***Beyond It Is Another Dimension*:**

**A Critical Reflection on a Technologically Affected Performer/Spectator Relationship**

By Margaret Lazarovits

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Department of Theatre and Performance Studies

University of Chicago

Preceptor: Leslie Buxbaum Danzig

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Summary

*Beyond It Is Another Dimension* explores the intersection of man and machine—what happens when thoughts and senses are computer controlled? The script of a beloved sci-fi television show is run through a Markov chain to create a new, unique script that removes the element of narrative but retains the rich, familiar imagery of life on Earth. All lighting cues are triggered by keywords algorithmically selected from this new script, which the actors will recite in real time as this script is generated.

Critical Reflection

Perhaps one of the most compelling aspects of theatre is the human interaction it affords. The director evokes a deep, emotional connection within the actor and in turn the actor incites an emotional response from an audience. Emotionality and narrative are intertwined to create a moving piece of theatrical work. But what if a computer interrupted this line of emotionality and linear narrative? When this project began to take form a year ago, I wanted to focus on female narratives in the traditional scientific world. However, after taking Annie Dorsen’s Chance in Performance class last fall, I changed the focus to the intersection of science and theatre, specifically algorithmic theatre. Inspired by her group self-interview, *Talk about* A Piece of Work, I wanted to explore the human performer-spectator relationship and how technology affected that.

I have always held that science and art are closely related. So, I was excited to create a project that combined the two seemingly polar opposite fields. When I set out to conceive this piece, I had so many ideas that my biggest hurdle initially was narrowing down the focus. I used my classwork, which greatly influenced the trajectory of the artistic project, as a guide. I was greatly intrigued by algorithmic theatre and Dorsen’s work—her class became one of my favorites. While I was so excited about the prospect of creating an algorithmic theatre piece, I had no idea where to start. The possibilities of forms this project could take seemed overwhelming. After meeting with Annie and corresponding with her outside of class, she helped me realize that that form of the piece was not as important as the questions I wanted to raise, challenge or address.

As I thought more about the questions I wanted to engage with, I read over *Talk about* A Piece of Work just to gather more information about algorithmic theatre and the rules of this world. While reading through Dorsen’s group interview with her team that helped create *A Piece of Work*, I began to take notes about different directions my project could take. There were a lot of individual aspects to take into account when creating a theatrical piece like Dorsen’s work: how information was sent out, to whom, how transparent should the information dispatching be, how to recombine text, etc. Once again, I felt overwhelmed by the multitude of paths this project could take.

I thought back to a class I took my second year for this minor, Introduction to Directing with Shade Murray. One of the biggest takeaways of this class was knowing your constraints as a director and where your available resources are best spent. For this project, both my biggest constraint and my most robust resource was time. With all of the different ideas about playing with stimulation and emotionality swimming in my head, I knew I had to settle on one and go forward with it. Dorsen mentions the possibility of presenting computer-generated text through with “phantom bodies” and this idea intrigued me. How would this manner of presenting information to the audience disarm them, evoke emotionality in them, or create some sort of unexpected effect? Would the audience attempt to create some sense of familiarity in a piece that lacked almost anything that resembled a traditional theatre experience? This method got me thinking about the way the audience would take in information, as well as how it should be disseminated. We interact with the world around us through our five senses, so I wanted the information these senses gathered to be computer generated. I initially had plans for my computer to control the sounds in the room as well as the lights, but this idea proved a bit too ambitious for my time constraints. So, I focused on optical information.

However, sound was still computer generated by the Markov chain script. The original text is from *The Twilight Zone*: “On Thursday We Leave for Home.” This episode features future colonists returning home to Earth, reminiscing about what life there once was and what it could be now after spending thirty years surviving after failing to find a utopia. Its text is rife with familiar sensory imagery of Earth’s natural majesty, the vastness of space and the at times extraordinary, at times mundane nature of human life. The Markov chain technique produced beautiful and unique new text. I attempted to play with a tagging technique, where each word was assigned a value based on its part of speech, type of imagery or other literary aspect. Again, thinking of my time constraints, I found this idea too complicated, especially when the simpler Markov chain already produced great results. What was very important to me was real-time text generation. This meant no rehearsing, which removed the safety net of memorization and incorporated the actor’s own struggles to follow along to seemingly meaningless text. With this result, combined with the fact that I knew I wanted to focus on light cues, I started to see my project take place. I thought the keyword triggering system Dorsen used in her *A Piece of Work* was interesting and worthy of further exploration. I found another algorithm that selects keywords from a text based on usage and frequency, so I incorporated this into my code.

