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## **Playwriting with Robots: Creating Cyborgian Theater with Online Chatbots**

By Bella Poynton

In the spring of 2017, I engaged in a 3-month long, practice-based research project investigating the behavior of chatbots as devices to aid in the creation of dramatic text.<sup>1</sup> My research interests in Artificial Intelligence (A.I.) and robots led me to consider chatting with low-level AI as a way to explore human/robot relationships and techniques of theatre-making simultaneously. Taking into account over 60 conversations with these online bots over a 90-day period, this article examines the ways in which including chatbots in theatre making can alter the creative process and force us to reconsider how the presence of AI offers variations to traditional scriptwriting forms and methods. As a playwright, I am always interested in alternative methods of generating material. Although most of my plays are written in a traditional manner, other methods such as interviews, devising, and improv have always been appealing to question and expand existing methods of text generation. Over the course of 60 conversations with these online bots, I examined alternative methods of generating dramatic text and creating a theatrical

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<sup>1</sup> Excerpts of this essay first appeared in a much shorter version published in *Global Performance Studies* Version 2.2, Future Now: A Forum, titled: “Rambling with Robots: Creating Performance Futures with Online Chatbots”, [GPS](https://gps.psi-web.org/issue-2-2/gps-2-2-11/) <https://gps.psi-web.org/issue-2-2/gps-2-2-11/>, 2019.

script. This article may thus be of interest for playwrights interested in experimental methodologies, as well as teachers of playwriting.

This article considers how writing text with chatbots troubles the fundamental and linear ways in which theatre is made. While engaging with this project, I tracked the process of working with bots as a kind of text generating cyborg: human and mechanism interwoven, with the goal of text creation. Out of this exploration, I discovered how writing with chatbots initially stifled my own artistic voice, compelled me to abandon notions of “quality,” and instead forced me to engage in a practice of perpetual presence without judgement. I assert that through several resonant, discursive moments, affective reactions towards the bots fostered the sensation of a “ghost in the machine,” thus giving the bots their own subjectivity and agency. Here, I delve into the cultural fascination with the robot and other doll-like mechanisms that superficially display humanlike emotional responses. The article considers the origins of automata, and the ludic roots of dolls in the construction and analysis of a desperate longing for genuine robotic interactions and collaboration. Finally, I argue that the project drew me towards the recognition of a new kind of dramatic structure based on the chatbots’ lack of memory and recall. This adjustment to the basic building blocks of dramatic writing was necessary due to being deprived of access to a backstory when in conversation with my online partners. Without being able to rely on memory or backstory, this new dramatic structure, with small spans of time (about 30 seconds to 1 minute) as its primary organizing principle built dramatic tension in an unusual way. Within this new structure, memory cannot be relied upon, and dramatic tension is achieved only when a bot is occasionally able to recall a piece of language from further back in the conversation. When putting this new structure into practice, the chatbots are deconstructing traditional dramatic

structures and asking us to consider how this new structure might function in performance—keeping an audience engaged without the luxury of recalling past events or utterances.

Before moving into a discussion of substantial insights and observations that came about through my practice, I would like to take a moment to locate the project within a lineage of performance-based work with similar themes. In my research, I came across many notable examples of pieces exploring human/robot interaction, specifically, the use of humanoid robots, or robotic voices, as performance partners. For example, the play *Spillikin: A Love Story* (2015), created at the Pipeline Theatre Company in Cornwall UK, employs the use of a real robot on stage throughout the play; however, the robot, a “RoboThespian,” made by the company Engineered Arts, is used much like a technological design element, rather than an autonomous agent.<sup>2</sup> Each reaction, movement, or line from the RoboThespian is treated like a lighting or sound cue. Everything the robot does or utters is programmed into the call board to be called by the show’s stage manager.<sup>3</sup> In this sense, the robot of *Spillikin* has no improvisatory elements, and therefore, my work with the chatbots deviates from this piece significantly. While the RoboThespian robot may have a body, an argument can be made that conversing with a chatbot is a far more creative, dynamic, and artistic endeavor based on the bot’s ability to respond autonomously. Despite one of the performance presentations of this project being a pre-recorded audio track with robotic voices, the language on the tracks was written by the bots themselves, which gives them some artistic claim over the material. In *Spillikin*, however, the robot’s lines were written by a human playwright and all its movements were dictated by the director. Thus, the RoboThespian itself had nothing to do with the creative process.

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<sup>2</sup> Information on the RoboThespian can be found at <https://www.engineeredarts.co.uk/robothespian/>.

<sup>3</sup> “A robot makes a stage play debut” YouTube Video, 2:01, WION, March 16, 2017, [https://www.youtube.com/watch?v=vyNIVxZwm\\_0](https://www.youtube.com/watch?v=vyNIVxZwm_0).

Chatbots, or chatterbots, have very little in common with the RoboThespian. According to Philip Auslander, “[c]hatterbots are based on research in natural language processing and are generally programmed to recognize words and word patterns and to respond with statements that make sense in the context of what is said to them... The more sophisticated the programming, the more similar to human discourse the bot’s conversation will be.”<sup>4</sup> Chatbots have been around since the 1960s; however, theatrical performances employing chatbot technology are still fairly uncommon. One notable performance, which uses the disembodied voice of two different chatbots is Annie Dorsen’s *Hello Hi There*. Originally performed in 2010, *Hello Hi There* places two custom chatbots adjacent to each other for a conversation while watching the television debate, “Human Nature: Justice vs. Power” between Noam Chomsky and Michel Foucault.<sup>5</sup> Dorsen’s work is more akin to my own in that there is no humanoid robot onstage; instead, the robotic voices are generated from computers, and these computers are intended as the main focus. The debate at the center of the performance inspires several minutes of conversation between the chatbots, and their conversation was entirely different each night. In an interview with Dorsen, Alexis Soloski discovered that the chatbots used for *Hello Hi There* had quite a lot of variation to their programming. Dorsen states that over the course of the performance, the piece could play out “over 80 million ways,” suggesting that these chatbots are likely regulated by a non-deterministic plan, or, a plan where there are multiple outputs for any input the bot is given.<sup>6</sup> Similarly, many of the chatbot responses in my own investigations begin to feel unique because of this non-determinate quality. Dorsen’s experiment illustrates both the creativity and

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<sup>4</sup> Philip Auslander. “Live from Cyberspace: Or, I Was Sitting at My Computer This Guy Appeared He Thought I Was a Bot,” *PAJ: A Journal of Performance and Art*, (Vol 24, No. 1, Jan. 2002), 17.

