the Meisner technique relies on an actor's instinct while in character. The Meisner technique differs from the Stanislavski technique in that it focuses on reacting to your scene partner in the moment. A memory can be called in to get into an emotional state for a scene, but once the scene starts the feelings to be portrayed must be organically found in character (Shirley 2010).

The exercise we learned to help us understand this technique began with sitting in silence until our instructor prompted us to start. My scene partner and I would take turns making observations with the other intently listening and repeating back the phrase exactly how it was said. We were asked to repeat the same phrase one after the other in fast succession with the goal being not to lose concentration. This exercise focused on active listening and encouraged us to stay in the moment and pay attention to our scene partner. Staying present in a scene and being able to organically respond to your scene partner spontaneously makes a performance more believable. I relied on the influences of this technique whenever I wanted to improvise a new movement or line delivery while acting off someone in rehearsal and during the performance nights. Especially in case a vital line or cue was missed by someone, I was well prepared to come up with a way to move the show forward in character at a moment's notice.

Chekhov Technique

Substantially differing from the other two techniques being discussed, Michael Chekhov founded his own technique based on physicality and movement. Instead of using memories or having the actor put themselves into the character's perspective, the Chekhov technique relies on connecting movements to emotions. Movements such as pushing, pulling, lifting, smashing and many more involved with the technique can be utilized to embody your character physically (Lu 2021).

The exercises we did with our instructor were to act out the movement of pushing, pulling, and the collection of physical gestures as ourselves and then as our characters. We were instructed to increase or decrease the intensity of these gestures or asked to incorporate different physical qualities into them. The purpose of these exercises is to put the physical movement into muscle memory and connect them to a state of mind or emotion for quick recall on stage. Best explained by an example, I adapted a part of this technique to help my posture and walk in character. I would act as if I was carrying a weight on my back to help my stance and movements be more stiff and rigid, appearing more mechanical. This helped me get into the character's physicality and put me in a mindset of paying attention to my every movement.

Production Reflection

Read the Script

Starting in the summer before the school year began, all performers were tasked with reading through the script at least once in preparation for auditions. As one of two MQP students, I was presented with the option to play the male lead for *End of the World*. The character I played is the AI student Godfrey. He is the elder of the two AI, with the goal of integrating into the student body of a high school in New York.

My process was to read through the show to experience it as an audience member, then re-read it looking for interpersonal relationships and identifying key information about Godfrey. After I did this, I highlighted the portions of interest I wanted to discuss with the directors and the other MQP student who was my co-lead. Throughout our weekly meetings before the rehearsal process began the other MQP student and I were tasked with going through every scene and finding the prior events, given circumstances, and objectives our characters had. This step gave us a much-needed advancement when it came to starting the rehearsal process. We had already worked on how to approach the scenes and what our characters needed to have in mind while going through each one.

Independent Study

As an MQP student, I undertook the independent study portion of this production since the MQP project involves more credits and thus more academic terms. Having a whole portion of this production (one academic term at WPI) dedicated to studying the play, my character, and working with the directors earlier was the largest reason for my success on this show. The extra time with the directors and the other MQP student allowed me to find my interpretation of Godfrey's personality and how he interacted with Olive, the other AI student. The stiff nature of robotic and AI characters in fiction was helpful to inhabit during the early scenes of the show, to show how Godfrey's movement becomes more natural as he interacts with and copies the students. Godfrey is initially emotionally closed off to all the characters except Olive. Olive is the thing Godfrey most cares about in this world, and her protection is his main priority throughout the show. The acting exercises regarding focus helped with this, as I found it was easier to focus on Olive as a character during scenes when they were together. Throughout the run of *End of the World*, Godfrey tries to open up to students and is persecuted for who he is. While Godfrey cannot be absolved of blame due to his unabashed abrasiveness, he and Olive struggle to integrate for most of the show. There is also a happy conclusion to this play where Godfrey and Olive are seemingly accepted into the student body and friend circles. This comes after a realization from the student body that their cruel behavior towards the AIs throughout the play was being adapted and reflected back on them. With the human students now understanding the subtle similarities and accepting the differences between them and the AI students, they collectively save Olive and Godfrey from being shut down by the government. Both AI characters have arcs they experience concurrently, and I found it was helpful to have my fellow MQP student and scene partner there to provide a basis for where the two AI were emotionally during each scene.