Most of my rehearsal time in the space was spent debugging the code and attempting to figure out the best way to control the lights with the keywords. Any rehearsal time with actors was treated as a tech rehearsal, for them to familiarize themselves with the audio equipment and to make sure the rate of the text-to-speech algorithm was something they could follow along and recite. Debugging ended up taking so much time that I was not able to create a unique light cue for each keyword. However, I was able to program the lights to have dynamic, changing qualities, instead of static tableaus. While I was debugging my code through much trial and error, I realized my piece functioned the same way. It was an experimental piece and should be treated as such.

Being at peace and working with, rather than against the unpredictability and imperfect nature of theatre is something I’ve been struggling to accomplish as a director and actor. Going into this process, I thought that because my main source of variability, my only real “actor,” was my computer, I would have a smooth and controlled rehearsal process. This was definitely not the case as I was debugging up until right before the house opened. However, rather than attempting to control all the variables, I embraced the uncertainty and decided to treat this project like a science experiment. Instead of trying to incite a particular reaction within the audience, I was curious in how my project would affect them. Therefore, I gave people agency to move around the space, engage with me or the actors in conversation, ask me about the code controlling the lights and text, etc. I removed many of the traditional theatrical etiquette constraints imposed upon audiences (where to sit, when to clap, etc.) in order to observe the most natural and human reaction possible.

For many of my audience members, this incited discomfort or an unexpected emotional reaction. While these constraints often keep audience members from feeling and expressing an individual, rather than group, emotionality, they also offer a sense of comfort and familiarity. When seats were removed, the audience rarely moved. Once the actors began to talk, the audience conversations dwindled down. If people did move, it was slow and cautious. If they talked, either to me or to each other, it was in a hushed voice. Movement and conversations stopped when actors spoke. I was unsure if this was because audience members usually engaged with theatrical pieces in a physically passive state or because movement and other voices would drown out the actors. When movement or conversations did happen, it was quiet, so I presume that people stood still to follow etiquette and not for practical purposes. This result would further support my claim that traditional theatre etiquette (and by extension general social etiquette) offers a sense of comfort to a group of people, especially when the people are unfamiliar with each other.

Generally, people were unnerved by project. The monotone voice in which the actors delivered the text; the closed, mirror side of the space and the open window; the seemingly random pattern of flashing lights and the lack of narrative within the lines all contributed to an overall eerie atmosphere. So, as I predicted, the audience tried to grasp onto anything familiar. For some, that was following the unspoken rules of theatre-going etiquette, at least as closely as they could in this non-traditional piece. For others, it was attempting to find a narrative or rules where there is none. Some people came to ask me about the code controlling the lights and text. I suppose it was comforting for them to see the machinery and rules behind the seemingly random performance while others tried to find patterns in the lights. But both the text and the lights were constantly changing so any sense of comfort that the audience could grasp onto was quickly dissipated.

While much of the project was left up to the inner-workings of a computer, there was still room for subjectivity. For example, How to cut up the script was left to my discretion. When to re-run the code during the performance to generate new text and light cues was also something I had to control. Looking forward, I would want this project to be completely automated, with text and light triggering happening simultaneously instead of interwoven. While the alternating light cue/text generation technique offered its own insights into the performer-audience relationship, I want to push it further with simultaneous optical and auditory stimulation. I would also like to create more unique light cues reminiscent of their trigger keywords to see if the audience is able to latch onto the comfort of that association. Overall though, I am satisfied with the finished project for my minor and the reactions it evoked from the audience provided great insight into how we interact with and define theatre.

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Artistic Notation

Trigger Rules

Lights

* Triggers: words deemed “meaningful” to the director
* This aspect introduces a subjectivity to the piece that might include words with more universal meaning or words with more personal meaning

Examples could be:

* tangible, familiar (tied to Earth) words/phrases (i.e. baseball, Grand Canyon, etc.)
* Powerful, weighty words/phrases (ie freedom, waiting)
* Repeated words or phrases

Lighting effects

* Flashing emulating lightning
* Overall color shift
* Slow or fast fade
* Randomized patterns
* For original performance, lights and speech were interwoven, not overlapping

Actors

* Triggers: moments deemed “meaningful” by the director

Effects (lines)

* Audience triggered muting

Space set-up and Script

* Location: Logan 701
* Traditional incandescent and LED theatre lights
* Actor will have in-ear live feed for script
* Mirrored wall, some lights focused to bounce off mirror
* Window left uncovered
* Script will be generated from *The Twilight Zone:* “On Thursday We Leave for Home”through a Markov Chain

Sections of script

* Drive a “narrative”
* Sectioned by host/characters and by change in scenery
* Are chosen at random
* Audience is allowed to move about the space and converse with actors and director while they are not reciting the script
* If asked, director should be transparent about computational processes driving the production

Video recording of *Beyond It Is Another Dimension* with talkback: https://drive.google.com/file/d/1M5hGk0\_FrW9PgXpwj9EQJLGV1RF6Xq8I/view?usp=sharing