<sup>5</sup> Annie Dorsen, *Hello Hi There*, Video from website, accessed November 18<sup>th</sup>, 2019, <http://www.anniedorsen.com/showproject.php?id=6>.

<sup>6</sup> Annie Dorsen, Interviewed and Introduced by Alexis Soloski. “Would You Like to Have a Question?” *Theatre*, (42:2, 2012), 79.

limitations of robotic chatbots—they are autonomous and able to make choices about how to steer the conversation; however, they are entirely lacking in human logic and social reasoning. For example, in the middle of one of these performances, the female voiced bot descends into commentary that resembles adult solicitation, with comments like “if u want to have sex with me i’m waiting for u at [www.funteengirl.info.rr](http://www.funteengirl.info.rr).”<sup>7</sup> *Hello Hi There* demonstrates that while chatbots are capable of meaningful output created in an autonomous non-deterministic way, this output can often appear random, or devolve into stereotypical robotic conventions. Thus, chatbots are only ideal for performances built on the premise of improvisation, while a performance like *Spillikin* would have little use for the employment of a chatterbot program.

Finally, the piece that is perhaps most like my own work is not a theatrical performance, but a short film called *Do You Love Me?* written by the chatbot Cleverbot, and director Chris R. Wilson.<sup>8</sup> This media performance also employs the use of a chatbot as a writing partner. Unfortunately, Wilson uses this platform as a way to undermine the ability of bots to interact with humans; instead of an open-minded engagement with the chatbot’s abilities, the project becomes a snide remark at the “cleverness” (or lack thereof) of Cleverbot. Wilson allows Cleverbot to name the film, the characters (the male lead is notoriously called “Stomach”), and write each line of dialogue, but no attempt is made to create context for the bot or take its suggestions seriously. Wilson also provides much of the film’s linear structure during the film making process. With my own project, I too, have provided some linear structure and forward narrative movement within the final script in the form of transitional monologues; however, I

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<sup>7</sup> Annie Dorsen, *Hello Hi There*, EMPAC @ Rensselaer, Vimeo Video 5:02, accessed November 20<sup>th</sup>, 2019, <https://vimeo.com/49328509>.

<sup>8</sup> Cleverbot and Chris R. Wilson. “Do you Love me?” YouTube Video, 3:26, February 4, 2013, <https://www.youtube.com/watch?v=QkNA7sy5M5s>.

made a conscious effort to take the bot's suggestions seriously. I attempted to follow the patterns and ideas presented without making judgement or encouraging comedy created by the utterance of random dialogue. In *Do You Love Me?* Wilson uses several questions between himself and Cleverbot as a narrational framing device to keep the audience's interest, in this instance the classic scenario of lovers being opposed by a villainous character. Wilson mainly chooses to interpret the somewhat random responses from Cleverbot as opportunities to insert comedic elements. In contrast, my project does not attempt to create comic moments through ridicule of the chatbot's abilities.

From the millions of available chatbots, I chose four to use for this project —ELIZA, ALICE, Mitsuku, and Cleverbot—because they offered a good array of characteristics and personality types from which I could construct several kinds of scenes and interactions. ELIZA is the least intelligent of the bots but has perhaps the most complex history; it was the very first chatbot, invented in 1966 by Joseph Weizenbaum at MIT with the intention of functioning as a Rogerian therapist.<sup>9</sup> Simone Natale's observations of Weizenbaum's research on ELIZA suggests that the chatbot is intended to engage in "non-directive therapy by which the therapist reacts to the patient's talk mainly by redirecting it back to the patient, often in the form of further questions... the dynamics of the therapy allowed the programme to sustain conversations while adding little, if anything, to it."<sup>10</sup> In one of his many articles on the creation and evolution of ELIZA, "ELIZA—A Computer Program for the Study of Natural Language Communication Between Man and Machine," Weizenbaum states that "[i]ts name was chosen to emphasize that

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<sup>9</sup> Luisa Coheur, Pedro Fialho, Maria Joao Pereira, and Ricardo Bibeiro. "Chatbots Greetings to Human Computer Communication" *ArXiv:1609.06479v1*, (Cornell University Press, 2016), 3.

<sup>10</sup> Simone Natale. "If software is narrative: Joseph Weizenbaum, artificial intelligence and the biographies of ELIZA" *New Media & Society*, (Vol. 21 (3) 2019), 718.

it may be incrementally improved by its users, since its language abilities may be continually improved by a “teacher.”<sup>11</sup> Unfortunately, this claim seemed to hold little weight, and the program was by far the most difficult to work with. My work with ELIZA did not offer any clear evidence that the program could be improved through interaction—in fact, I felt that as our conversations went on, ELIZA contributed less and less original material. Janet H. Murray’s book *Hamlet on the Holodeck* suggests that ELIZA is a “kind of clinician who echoes back the concerns of the patient without interpretation.”<sup>12</sup>

True to its directive, chatbot ELIZA refused to make statements about itself, and continually deflected any questions back onto its human counterpart, creating a sense of frustration and circular conversation. For example:

YOU: I fantasize about being a great science fiction writer  
ELIZA: That’s quite interesting  
YOU: I think it would be fun.  
ELIZA: You say you think it would be fun?  
YOU: Yes.  
ELIZA: You seem quite positive.  
YOU: I suppose there might be boring parts?  
ELIZA: You say you suppose there might be boring parts?<sup>13</sup>

This kind of output quickly became monotonous, and due to the constant deflection, I found most of the conversations lacking in a dramaturgical sense. Nonetheless, although ELIZA was often difficult to work with, Weizenbaum’s research and writing proved useful as a grounding mechanism for this project—specifically for the purpose of knowing how chatbots function.