Allowing the two MQP students more time and space to work together was the correct call as the relationship between Godfrey and Olive is at the center of the show. I particularly enjoyed having the time to conduct my own research into the acting techniques we were learning as well. It allowed me to opportunity to learn more about the history of acting and different popular techniques outside of what the theatre courses I have taken at WPI were able to focus on.

Audition Process

Because the MQP students' roles were determined before the audition process started, we were asked to attend auditions as readers. Readers are the scene partner of the auditionee, filling in for any and all characters needed for the scene excerpts (also known as sides in auditions) the director(s) want read. The other MQP student and I took turns reading depending on what characters (male or female) the scene called for. I learned that it is typical for there to be a reader at professional auditions, something I was unaware of not having professionally auditioned besides self-tapes. Playing characters other than Godfrey, albeit briefly, helped me to understand a different perspective on the characters I otherwise wouldn't have paid much attention to.

Rehearsal Process

The rehearsal process took place over the span of approximately six weeks, beginning with table work involving the cast, directors, and select crew members to analyze all aspects of the story before character work and staging rehearsals started. New discoveries are always made about the show and the characters during table work. We divided scenes up into sections based on character entrances and exits, allowing us to discuss the sections more easily in depth while serving as blocking notes. Guided by our directors and dramaturg, the table work was one of the most helpful parts of the rehearsal process. The initial bonding with the cast and establishing of character relationships during this time are invaluable.

The next step involved staging (or blocking) rehearsals coupled with character work. Having two directors for this show provided the advantage of a division of work and efficiency of time regarding what needed to be worked on. As a lead, I was called for almost every rehearsal and constantly learned new blocking or worked with the directors to solidify acting choices for my character. The staging rehearsals and character work is the meat of the process. This is when your interpretation of the character will fully take shape and emerge. I was pushed to keep making new distinct choices with every scene we rehearsed until we found the right choice for the situation in a scene. I'd argue that you may never find the "perfect" choice, but there will always be one that feels right. One of the most important parts about this process is memorizing your lines as early as possible so you are able to put the book down and focus on your acting.

A unique part of playing Godfrey was collaborating with lights and costumes to wear an LED ring to represent a tangible piece of technology on the AI. During the rehearsal process the technical departments made wearable LED rigs (similar to the fictional arc reactor that Marvel's Iron Man wears) to display certain colors and patterns at what they coined as "Wikipedia moments" in the show: moments where Godfrey or Olive used their AI features to look up the exact definition of a word or "download" a song and play it on the ukulele (a challenge that took a few weeks of ukulele practice for me to play a few chords from "Over the Rainbow" as flawlessly as one can manage live on stage).

The last part of the rehearsal process, tech week, involves full run-throughs of the show with tech (lights, sound, makeup and costumes) involved. We were fortunate enough to have had a couple acting only full run-throughs of the show, which give the actors the added benefit of muscle memory. Having our blocking memorized was essential in making tech week a smooth process, especially with the interruption of a week-long break due to the holidays.

Once I became adjusted to the costume and makeup process, I was able to solely focus on the acting during the run-throughs.

Figure 5: Scene from a dress rehearsal of WPI's production of *End of the World* (cover photo and all WPI production photos courtesy of Michael Hendrickson)

Performance

Months of preparation led up to three performances on November 30th, December 1st, and December 2nd. Although the months of rehearsal are there to support an actor's journey to playing a character, all safety nets are removed the moment live performances begin. Any mistakes made such as botched lines or missed stage directions must be dismissed to keep the show moving. To me, this is the most exciting part about live performances. There is a certain thrill that comes along with the pressure of having a live audience watching your work. The reason plays are put on is for an audience to watch and to hopefully enjoy. This is the moment the entire cast and crew have been preparing for since the first day.

All three nights were met with rows of applause and a happy crowd post show. My favorite performance was the middle night, when all the nerves from opening dissipated and the cast fell into a groove unmatched from the contending two nights. *End of the World* has to be the most successful show I have been a part of while at WPI. When the most important three days of the production arrived, both the cast and crew executed almost flawlessly. Lines were missed, and technology failed in some places, but the show marched on and the audience appeared to love it every time. In regard to my performance, I am truly happy. I credit the success to the direction from both Dr. Moncrief and Dr. Lucie during the rehearsal process, the acting techniques I learned during this production, and the hours spent discovering this character behind closed doors. I also need to acknowledge my fellow castmates, without whom my performance would have been worse off. They were absolutely amazing with their portrayals for their respective characters, and the success of the show is in no small part because of all of them. Ironically, you are always discovering new things about the play and your character right up until the last performance. Although you are likely to not get the chance to perform as that character again, I believe that is an indicator that the actor is following the process correctly.