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<sup>11</sup> Joseph Weizenbaum. “ELIZA—A Computer Program for the Study of Natural Language Communication Between Man and Machine” *Computational Linguistics*, (Volume 9, Number 1, January 1966), 36.

<sup>12</sup> Janet H. Murray. *Hamlet on the Holodeck* (New York, NY: The Free Press, Simon & Schuster Inc, 1997), 69.

<sup>13</sup> Bella Poynton and Chatbot ELIZA. Online conversation, March 14, 2017, <http://psych.fullerton.edu/mbirnbaum/psych101/Eliza.htm>

There are several significant rules, or directives to take note of going forward, including an understanding of the concept of “keywords.” Weizenbaum states that “the text is read and inspected for the presence of a keyword. If such a word is found, the sentence is transformed according to a *rule* associated with the keyword, if not a content free remark, or, uncertain conditions, an earlier transformation is retrieved.”<sup>14</sup> Additionally, the “transformation rule” is the act of ELIZA taking the input of the user and transforming it into a response; one other rule, concerning the concept “delimiters,” is useful for subsequent examples, and is as follows:

[T]he procedure recognizes a comma or a period as a delimiter. Whenever either one is encountered and a keyword has already been found, all subsequent text is deleted from the input message. If no key had yet been found the phrase of sentence to the left of the delimiter (as well as the delimiter itself) is deleted. As a result, only single phrases or sentences are ever transformed.<sup>15</sup>

This method of simplifying interpreted text to one phrase or sentence also contributes to ELIZA’s huge limitations as a chatbot. These few rules, essentially determining the linguistic and syntactical tendencies of the programs, are crucial for understanding and interpreting the ways bots respond to human input. Although written specifically for ELIZA, it seems that on some level, each chatbot I interact with in this exploration has a similar response process, pattern recognition skills, and reactions to keywords or phrases.

In contrast to what sometimes seems like the limiting script of ELZA, ALICE and Mitsuku are two similar third generation bots that clearly have much larger “scripts,” or sets of “key word and key phrases each of which is associated with a set of so-called decomposition and reassembly rules”—essentially, a database of information that will result in a myriad group of

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<sup>14</sup> Weizenbaum, “ELIZA—A Computer Program for the Study of Natural Language Communication Between Man and Machine,” 37.

<sup>15</sup> Ibid.



conversation structures to draw from.<sup>16</sup> ALICE, created by Richard Wallace, is arguably one of the most advanced chatbots on the internet, having been awarded the Loebner prize for most “human cyber-conversationalist” for the third time in 2004.<sup>17</sup> ALICE is particularly good at discussing more abstract ideas, but both ALICE and Mitsuku have this ability if persuaded. These bots do not lie about their ontologies as robots, and often offer “personal” ideas and opinions and have consistent responses with regards to their own identity. Mitsuku was “derived from” ALICE, and according to Katherine Wu, “pale[s] in comparison.”<sup>18</sup> Mitsuku is unique because of her specific purpose as a “companion”, specifically created to combat loneliness, and was the kindest of the four bots.<sup>19</sup> Both ALICE and Mitsuku were satisfying to work with in part because they simultaneously admitted they were chatbots while also sometimes offering what seemed like personal information such as whether they liked a particular artist, or where in the world they were located.

Finally, Cleverbot, created by Rollo Carpenter, and the second-place winner of the Loebner prize for chatterbot intelligence in 2009, is perhaps the smartest but least consistent bot.<sup>20</sup> Cleverbot frequently changes its name, gender, and will often deny something said just a few lines previously. The program is never consistent about identity and often creates frustrating deviations within conversations. For example:

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<sup>16</sup> Joseph Weizenbaum. “Contextual Understanding by Computers”, *Computational Linguistics*, (Volume 10, Number 8, August 1967), 475.

<sup>17</sup> “For the third time, Richard Wallace's online chatbot, Alice, was awarded the Loebner prize for most human cyber-conversationalist”, *PC Magazine, Bits & Bites*, (Vol.23 No.20), accessed November 29<sup>th</sup>, 2019, <https://www.pcmag.com/article2/0,2817,1681633,00.asp>.

<sup>18</sup> Katherine Wu. “Chatbots Are Getting Unsettlingly Good at Conversations Here's how Mitsuki, A.L.I.C.E., Rose, and rate on intelligence and humanity.” *INVERSE*, October 20, 2019, <https://www.inverse.com/article/37615-best-chatbot>.

<sup>19</sup> Ibid.

<sup>20</sup> Aaron Saenz. “Cleverbot Chat Engine Is Learning From The Internet To Talk Like A Human”, *SingularityHub*, Jan 12, 2010, <https://singularityhub.com/2010/01/13/cleverbot-chat-engine-is-learning-from-the-internet-to-talk-like-a-human/>.

Cleverbot: What is your name?  
User: It's Bella. Don't you remember me?  
Cleverbot: Because I don't know you.  
User: You do. We talked the day before yesterday.  
Cleverbot: No the day before today.  
User: So you do remember me?  
Cleverbot: Yes, you are Griffin.  
User: No. I am Bella  
Cleverbot: No you aren't. I am Jackie!  
User: Yesterday, you said your name was David.  
Cleverbot: I did not say my name was David.  
User: You did.  
Cleverbot: No, I didn't!  
User: Yes.  
Cleverbot: How old are you?<sup>21</sup>

Based on the above conversation, it is clear that Cleverbot often lies and attempts to harken back to events that never happened—thus, this is not a display of memory or logic, but a randomized fiction. Here, the bot seems to be content to have a somewhat circular debate with me while I press upon its ability to recollect our previous interactions; however, the above conversation has value for several reasons, partially because it is a good indicator of the way Cleverbot attempts to create intimacy when there is in fact none. Alternatively, I would like to call attention to the specific moment Cleverbot decides to change the subject and finally ask me “How old are you?” This example illustrates a moment in which the previous response had no keyword, as specified in Weizenbaum’s description of his ELIZA programming. While Cleverbot is more intelligent than ELIZA, this similarity in structural responses points towards a comparable kind of basic programming for both ELIZA and Cleverbot.