Challenges and Takeaways

Reflecting on the entire production process, I have many things I would approach differently given a second opportunity. The first and foremost being to get off book (lines memorized) as soon as possible. This is my biggest weakness as a performer. I spent a lot of time memorizing my lines during this production to not impede rehearsals for my fellow castmates, only becoming fully independent of the script halfway through the rehearsal process. Optimally, an actor should aim to be off book as early as possible once blocking has been finalized for all scenes. The stage manager often sets the deadlines throughout the production for certain roles to be off-book, and this production saw the off-book deadline for the entire cast in the third week of rehearsals. Although I felt differently at the time, the early off-book deadline proved to be very helpful in complete memorization and lack of forgotten lines during dress rehearsals and show nights. Another specific challenge was balancing this MQP with my other academic classes and extracurricular activities. An MQP of this manor requires an immense amount of time across all of the terms this production (and paper) takes place in. Academic priorities such as this and other classes must come first. It was a struggle to balance everything, although in the end I am satisfied with the results.

I am exceptionally happy with the collaborative effort between the cast and crew, specifically when it came to my interactions with tech (sound and lights), makeup, and costumes. As cast, you are mainly surrounded by your other castmates, directors, and stage managers. While the stable interaction between the rehearsal groups is key to a successful show, it is always a pleasure getting to interact with other departments. It is very insightful getting to see how the other departments operate, and how large of a role the individual plays in making the production as collaborative and enjoyable as it can be. My main interaction with other departments came as a result of the LED rig, and my costume / makeup. Getting to

interact with costumes, hair & makeup, and tech not only had a positive influence on my spirits but allowed me to understand and incorporate their visions of the character, expressed through lighting or clothing, into my performance.

My main takeaway from this production has to be my deepened acting process and how to approach playing a character, from initial research to testing out multiple acting methods and opening myself up to a world of acting choices I can make as a performer. As a new performer, opening yourself to making bold choices is similar to a shell you need to crack. The more you work on breaking that shell, the bolder and better your choices will be. One of the most consistent notes I was given at rehearsals was to be bolder, louder, and more confident. I will continue to work on those aspects wherever I go next, and they will be at the forefront of my work.

Conclusion

Regarding the entire four-month process of the production, I am confident in saying the show was a success. The additional time spent on researching, script analysis, and learning new acting techniques allotted to me because of this MQP greatly benefited my final performance. I have discovered a new process for how I will approach taking on live performance roles in the future because of the lessons I have learned in preparation and discovering the character. Each acting technique I was able to learn about has great value and their exercises can be applied to any role an actor is undertaking. Additionally, the research skills I worked on in finding applicable characters in fiction to use as acting case studies played a contributing factor in my preparation for taking on this role. Having the niche experience of playing a humanoid character might also come in handy in any future productions I am a part of.

Having the opportunity to work under experienced directors was also a crucial piece in making sure I was learning while they adjusted my character work to bring to life their vision of the play. Without them and the rest of the cast to play off of, this play would not have been as successful as I believe it was. The entire rehearsal process went as smooth as I have ever experienced before, and I would recommend keeping a similar format in future WPI theatre department productions. I am very happy with the work I was able to accomplish on this show and what I have learned about being a performer.

If I were to offer any fellow actors pieces of advice for common challenges on productions such as these, one would be to prioritize the memorization of lines. Especially if it is a weakness, make sure to get it out of the way to allow space for acting choices. You cannot begin to act in the moment if you have your script in your hand. Another key consideration is to manage your time well. With this being my first lead in any show I have done, it has taught me the time commitment required to putting in the maximum amount of effort for a good performance. Lastly, enjoy the performance. The audience can always tell, and they are the most important part of any show.

Getting into character was not an easy task, even with the research on AI characters in fiction and the acting techniques we learned. It took the entire research and rehearsal process for me to become comfortable inhabiting the character of Godfrey, meaning I had to learn to drop the natural human characteristics of my acting and act humanesque. Once I managed to get a grasp on the character, it was easier to play off the other actors who were portraying human teenagers and highlight the differences between our actions. A significant portion of my performance was clocking the mannerisms of the other teenagers and mimicking them at various points throughout the show. The Meisner technique was very helpful for moments in the script when I had to precisely mimic the action or line delivery of another character. Additionally, the Chekhov and Stanislavski techniques were the most beneficial in physically and mentally bringing this character to life, respectively.