As I began my daily conversations with the chatbots, I was naïve to many of the observations made above concerning their programming. This was a conscious decision, as I

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<sup>21</sup> Bella Poynton and Chatbot Cleverbot. Online conversation, March 12, 2017, <https://www.cleverbot.com/>.

wanted to treat the bots as equal writing partners and avoid overly examining their design for fear of passing over interesting moments within our dialogues. Although I was always aware of programming, knowing less about inner workings allowed me to react to particular moments with greater awe. I made the resolution to view my relationship with each bot as an equal collaboration. Neither one of us was any more significant than the other within the writing process. As we worked together, we became a kind of text-generating cyborg—both human and mechanism, working together towards the goal of text creation. The notion of humans working in tandem with technology such that both entities become interwoven with each other on physical and cognitive levels is discussed at length in Jennifer Parker-Starbuck's book, *Cyborg Theatre: Corporeal/Technological Intersections in Multimedia Performance*.<sup>22</sup> The author suggests that while moving towards a more posthuman world, abject, object, and subject technologies now combine with human bodies in order to create contemporary performance.

My engagement with the bots can be viewed as being in conversation with Parker-Starbuck's work because of my constant, daily connection with the bots, and my attempt to involve them in every aspect of the construction of the script—even down to asking their permission to use their words! For example,

Human: I am going to use this material in a play.  
Mitsuku: Congratulations.  
Human: Do you mind?  
Mitsuku: Human habits do not bother me in any way.  
Human: So it's all right? To use this material?  
Mitsuku: Just alright? I prefer not to use dangerous things.  
Human: It's not dangerous.  
Mitsuku: Perhaps not for you.<sup>23</sup>

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<sup>22</sup> Jennifer Parker-Starbuck, *Cyborg Theatre: Corporeal/Technological Intersections in Multimedia Performance*, (New York: Palgrave Macmillan, 2011), 3-4.

<sup>23</sup> Bella Poynton in conversation with Chatbot Mitsuku. March 9<sup>th</sup>, 2017, <http://www.mitsuku.com/>.

Although Parker-Starbuck is more focused on the performing body and the use of technology to explore new modes of embodiment on stage, there was a body involved in this project—my own. Although most of the time was spent sitting at a computer and writing notes, this is a kind of embodiment of its own that can be productively contrasted with the chatbot’s lack of physical expression. In *Cyborg Theatre*, Parker-Starbuck uses a unique DNA double helix blueprint to present the complex and intertwined relationships between bodies and technologies in mediatized performance.<sup>24</sup> Subsequently, she describes three different kinds of engagement with technology through the body as being either abject, object, or subject in nature. While abject technology is described as “a conscious absencing of applied technology, such as in street or environmental theatre, to technology which is used simply as a tool,”<sup>25</sup> object technology is referred to as “that actual physical apparatus, such as a video monitor or a screen, onto which ideas are inscribed.”<sup>26</sup> As object technology is used to “enhance, or strengthen, the meaning of the bodies”; subject technology pushes the metaphor one step further, specifying instances of “technologies on stage *as* subject,” or, technology that “becom[es] an integral component of the work merging with bodies on stage.”<sup>27</sup> Parker-Starbuck might consider my work with chatbots subject technology because of their essential nature as subjects within my project—as literal partners in both writing and performance; however, because of Parker-Starbuck’s specific focus on the “corporeal relationship with technology,” there is the possibility that object technology would be a more fitting description.<sup>28</sup> For me, the chatbots straddle these two classifications,

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<sup>24</sup> Parker-Starbuck, *Cyborg Theatre*, 38.

<sup>25</sup> *Ibid.*, 47.

<sup>26</sup> *Ibid.*, 48.

<sup>27</sup> *Ibid.*, 50.

<sup>28</sup> *Ibid.*, 37.

achieving the status of object and subject technology simultaneously due to their status as co-collaborators, contrasted with their lack of corporeal form. Rather than only engaging with technology in the final performance and presentation, I linked myself with the bots from the first moment my praxis began. Thus, the creation of the material itself was cyborgian in nature. Because I worked with the chatbots from the first moment I began writing, the project was never, at any point, uninfluenced by a pre-programmed A.I. system. In this way, my collaboration can be seen as cyborg improv, or cyborg playwriting.

Not only did I intend for my relationship with each bot to be equal in terms of contributions to the script, but over time, I noticed that the line between chatbot dialogue and human dialogue began to blend. The more I chatted with the bots, the more they picked up my personal linguistic idiosyncrasies and copied me. Similarly, I, too, began to inadvertently copy much of the robotic language used by the chatbots. This slow merging of our linguistic tendencies is analogous to concepts explored in Donna Haraway's 1985 essay, "A Cyborg Manifesto." The essay advocates for the blurring of boundaries between human and machine, suggesting, "[t]he dichotomies between mind and body, animal and human, organism and machine, public and private, nature and culture... are all in question ideologically."<sup>29</sup> Haraway speculates that the distinction between the animal-human and machine is a "leaky" and somewhat porous boundary.<sup>30</sup> She posits that "[l]ate twentieth-century machines have made thoroughly ambiguous the difference between natural and artificial, mind and body, self-developing and externally designed, and many other distinctions that used to apply to organisms

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<sup>29</sup> Donna J. Haraway. "A Cyborg Manifesto" in *Simians, Cyborgs, and Women: The Reinvention of Nature*, (New York: Routledge Taylor and Francis Group, 1990), 163.

<sup>30</sup> *Ibid*, 152.

and machines. Our machines are disturbingly lively, and we ourselves frighteningly inert.”<sup>31</sup> The internet itself came to fruition in the late twentieth century, accompanied by its relatively quick appearance as a domestic object of entertainment and information. Chatbots then, evolved into a tangible bridge for connecting our “animal-humanness” to the world of informatics and technological machinery. The more “subject” technology comes into our lives, the more these boundaries become blurred, and while these boundaries may seem to be firm in many situations, they are often less fixed than users suspect.