The opportunity to play AI characters is not common among actors, especially those in theatre. In *End of the World*, the human students transitioned from a polarizing skepticism about the AI students to befriending the AI students after realizing what they had in common. The commentary regarding the implications for how best to adapt to life with new AI technology is a larger discussion for a different report, although the takeaway from working on this play is to continue engaging with the arts to encourage the conversation about

the implications of how AI and similar technology affects our lives and to carefully consider society's relationship with it. Similarly, I agree with the play's statement of accepting the differences of outsiders, or those who do not fit the norm established by society, to form a better community. Many fortune 500 companies including Amazon and Apple have multiple AI initiatives or are currently using AI for data processing and consumer interaction. On a smaller scale, many of my peers in university use AI programs like ChatGPT to assist them in studying or research. As an actor in *End of the World*, I got to explore a representation of society faced with questions about new technology and its implications of humanity. This fictional story of AI inhabiting the cadavers of teenagers and having them integrate into high school will likely never be reality, but this story is an important vehicle for the ethical conversation about how humanity should handle life altering technology.

Figure 6: Cast and crew of WPI's production of *End of the World* (photo courtesy of Michael Hendrickson)

Appendices

Appendix A: Weekly Journal

END MQP Journal

Jack Yebba

Preface:

This journal serves as a record of events I experience during the production and pre-production that are relevant to the MQP. My goal is to track my character research, rehearsal notes, and any ongoing work I do as a cast member on this production. The format will be a summarization of events that happen during each week, along with any materials requested as a part of the weekly entry submission. Additionally, relevant notes from the weekly MQP meetings will be included. Personally, this journal should dually serve as a record of my personal growth throughout this production. This experience will be my first time in a lead role in a theatre show, and I expect there to be a story of growth represented within this journal once the production is over.

A term:

Aug 30th - 5th

- This was the first full week of the term. Established weekly MQP meetings on Wednesday's with Dr. Moncrief and Dr. Lucie in the Little Theatre. Caroline (the other MQP student) accepted our roles as the leads for the show, the two A.I. students Olive and Godfrey. We were tasked with analyzing the script and writing down our characters prior events, given circumstances, objectives, and actions for to achieve their objectives for every scene. Throughout the term we have been asked to establish our own schedule for independent research regarding A.I. characters in fiction.
- Spent the weekend reading through the script and annotating where I found discernible talking points of my character (Godfrey) and his relationships and objectives. Wrote a scene breakdown for Godfrey's prior events, given circumstances, objectives, and super objectives. This is the central focus of the Stanislavski Technique.
- Served as a reader for auditions! Because Caroline and I accepted our roles, we were able to serve as readers (scene partners) for the people who were auditioning.

Scene breakdown:

Scene 1:

Prior event: Godfrey and Olive have presumably come from the bureau of artificial intelligence and were tasked with assimilating into the student body and passing as teenagers

Given circumstances: Godfrey just arrived at high school for the first time, as seems to have a programmed way of wanting to introduce himself to the students but is unable to because of the class bell. Instead, him and Olive introduce themselves to the director

Super Objective: **To understand** (generality) - gain knowledge on the teenagers and how they operate so AI can better **mimic** teenagers

Objective: **To please** - he wants to be nice as he perceives that is the easiest way for cooperation and getting information out of people

Scene 2

Prior event: Immediately coming off brief introductions to the students and talking with the director. Godfrey still wants to get to know the students

Given circumstances: Still in the school hallway or lobby. Godfrey is with Olive likely exploring / touring the school with no guide and a camera crew filming until students come in and they tour with Jessica

Super objective: **To understand** the schools and the people around him - in a practical sense, the super objective is to see the school and get information on where certain things are and get to know more about the people in the school

Objective: **To elucidate** - explain a misconception that the AI students are not here to make friends. The task they were given was not to socialize

Scene 3:

Prior event: Getting a tour around the school and meeting the students, including Danny and Emma, the primary characters of the scene

Given circumstances: The scene takes place in the courtyard with Danny, Emma, and Olive. Godfrey has his ukulele on him and feels compelled to play music after seeing Emma is a musician. Film crew is following and recording

Super Objective: **To perform** - to show Danny and Emma what AI is capable of, and hopes to impress and prove superiority

Objective: **To experience** - See what it is the strings, in this scene Danny and Emma, are doing for fun in between or after class and experience it.