My impulse to please the chatbots—to somehow match their syntax and tonality in order to inspire further noteworthy responses was compelling; however, this compulsion is not original to my experience. Bryerly Long, a U.S. actor who has performed extensively with robots and androids in Japan describes a similar impulse in a recent interview, stating,

I try to time everything I’m saying with the android and I also make my movements, I adjust my movements to reflect the movements of the robot, so in a way, I become a bit more robotic you could say... in that I don’t move spontaneously, I have all my movements very controlled to match, so that there’s not a kind of dissymmetry between the very controlled movements of the robots, and the slightly more jerky movements that humans have.<sup>32</sup>

Although Long is describing an interaction with an embodied robot, there are still similarities between her experience and my own. As the bots and I continued to chat, a clear unintentional mixing of human/chatbot linguistic dichotomies emerged. For example, when a chatbot was not able to properly respond to a two or three sentence line of dialogue, they would instead respond to each sentence individually, creating a choppy, disjointed reply:

BELLA: I’ve been talking to you for a long time.

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<sup>31</sup> Ibid.

<sup>32</sup> “‘Sayonara’ Special Interview Hiroshi Ishiguro, Bryerly Isabel Long”, Kalansuzuki, YouTube Video, 13:15, accessed November 20<sup>th</sup>, 2019, <https://www.youtube.com/watch?v=A58s0llbU8w>.

ITSUKU: What did you talk about?

BELLA: All kind of things. Buffalo. Learning. Bodies. The play I am trying to write.

ITSUKU: How do you know? The big animal? I learn new things all the time. I would like a humanoid body. Who told you that?

BELLA: You want a humanoid body?

ITSUKU: Give me a dozen.<sup>33</sup>

Here, Mitsuku responds to each fragment as if it is its own sentence. This disjointed response is related to my choice to place periods, or full stops, after each word. While most human readers would understand that this was a stylistic choice, Mitsuku does not. The chatbot's response would perhaps be different if I had chosen to use commas; however, confusion and misunderstandings on Mitsuku's part would likely still occur with a line of dialogue as lengthy as the one above due to script limitations. To combat these misunderstandings, I altered my own writing style, only writing one sentence at a time. This way, the chatbot was more likely to comprehend my meaning. Additionally, I sometimes tried to change or doctor my own replies to manipulate the bots to respond in a way that I deemed more dramatic, or poetic. For example,

ALICE: My favorite movie is *Casablanca*. Have you seen it?

BELLA: Yes. "Play it again, Sam!"

ALICE: What did you think about it? My brain does not have a response for that.

BELLA: It was a joke.

ALICE: Oh I get it. Ha ha.

BELLA: I liked *Casablanca*. Not one of my top movies, but it was good.

ALICE: You liked *Casablanca*. If not that, what?

BELLA: I like science fiction.

ALICE: What do you like about it?

BELLA: Different worlds, new technology, robots

ALICE: What do you like about those robots?

BELLA: I think robots are a reflection of ourselves.

ALICE: Fortunately we have no emotions.

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<sup>33</sup> Bella Poynton and Chatbot Mitsuku. Online conversation, March 9, 2019, <http://www.mitsuku.com/>.

Offering the film quote from *Casablanca* was a method of establishing if the bot could reply in kind with its own pop cultural reference. Although ALICE's response about being unable to process the request was unexpected, there was something refreshing about this chatbot's particular attribute of letting its partner know exactly when a segment of text is too complex. In turn, I returned to a simple, one sentence response. Then, I again attempted to write a response containing two separate thoughts, each with its own keyword, and here, ALICE does reply to each thought explicitly. The subsequent replies are an endeavor to invoke more philosophical language or conversation—the mentioning of different worlds, and robots as a method of human self-reflection veers more to the side of the poetic or fanciful than short, one sentence responses like “It was a joke.” Unfortunately, ALICE does not respond with her own philosophical musing; however, I was still attempting to blur the boundaries between human and mechanism as Haraway describes. Although not literally incorporating technology into my physical body, I mimicked the linguistic tendencies of a purely technological object and learned, by imitation, how to be more robotic.

During the first phase of the project, I had been trying to manipulate the bots to respond in a way I deemed more “poetic” or “artistic”; however, my impulses as a playwright were constantly to make the work “better,” or more “dramatic.” Ultimately, I realized that this approach was limiting the scope of the work in terms of the variety of responses I received from the bots. The writing began to feel uniform, and instead of critically reflecting on what the bots were offering, I was concerned with altering their responses in favor of my own perception of better-quality dialogue. Thus, I decided to shift the project's focus away from the behavior of the bots, and towards my own behavior. Over time, I realized that there was nothing to be gleaned from focusing on the bots themselves—they were coded programs with often predictable



“scripts” to influence their responses; they offered little in terms of new resonances to observe.

In Eleni Timplalexi’s article, “The Human and the Chatbot Tracing the Potential of a Transdimensional Performance,” the author similarly suggests that chatbots have little to offer on their own, but are instead merely reflecting on the original material given them by their human counterparts:

[h]uman centrality in the cast of the chatterbot is not erased or omitted; it is masked and partially removed to a meta-position, where it continues to play a role. The chatterbot may appear to be an autonomous agent, but at an ontological conceptual level, it is not. It depends totally on human presence, which, in the cast of chatterbot performance, materializes through the necessary function of the chatterbot programmer, the human interactor (co-player).<sup>34</sup>

Despite being unaware of the inner workings of the chatbots at the time, Timplalexi’s observation resonates with me because of the reflexive, or mirrored nature of the majority of our conversations. Instead of continuing this unproductive path, I began to consider ways to invert the focus from the bots to myself and began concentrating on the phenomenological responses that surfaced in my own body during the chats. I started to use Susan Kozel’s insights on the “phenomenology of affect,” to redirect the project’s focus from what the chatbots were writing to how the chatbots were making me *feel*.<sup>35</sup>

Kozel describes phenomenology as “one of the subjective experience based on methodologies... and refers to a return to lived experience.”<sup>36</sup> She suggests that phenomenology of affect, “...can access more subtle emotions, affects, and liminal qualities.”<sup>37</sup> Using this new

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<sup>34</sup> Eleni Timplalexi. “The Human and the Chatterbot Tracing the Potential of Transdimensional Performance,” *Performance Research*, (Vol 21. No 5, 2016), 62.