Scene 4

N/A - not in scene

Scene 5

Prior event: Going to classes and clubs, getting acquainted with surroundings of school and familiarizing with the environment along with Olive. Seeing what the students do during the day

Given circumstances: Godfrey is in the men's lockers room with Kit and Danny. They human students are changing clothes, likely having just come from P.E.

Super objective: **To Inquire** - about romantic and sexual attraction. After Godfrey touched Olive for the first time, and being surrounded by teenagers, the thoughts of romance and sex are on his mind.

Objective: **To negotiate** - To convince Kit into a partnership of tutoring in exchange to be taught how to socialize

Scene 6

Prior event: Godfrey's locker room talk with Kit and Danny. Olive and Godfrey went to the movies over the weekend and had a good time, starting to become more ingrained into society and things people do for fun.

Given circumstances: Characters are in the gym area. Olive and Godfrey watch as Emma and Lucy are about to play ping pong against Danny and Esther

Objectives: Super-objective: **To converse / to socialize** - Godfrey could be doing a number of different activities, but is spectating others playing ping pong and wants to speak to the other students.

Actions: There is a curiosity to Godfrey know about socialization and how to do it in a way that he views as successful (i.e. the other person is happy)

Objective: **To understand**: To understand the worries and concerns of the teenagers. Explicitly stated on page 42.

Scene 7

Prior event: Ping pong in the gym. Watching Olive get yelled at by Emma out of frustration. Chased after Olive to console her.

Given circumstances: Godfrey is alone in a classroom trying to speak to the "fatherparents" (the bureau), talking about the progress on the AI's task. Godfrey also talks about how Olive is doing and confirms as Godfrey and the fatherparents suspected, she behaves differently. Olive then enters and they converse and wait to be picked up from school

Objectives:

Super Objective - **To relay**: to send an update about the progress made on the mission to the father parents, and inform them that Olive is experiencing something different than what Godfrey is, due to her "sensitivity" (brain)

Objective: **To conceal** - This works in two ways for this scene. 1. Godfrey is concealing that he was just talking to the father parents. 2. Godfrey is talking to Olive about how they need to conceal any emotional responses when the students are rude to them. Godfrey says they must not let the students and what they say affect them, but evidently the students are affecting them. He even tries to dismiss Olives feelings that being called robots hurts.

Objective: **To comfort**

Scene 8:

Prior event: Talk with Olive

Given circumstances: A new typical school day for the human students, but when Godfrey and Olive arrive they are more guarded and insecure. They are ignored by the other students

Super objective: **To embroil** - Godfrey is making a choice that from here on he will not put on a front to the students and try to be nice. He will be himself, which comes off as rude and arrogant when he compares his perceived superior abilities to those of the teenagers (and in a wider sense, the human race). He may also make choices to cause controversy at times as a way to make others experience what he has been going through

Objective: **To Yearn** - wishing he knew how to dream. This means he wishes he experienced things humans do.

Scene 9:

Prior event: Deciding that there will be no more fronts put on, no more Mr nice person scene

Given circumstances: Assigned a group of Kit and Jessica for a group project.

Objectives: **To abase** - to belittle the human students

Scene 10:

Prior event: Godfrey (debatably inadvertently) spread the rumor that Kit is gay during the group project scene

Given circumstances: Everyone is gathered in a classroom by the director for a shot of the full group interacting

Super objective: To abase / condensed - to belittle the human students and show that AI is superior

Super objective: To confess - confess to Olive that she is part human, and he experiences guilt after seeing her hurt reaction after Jessica revealed they would get discontinued

Scene 11:

N/A - not in scene

Scene 12:

Prior event: Olive finding out she is part human
Given circumstances: In their rooms at their house/apartment
Objectives: **To console** - to comfort Olive, apologize, and make her feel that she is not flawed but exceptional

Scene 13:

Prior event: Consoling Olive + the kiss
Given circumstances: In a classroom at the school for a closed preview showing of the documentary
Super objective: **To watch** - watching the documentary