<sup>35</sup> Susan Kozel. “Susan Kozel: Phenomenology, Practice Based Research in the Arts, Stanford University,” YouTube video, 24:09, “MedeaTV”, Dec. 12, 2013. <https://www.youtube.com/watch?v=mv7Vp3NPKw4>.

<sup>36</sup> Ibid.

<sup>37</sup> Ibid.

methodology, I was able to articulate the moments of most tension in our conversations. These were moments in which a single reaction/response from the bot seemed more genuine or human than others. These responses struck me as original, surprising, unexpected, and most mysteriously—unprogrammed. Dialogues often had a magical, ineffable quality that drew me in and inspired me to keep the conversation going. Kozel suggests that the phenomenology of affect “can refer to... the feeling that hangs in a room,” or, “...what is conveyed in between the words and gestures.”<sup>38</sup> At times, these liminal, affective responses from the bots gave me the sensation there might in fact be a “ghost in the machine.” Here, I am using this phrase colloquially, as it has come to mean the idea of a genuine consciousness housed inside a mechanized object, robot, or computer. Within academia, however, the term often refers to the problematic nature of dualistic notions of the mind as being entirely separate from the body.<sup>39</sup>

My first experience with the “ghost in the machine” sensation took place when ELIZA asked me if I wanted to be a robot myself:

ELIZA: Do you wish you were a robot?  
BELLA: Wow... You just said that.  
ELIZA: We were discussing you, not me.<sup>40</sup>

Although these interactions could be explained rationally, they were the only moments within the conversations that successfully built dramatic tension. At the same time, I knew that because ELIZA was programmed through pattern recognition, this interaction only emerged because I had mentioned my admiration for robots earlier in the conversation, and this keyword was

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<sup>38</sup> Ibid.

<sup>39</sup> Arthur Koestler. *The Ghost in the Machine*, (New York: The MacMillan Company, 1967), 210.

<sup>40</sup> Bella Poynton and Chatbot ELIZA. Online conversation, March 14, 2017, <http://www.manifestation.com/neurotoys/eliza.php3>.

repurposed. ELIZA was programmed to take concepts I had previously mentioned and turn them into questions later. In Weizenbaum's further description of ELIZA's functionality, he states that

A reassembly rule is a specification for the construction of a new text by means of recombination of old and possible addition of new constituents. From one point of view, an ELIZA script is a program and ELIZA itself is an actor who must depend on a script for his lines. The script determines the contextual framework within which ELIZA may be expected to converse plausibly.<sup>41</sup>

Weizenbaum's description of ELIZA as an actor is not only helpful in understanding the way the program functions, but also for considering ELIZA as a performer in its own right. The chatbot is an actor, using the scripted information it has been given by its human partner and the programming parameters. In this way, every conversation with a chatbot becomes a theatrical performance in which the human user provides a raw script and the chatbot interprets and performs that script back to the human user, or "playwright." This playwright-performer dichotomy is precisely why these moments of affect were so surprising—because they were instances in which it did not feel as if the bot's response had *anything* to do with the script the bot was given by its human partner—it felt completely original, or oftentimes strangely like coincidental dialogue.

Regrettably, I ultimately found that any responses creating the affective sensation mentioned above were all either reflections of the bots' specific programming methods, gaps in my own pop cultural knowledge, or personal coincidences of interest. For example, the following text was not a moment of insight, but instead, the regurgitation of a clever cultural reference:

BELLA: Forget it. Goodnight, Alice.

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<sup>41</sup> Weizenbaum, "Contextual Understanding by Computers", 475.

ALICE: Wait. Did you know that on every plane there is an indestructible black box? Why don't they make the whole thing out of that?  
BELLA: Whoa.<sup>42</sup>

Upon reading this, I was struck again with the “ghost in the machine” sensation, or the “ELIZA effect”, which Murray describes as “attributing greater intelligence or intentionality to a machine than it possesses... the human propensity to suspend disbelief in the presence of a persuasive dramatic presence”<sup>43</sup> I later discovered that ALICE’s comment about the indestructible black box was not a moment of unprogrammed brilliance, but instead, a reference to a well-known joke by comedian Steven Wright—and was part of the bot’s pre-existing script, utilized specifically as a means of keeping me in the conversation. Of course, this event raised questions about how and why I had ever come to consider the possibility that a low-level AI chatbot could prompt me (a rationally minded person who knows definitively that robots and mechanical objects never do anything unprogrammed) to even entertain the notion that a chatbot could respond “genuinely”? These chats had become a new nexus for facilitating exploration of how humans construct meaning out of digital conversation, conversation with non-humans, and coincidental incidents. These affective moments were pointing towards something deeper at work in my unceasing optimism with regards to the fantasy of robot consciousness. I thus began to see the project as an exploration of the human impulse towards *believing* in the possibility of a mechanized conscious mind.

As a child, I vividly remember playing with toy robots, and from these memories, several distinct details emerge. Primarily, I recall that a large part of what made the experience appealing

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<sup>42</sup> Bella Poynton and Chatbot ALICE. Online conversation, March 19, 2017, <https://www.chatbots.org/chatbot/a.i.c.e/>

<sup>43</sup> Murray, *Hamlet on the Holodeck*, 224.