Sep 6th - 12th

- Unfortunately tested positive for COVID, so I worked and met remotely this week. I spent my time researching characters in fiction that are A.I. or resemble A.I. that I can borrow aspects from to influence my performance. Star Wars has great examples in the droids C3PO and R2D2, with C3PO able to express emotion through dialogue and display a distinct personality. The titular character of The Terminator and Agent Smith from The Matrix were also a reference point, as Arnold Schwarzenegger's and Hugo Weaving's choices for their character's physicality (how they move and talk) are clearly for the intent of showing their character is an A.I.
    - To this point, the two A.I. characters are unique in their depictions. Huge Weaving leaves room on the table for the audience to see the A.I. struggling with his hatred for humanity over the course of the main trilogy. We see Agent Smith grapple and become consumed with negative emotions (as antagonists often are) but in such a way that still shows he is not human (i.e. not having natural or organic human reactions). The Terminator in his debut appearance is best described as cold and calculating, with there not being much more to the character than the programs desire to kill our main characters. In the second movie Arnold gets the chance to play a physically identical A.I. whose difference is in his understanding and the capability to emotionally interact with our other characters while retaining the stiff robot persona.
- Another character I spent some time looking into was Anton Chigurh from No Country for Old Men. Javier Bardem's portrayal of Anton is considered to be the greatest portrayal of a psychopath ever depicted on screen. I wanted to draw inspiration from how

he displayed his character's lack of guilt, remorse, and empathy, to better display my character's initial misunderstanding of human emotions.

- Read through Elenor Fuchs "Visit to a Small Planet", a dissection of the world and characteristics of a theatrical play. This essay/guide details what a play is and how to establish the world so your play feels real. It starts out defining a play as "…itself another world passing before you in time and space", something for an audience to understand as believable events happening in another fictional but tangible place.
  - I found this guide, subtitled "Some Questions to Ask a Play", very helpful to frame for an actor and a director what a play is and how fleshing out the details enables you to tell a better story. The sections about the changes in a play, the characters, and the artist's perspective are there to remind the reader about the most important fundamentals of plays.

Sep 13th - 19th

- This week's MQP meeting focused on Caroline and I learning exercises from the Meisner technique. In what is the most unique acting exercise I have ever had to do, we started by sitting across from one another and were asked to observe each other in silence. Then, one of us was instructed to say something they noticed about the other person. Back and forth, we would note different observations in an escalating succession. It was very difficult to not break and laugh and what initially was a funny and awkward moment, but the exercise demands focus. This exercise evolved into the other person repeating back the observation precisely how it was said and eventually mimicking each other's movements. It brought a new understanding to my attention of awareness of my scene partner in the moment.
- My independent study focused on the history of A.I. and its evolution through the years. I learned about the earliest iterations of A.I. in the form of expert systems, covering up to today's premiere A.I. examples of Siri, Google assistant, and ChatGPT.

Sep 20th - 26th

- In our Wednesday meeting we discussed the upcoming table work now that casting is being finalized. Dr. Sarah also taught us some exercises from the Chekhov technique. Based on physical movements, Caroline and I were asked to act as if we were lifting, pushing, and pulling imaginary objects of different sizes and weights. The goal as I understood it is to utilize these physical gestures and have them bring out or connect with emotions to then use in character. By acting as if I am lifting a heavy object, I am imagining strain which may lead to exhaustion and frustration. There are a lot of different routes to take with fully understanding this technique and using the exercises to work in emotions to muscle memory.

- I spent some time conducting more script analysis, reading through the play twice more to understand the other characters' thoughts on Godfrey and how he was treated throughout the play. Additionally, I went through and annotated certain words or phrases I know would require emphasis or extra attention (involving pitch, volume, and rhythm) to get the meaning of the line across.

Sep 27th - Oct 3rd

- Our MQP meeting reshifted back to discussing and utilizing the Stanislavski technique. We first discussed any new discoveries we made regarding our character's objectives and given circumstances throughout the play. Then, keeping our character's super objectives and desires in mind, we started to explore how our characters would walk, talk, and interact with different environments. We had a few five to ten minute intervals of being tasked with walking or running, and being given circumstances like "going to see your friends after class" to see how we would respond in character moving throughout the theatre space.
- Independently I spent some time in the theatre space and around campus trying to define a cadence for Godfrey to speak with, along with memorizing my lines. I drew inspiration from an A.I. character Connor from the video game "Detroit: Become Human", as he begins the game sounding like the well-mannered and intentioned protagonist he is initially supposed to be.