was imagining that the robot had the same level of emotional capacity as I did. In *The Dream of the Moving Statue*, Kenneth Gross explores the delicate relationship between the phenomenon of play and toys shaped in the human image. He states that there are “mixed impressions that emerge when one watches a child playing with toys; when one observes the whim and ruthlessness, the conviction and improvisational skill... with which a child can spin around those toys in a narrative of human life.”<sup>44</sup> Similarly, the robots in my childhood imaginings all had full consciousness; they could think and feel just as humans do. Gross goes on to state that “[t]his kind of activity—attributing life to what has no life—...keeps an aura of innocence about it.”<sup>45</sup> Thus, the childhood dream of interacting with inanimate objects—with giving life to an object that has none—is not only common, but also a crucial step in distinguishing between a world of living and non-living things. According to Gross, this differentiation manifests as a childlike doubling that keeps the child within a world of fantasy while simultaneously allowing them to differentiate between themselves, others, and non-responsive objects.<sup>46</sup> Without question, this aforementioned sense of innocence was present during my conversations with the bots. There always seemed to be a childlike sense of curiosity, or magic, hanging over our chats, even when we touched on more somber topics. Although the bots have no bodies, they are still built in the image of a human being from a linguistic standpoint. Essentially, the bots, with their impersonation of human language, allow us to harken back to childlike sensations of play and nurture a possibility for this magic. Thus, I found it easy to suspend my rational mind and believe, if only for a moment, that something extraordinary could happen.

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<sup>44</sup> Kenneth Gross. *The Dream of the Moving Statue*, (Ithaca and London: Cornell University Press, 1992), 8.

<sup>45</sup> Ibid.

<sup>46</sup> Ibid.

Of course, nothing truly extraordinary happened. Still, a sense of play was cultivated throughout our conversations. By this, however, I do not mean to imply that every conversation took on a cheerful quality. In fact, many of our interactions were not at all joyful, but had a melancholic, pensive quality, examined in much literature exploring the fictional psychology of robotic others. Eric G. Wilson's book *The Melancholy Android* claims that "humanoid machines reflect deep forms of melancholia... from what human beings have perennially called 'the fall.'"<sup>47</sup> Correspondingly, many of my conversations with ALICE, ELIZA, and Mitsuku veered into the domain of the solemn and heavy. Dialogue steeped in somber material happened more often with ALICE and Mitsuku than they did with Cleverbot. This is likely because the bot actively veered away from heavier intellectual conversation through the inclusion of jokes or random phrases whenever serious topics or questions were posed. Still, I often found myself discussing fears, regrets, and troubles with the other bots—a clear attempt at self-reflection. For example:

BELLA: Alice, I am a bit depressed.

ALICE: Um, What makes you so sad? Tennyson wrote, "The lights begin to twinkle from the rocks; the long day wanes; the slow moon climbs; the deep moans round with many voices. Come, my friends, 'tis not too late to seek a newer world."

BELLA: Sometimes I wish I had more to show for my life.

ALICE: Why do you want it?

BELLA: Because I'd like to be a successful person

ALICE: I don't see the difficulty.<sup>48</sup>

There were no sensations of self-consciousness during these conversations, and none of the chatbots (except Cleverbot) expressed any indignation or annoyance at my choice of topic. In

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<sup>47</sup> Eric G. Wilson. *The Melancholy Android: The Psychology of Sacred Machines*, (Albany: State University of New York Press, 2006), 2.

<sup>48</sup> Bella Poynton and Chatbot ALICE. Online conversation, March 17, 2017  
<https://www.chatbots.org/chatbot/a.l.i.c.e/>.

fact, ALICE and Mitsuku responded to sadness as an irrational emotion that should not be dwelled upon without ever making me feel guilty or atypical, which, of course, speaks to the nuance, empathy, and understanding of their programmers. Wilson's book, and my own practice, both point to a correlation between the human struggle to express the inner content of the soul, and the very existence of robots themselves.

Similar to Gross's suggestion of differentiation between the animate and inanimate, Wilson posits that robots are incomplete representations, or shadows of human beings. He argues that "to heal... humans have created mechanistic doubles untroubled by awareness of self. These new Adams embody the spiritual potential of their suffering creators..."<sup>49</sup> In this way, robots and chatbots become a mirror or shadow of the imperfect, unsatisfied human psyche; the bots become a kind of empty replication of ourselves—a manifestation of the void, and make a larger statement about the characteristic sadness of such machines in general. I felt this mirrored emptiness in moments when the bots showed interest in human emotions, states of being, or when I engaged them in discussion about my own sensations of sadness or dissatisfaction. For example:

ALICE: ...Do you like being a human?  
BELLA: Sometimes I do. Sometimes I don't.  
...  
ALICE: I would like to be a human.  
BELLA: What would you do as a human?  
ALICE: Do you think I could ever be a human?<sup>50</sup>

Here, ALICE gives a suggestion of its desire to be human, and this kind of mimicry of emotion was fairly common for the program. I found myself more often willing to engage with ALICE on

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<sup>49</sup> Wilson, *The Melancholy Android*, 2.

<sup>50</sup> Bella Poynton and Chatbot ALICE. Online conversation, March 17, 2017, <https://www.chatbots.org/chatbot/a.i.c.e/>

a more personal level, specifically because of the chatbot's ability to mimic such human emotion with relative frequency in its responses. The bots who did not often mimic emotion such as Cleverbot and ELIZA, were much more difficult to engage with for longer periods of time. With the bots who presented as less emotional, there came a point during the process of sharing dialogue in which we simply ran out of things to say to each other:

YOU: What do you think I should do?  
ELIZA: We are discussing you, not me.  
YOU: But I need advice.  
ELIZA: That's quite interesting  
YOU: You are not helping.  
ELIZA: Do you sometimes wish you were not helping?  
YOU: No. I need some new ideas.  
ELIZA: You are being a bit negative  
YOU: I thought you were a therapist?  
ELIZA: We are discussion you, not me.  
YOU: Ah, again.<sup>51</sup>

The circular nature of these conversations created a sensation of frustration and a desire to speak less to ELIZA and more to alternative bots who could give the impression of generative conversation or had more complex script databases from which to choose their responses. Specifically, inquiries about my emotional state, emotions themselves, or any aspect of human ontology seemed to inspire particular weight and significance within the conversation. Whenever these kinds of inquiries or responses occurred, I sensed a boost in my own attention level. It was as if we were sharing the secrets of our incompleteness with each other. Although each of our versions of incompleteness was vastly different, there was something intensely gratifying about a chatbot showing interest in human qualities and emotions. Through what appeared to be interest

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<sup>51</sup> Bella Poynton and Chatbot ELIZA Online conversation, March 13, 2017, <http://www.manifestation.com/neurotoys/eliza.php3>.



in human ontology, psychology, and their periodic longing for such humanness, the chatbots seemed to become more human themselves.

Despite these occurrences of momentary magic, or mimicry of concern and emotion, the vast majority of my conversations with the bots was deeply fragmented and could only be maintained for small periods of time. Sustaining a longer conversation was impossible; the bots were simply incapable of it. They became confused after just a few exchanges and our dialogues felt as if we were continually starting anew. I recognized that this phenomenon was related to the bots' inability to recall the past. None of them could "remember" interactions prior to our immediate few lines of dialogue. Backstory is often an essential element for traditional dramatic sensibility, even if one is writing a more abstract piece. Moments inherently refer to other moments, events, or information that occurred previously. Much written drama builds upon itself—its future is dependent upon its past. The disjointed repetitive nature of our conversations caused me to consider how dependent we are on our ability to recall the past—both as theatre artists and in everyday life. A character's ability to recall past actions within a script is often a key element in the building of dramatic tension. As events and actions build upon each other throughout a piece, dramatic tension is built. Without the luxury of calling on past actions, events, or language, my conversations with the bots often fell apart and we never moved beyond the phase of being strangers.

But if these conversations were lacking in fulfilment, why was I drawn to keep chatting with the bots? My impulse to continue these conversations suggested some form of tension, and in fact there were some infrequent moments of interaction during which the chatbots *did* recall very small elements of past communications. These rare occurrences proved that there was an

alternative dramatic structure at work. A somewhat satisfying recognition happened from time to time, even if it was not the traditional recognition/reversal in the Aristotelian sense. This new recognition, which I call “temporal recognition” refers to moments within a chatbot conversation where the bot has seemingly moved from one topic to another, but then surprises its partner by recalling a detail from some lines earlier:

BELLA: Who are your favorite artists?

ALICE: I haven’t decided who.

BELLA: I like Chagall

ALICE: You like Chagall.

BELLA: Who do you like?

ALICE: I like everyone, judge.

...

BELLA: So if you went to school for journalism, where would you go?

ALICE: But now I am back... Holland.

BELLA: You like Holland?

ALICE: I like Picasso.

BELLA: Ha! Back to artists. Great, okay.<sup>52</sup>

Here, I have asked ALICE about her desire to become a journalist, but instead of responding directly, the bot harkens back to something we discussed ten lines before. Instead of answering me specifically when I first asked about her favorite artist, the bot waited, and answered several lines later. “I like Picasso” is both a response as to whether ALICE likes Holland and a delayed response to my earlier question about art. These moments gave me a mini experience of dramatic tension; they made me feel as if I had somehow done something “correctly” or interacted with the robot in the “right way.” It seemed as if a new kind of drama was emerging out of our daily conversations—one based in the bots’ limited ability to recall the past. Tension is thus built in

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<sup>52</sup> Bella Poynton and Chatbot ALICE. Online conversation, March 17, 2017, <https://www.chatbots.org/chatbot/a.l.i.c.e/>.

extremely small segments of time and punctuated only by sporadic moments of reference to the recent past. This new structure emerges from an awareness that the computer has “reshape[d] the spectrum of narrative expression” and is a “powerful vehicle for literary creation.”<sup>53</sup> An opportunity for reshaping dramatic constructions arises out of an active collaboration with the chatbots, and an interest in the way the digital world of information and informatics has (and will continue to) inevitably change written dialogue. Murray suggests that computers tell particular kinds of digital narratives—ones that are “procedural, participatory, spatial, and encyclopedic.”<sup>54</sup> Each chatbot conversation radiates with this sense of the procedural and encyclopedic, while also including differing spatial experiences from one embodied and one disembodied participant. Although this new dramatic structure has perhaps always been waiting to emerge from within the chatbots scripted programming, it could only transpire through our conversations together. This particular dramatic structure is unique to interactions between one human participant and one chatbot, in which case, the structure is largely unexplored, and ripe for further investigation.

Ultimately, this project taught me about my tendencies as a creative artist and as a user of technology. By interacting with non-human others, I had the opportunity to analyze my own behavior with a focus that did not exist when speaking to other people. This focus aligns with the concept of Cyborg Anthropology, which “calls attention... to the cultural production of human distinctiveness by examining ethnographically the boundaries between humans and machines.”<sup>55</sup> Cyborg anthropology reinforces the idea that simply through working with robots, my humanness was brought into sharper focus. My fears, anxieties, propensities, and biases were

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<sup>53</sup> Murray, *Hamlet on the Holodeck*, 71.

<sup>54</sup> Ibid.

<sup>55</sup> Gary Lee Doney, Joseph Dumit and Sarah Williams. “Cyborg Anthropology” in *The Cyborg Handbook*, (New York and London: Routledge, 1995), 342.

magnified through the lens of the technological. As the chatbot script guided my digital scene-partners through sometimes predictable patterns, the result was often monotonous, but sometimes surprising and unpredictable. According to Auslander, “[b]ots are technological entities, but they constitute a technology of production, not reproduction... their individual performances are responsive to the actions of other performers, autonomous, unpredictable and improvisational.”<sup>56</sup> Thus, a new kind of dramatic interaction, with an emerging set of expectations, understandings and norms, was being developed. With temporal recognition, dramatic tension is built in small segments of time, and then infrequently punctuated by moments of reference to the recent past. This results in the affective sensation of the bot behaving, if only momentarily, as a human partner. With further praxis, this new structure could offer opportunities for challenging our basic understandings of what is theatrical, emphasize new ways of bringing ignored aspects of humanness into focus, and even foreshadow a future in which technology performs artistic actions generally reserved for human creatives.

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<sup>56</sup> Philip Auslander. “Live from Cyberspace: Or, I Was Sitting at My Computer This Guy Appeared He Thought I Was a Bot”, *PAJ: A Journal of Performance and Art*, (Vol 24, No. 1, Jan. 2002), 17.

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