Oct 4th - 11th:

- This week's work mostly consisted of table work with the newly established cast. The rehearsal team (directors, stage managers, cast, and dramaturg) were all present for a few nights of the week to conduct a table read and analysis of the script.
- Spent time dissecting the action of each scene and how it relates to the characters' arcs. New information is always found about the characters one might have missed such as backstory or subtle bits of characterization in the stage directions. Reading through the lines with my cast mates gave me a better sense of the comedic moments in the show, and the best moments in scenes to show changes in Godfrey's character. For example, in scene five Godfrey attempts to converse with the other male students in the locker room. It is a relatively short scene that's focused on Godfrey attempting to connect with his peers, only to receive a small portion of a meaningful conversation coupled with criticism and threats. It is a scene that could easily go overlooked, but it results in a defensive change in Godfrey. From this point onward he is more guarded in his actions involving the other students and more protective towards Olive.

B term:

Oct 25th - 31st:

- Started the rehearsal process of three rehearsals during the weeknights and one weekend rehearsal. Caroline and I are called to every rehearsal as we are in most scenes. Because character work was started during the table work last term, we were able to jump right into staging (or blocking) the scenes. I am trying to finish memorizing my lines in time for the off-book date two weeks from now. Since the focus was mostly on learning the movement and placement of our characters this week, I spent personal time practicing my line delivery for my most prominent scenes. Having two directors to better utilize our time was also nice, as whenever I have downtime during the staging rehearsals Dr. Sarah is available to conduct character work rehearsals.

Nov 1st - 7th:

- Continued the staging process this week. We have blocked half of the show in the previous week, and will begin focusing on character work once staging has been completed. The same format continued with Dr. Sarah running acting rehearsals with any cast members who are not present during the scenes that are being blocked. Personally, I found myself trying to discern more character choices to try during the staging rehearsals before next week. A lot of the process for me was trial and error, trying out a different posture or movement during a scene to see if it feels organic. Calling back to the acting techniques I learned last term, Caroline and I have gotten into a good rhythm as constant scene partners. It gets easier with every rehearsal to feed off of her energy and respond equally in character, which in turn influences the rest of the cast. It is really enjoyable to see this tangibly take shape.

Nov 8th - 14th:

- This week we reached the off-book deadlines and have been running the play in halves. Although there is no intermission, I quite like the format of these rehearsals so that we can be as prepared for show nights as possible. Now that staging work is mostly wrapped up, the directors focus shifted to influencing our acting choices while paying some attention to the staging. My biggest acting notes from the directors featured in the rehearsal report mostly consisted of making bigger and bolder choices. The general idea is that I have the right instincts, but I need to add more theatricality to my choices. It is becoming easier to see the scenes in which my choices could be bolder running them back to back. We had our first full run-through of the show before tech-week which was a big help. I feel there is still plenty of time to refine my performance before the cast has to give the stage to tech. Having my objectives at the forefront of every scene has assisted in getting into the mindset of the character, although I find myself implementing the

Chekhov technique less. Unlike other characters that have bold actions baked into the script the Chekhov technique can be implemented into, I have to come up with physical gestures to do in scenes to implement the technique in practicality and not just in practice.

Nov 15th - 21th:

- We had a couple full run-throughs of the show and our cue to cue before Thanksgiving break. This process was incredibly smooth. The actors knew their lines, the energy from the cast was great, and the feedback from the directors and tech was very helpful. Acting choices are continually being refined, but this will be the case up to and during the performance. I have worked towards receiving less notes about making my choices bolder and have mostly gotten notes about blocking mistakes or missed cues. Having the costume resulted in a change in my physicality of the character. I found myself needing to pay attention to my posture more and to make my movements variable but discernibly more stiff at the start of the show.

Nov 27th - Dec 2nd:

- Performance nights! I did not take notes during these nights in order to give my full attention to the performance. Writing this after all of the shows have happened, I am incredibly happy. The entire cast knocked it out of the park. I am proud to have worked with really talented individuals who made the process enjoyable from start to finish. Their work continued to improve with every rehearsal and every live performance. The crowd was the most interactive on our Friday night showing, and hearing their laughs, gasps, and cries made all of the work from the last few months all worth it. Like all shows, it is bittersweet once curtains close on the final night. However, the opportunity to entertain the crowd, improve my acting, and work on a very unique show makes this one of my favorite experiences across my entire time at WPI.

Bibliography

100 years of the Word Robot and Karl Capek's Book - Rossum's Universal Robots (Aug. 2021). en-US. Section: Robotics. URL: https://www.reinvestrobotics.com/blog/100-years-of-the-word-robot-and-karl-capeks-book-rossums-universal-robots/ (visited on 03/22/2024).

Acaroglu, Gorkem (Oct. 2014). "Sayonara Interviews: Android-Human Theatre". English. In: *Australasian Drama Studies* 65. Num Pages: 16 Place: St. Lucia, Australia Publisher: La Trobe University at Bundorra, pp. 289–303, 331. ISSN: 08104123. URL: https://www.proquest.com/docview/1637039443/abstract/349CB3E37A454D95PQ/1 (visited on 03/22/2024).

Brunstetter, Bekah (2012). *Nothing is the End of the World (except for the end of the world)*.

Costanzo, Gregory (2012). *Nothing is the End of the World (except the end of the world) WATERWELL*. URL: https://www.waterwell.org/nothing-is-the-end-of-the-world (visited on 03/21/2024).

Electronica, Ars (Mar. 2011). *Android-Human Theater: Sayonara*. URL: https://www.flickr.com/photos/arselectronica/5996710635/ (visited on 03/21/2024).

Erico Guizzo (Nov. 2019). "How Boston Dynamics Is Redefining Robot Agility - IEEE Spectrum". en. In: *IEEE Spectrum*. URL: https://spectrum.ieee.org/how-boston-dynamics-is-redefining-robot-agility (visited on 03/22/2024).

Evans, Scarlett (2024). *Boston Dynamics' Spot: The Design Behind the Robot Dog | IoT World Today*. URL: https://www.iotworldtoday.com/robotics/boston-dynamics-spot-the-design-behind-the-robot-dog (visited on 03/21/2024).

Hallundbæk Østergaard, Esben (Aug. 2021). *100 years of the Word Robot and Karl Capek's Book - Rossum's Universal Robots*. en-US. Section: Robotics. URL: https://www.reinvestrobotics.com/blog/100-years-of-the-word-robot-and-karl-capeks-book-rossums-universal-robots/ (visited on 03/22/2024).

Hendrickson, Michael (2024). URL: https://www.unitymike.com/ (visited on 03/21/2024).

Lu, Joyce (Oct. 2021). "Michael Chekhov's acting technique: a practitioner's guide: by Sinéad Rushe Bloomsbury Methuen Drama, 2019, 337 pages". In: *Theatre, Dance and Performance Training* 12.4. Publisher: Routledge, pp. 620–621. ISSN: 1944-3927. DOI: 10.1080/19443927.2021.1991159. URL: https://doi.org/10.1080/19443927.2021.1991159 (visited on 03/22/2024).

McGrew, T. (May 1997). "Collaborative intelligence. The Internet Chess Club on game 2 of Kasparov vs. Deep Blue". In: *IEEE Internet Computing* 1.3. Conference Name: IEEE Internet Computing, pp. 38–42. ISSN: 1941-0131. DOI: 10.1109/4236.589193. URL: https://ieeexplore.ieee.org/document/589193 (visited on 03/22/2024).

Rosen, Rebecca J. (Feb. 2012). "On This Day: Garry Kasparov Faces Off With Deep Blue". en-US. In: *The Atlantic*. Section: Technology. URL: https://www.theatlantic.com/technology/archive/2012/02/on-this-day-garry-kasparov-faces-off-with-deep-blue/253230/ (visited on 03/22/2024).

Shirley, David (Sept. 2010). "'The Reality of Doing': Meisner Technique and British Actor training". In: *Theatre, Dance and Performance Training* 1.2. Publisher: Routledge _eprint: https://doi.org/10.1080/19443927.2010.505005, pp. 199–213. ISSN: 1944-3927. DOI: 10.1080/19443927.2010.505005. URL: https://doi.org/10.1080/19443927.2010.505005 (visited on 03/22/2024).

Staley, David J. (Aug. 2000). "Digital Historiography: Kasparov vs. Deep Blue". In: *Journal of the Association for History and Computing*. URL: http://hdl.handle.net/2027/spo.3310410.0003.220.

Van Den Bosch, Heleen (Nov. 2013). "Anatomy of a Psycho-Physical Technique: The under-lying structure of Stanislavski's "system"". In: *Stanislavski Studies* 2.1. Publisher: Routledge _eprint: https://doi.org/10.1080/20567790.2013.11428593, pp. 3–43. ISSN: 2056-7790. DOI: 10.1080/20567790.2013.11428593. URL: https://doi.org/10.1080/20567790.2013.11428593 (visited on 03/22/2024).