

...(con)fabulate: Explorations of Memory Fallibility Through an Interdisciplinary,
Collaborative Choreographic Process

by

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INTRODUCTION

Since I can remember, I have always been interested in both art and science. Throughout my life—particularly in educational settings—I have often felt that I was either being pulled toward art and away from science, or vice versa. Typically, when I mention that I love both dance and science, it is assumed that I mean “dance science.” However, while it is true that I have a passion for both dance and science, I am first and foremost an artist. My work in graduate school, particularly throughout the MFA choreography thesis process has illuminated this truth.

When I began the graduate program at UNCG, I knew my creative work for my thesis would somehow intertwine scientific principles with choreographic design, as I discovered an interest in exploring scientific phenomena through interdisciplinary collaboration in my professional work as a choreographer before graduate school. During my first year at UNCG, I became more specifically interested in investigating the brain, as I have always been fascinated by this incredibly important, yet mysterious part of the body. This led me to enroll in Dr. Robert Wiley's experiential course, Cognitive Neuroscience in the Department of Psychology at UNCG. While taking this course, I began exploring the translation of the different neurological processes and concepts we were learning in class into movement and choreographic design in the dance studio. Through this movement laboratory, I found myself continuing to revisit principles of memory over and over again.

Diving more deeply into memory mechanisms, I became captivated by the two seemingly opposed ideas of “remembering” and “forgetting.” I say “seemingly opposed” because as I reflect on this end of my thesis work, I now see the two processes as interdependent, symbiotic, and harmonious. I used to think more negatively about the concept of “forgetting.” Forgetting

where you put your keys. Forgetting the name of a person you have met too many times to ask their name again. Forgetting the exact feelings, sights, sounds, and smells of one of your favorite days. Watching someone else slowly forget details of their life over time. These, among many others, are frustrating, stressful, and even devastating examples of forgetting. The inability to remember: a failure of our brain's memory system.

However, there is also another side to forgetting. The *ability* to forget. As noted by psychologist Ivan Izquierdo, "... forgetting may indeed be the most salient aspect of memory."¹ Forgetting allows us to dispose of information that is not useful to us anymore and make space for things that matter in our ever-changing lives. Forgetting frees us to let go of unnecessary details and focus on things of great importance to us. Forgetting empowers us to move on from heartbreak and love deeply and vulnerably again. Forgetting allows us to experience and build new memories to treasure. Forgetting enables us to grow. Forgetting is a *function* of memory, not just a failure.

Artistic and Scholarly Precursors

I situate my choreographic work in the postmodern/contemporary genre with a focus on process, experimentation and chance, improvisation, and abstraction. In addition, I position my work alongside a community of interdisciplinary, collaborative artists—particularly those working with cognitive neuroscience, psychology, and technology. In both my creative and scholarly work, I am influenced by theories and practices from the disciplines of dance (dance studies, choreography, performance, etc.), performance studies, psychology, cognitive neuroscience, and phenomenology. Early precursors to my work include artists at the start of the postmodern dance movement, such as Merce Cunningham and the artists of the Judson Dance Theatre, due to their

¹1. Ivan Izquierdo, *The Art of Forgetting* (Cham: Springer International Publishing Switzerland, 2015), 4.

focus on process, experimentation, chance, and collaboration. The artists of the Judson Dance Theatre have also inspired how I interact with dancers and seek to create a more democratic environment in which ownership is shared in the creative process.² Merce Cunningham's emphasis on spatial design directly influences the centrality of space as a choreographic element in my work, and his chance dances are precursors to the inclusion of chance as a collaborator in my work. In addition, his thoughtful collaboration with musician John Cage has helped me conceptualize my own perspectives on the relationship between dance and music as able to exist successfully in both cohesion and juxtaposition. Additional precursors to my work include current artists and scholars such as Wayne McGregor, Nina Martin, Anne Bogart, Kathleen Kelley, Gideon Obarzanek, William Forsythe, and Pil Hansen, among many others.

Anne Bogart and Kathleen Kelley's research in spatial design, improvisation, and embodied memory impact my creative work significantly. Bogart's considerations on memory suggest that "forgetting may be as important as remembering," noting that making space for new experiences and memories requires that we continually let go, or "artfully forget," some of our past.³ She further argues that this "artful forgetting" is not a repressing of past experiences, but rather an acknowledgment and conscious letting go to move forward. In addition, Bogart suggests that the power of shared experience in performer-audience interactions in live performance leads to memories of that experience, which ultimately results in what she terms "resonance."⁴ Regardless of how much we accurately remember or forget from an artistic encounter, the resonance of these experiences shapes who we are and how we interact with the world around us. Her conceptualizations of the role of forgetting in the shaping of our memory

². Sally Banes, *Democracy's Body: Judson Dance Theatre, 1962-1964* (Durham, NC: Duke University Press, 1993).

³. Anne Bogart, "The Art of Forgetting," SITI Company, last modified February 17, 2020, <https://siti.org/art-forgetting/>.

⁴. Bogart, "The Art of Forgetting."

and identity are notable in my current investigations on memory in dance performance. In addition, Bogart's written and artistic reflections provide examples of the impact of utilizing artistic mediums to reflect information about the human brain.

Kathleen Kelley's choreographic research on spatial memory and improvisation in memory recall has also been pivotal in my approach to creating choreographic tasks that enable retrieval and embodiment of memory through movement. I incorporate several of Kelley's tasks for accessing memory through embodied storytelling in my creative process—including her task connecting continual verbal processing with simultaneous movement improvisation. In my creative process, I have also branched off of her work with further research in cognitive neuroscience to develop additional frameworks, alongside the utilization of improvisational structures from other dance artists researching cognition and psychology as well.

Nina Martin's highly influential creative and scholarly work focuses specifically on memory and cognition during dance improvisational performance. She examines the psychological results of the lag-time between our experience of the present and our conscious awareness of the present through spontaneous scores that seek to create movement impulses existing within the gap.⁵ Martin's interdisciplinary research in dance and psychology highlights the implicit and explicit brain systems utilized in spontaneous dance-making, as does Pil Hansen's research on the layers of kinesthetic and cultural memory that exist within dance improvisation. Hansen's suggestions about developing a flexible improvisational framework based on the implicit and explicit brain systems, as well as several of Martin's scores are in dialogue with my creative work and meaningfully influence the development of my own choreographic structures concerning psychology and cognitive science.⁶

⁵. Nina Martin, "Spontaneous Dancemaking with Beginning Improvisers: Foundational Practices in Presence, Stillness, and Problem Solving," *Journal of Dance Education* 17, no. 1 (2017): 27-30.

⁶. Pil Hansen, "Minding Implicit Constraints in Dance Improvisation," *The Routledge Companion to Theatre, Performance and Cognitive Science*, ed. Bruce McConachie and Rick Kemp (Oxfordshire: Routledge, 2018), 75-82; Martin, "Spontaneous Dancemaking," 27-30.

Arguably one of the most influential artists in my current trajectory, Wayne McGregor has directly impacted the way I conceptualize interdisciplinary choreographic research through his many collaborations with technology and science. Gideon Obarzanek's body of work serves as an additional influence on how I conceptualize the use of technology to transform space and corporeality, particularly through his use of abstract projection design layered onto live dancing bodies.⁷ McGregor's use of scientific concepts as the inspiration behind his processes to create abstract representations through movement and production elements mimics the way I seek to create similar collaborative work.⁸ Specific work that stimulates my own choreographic ideas includes McGregor's research with a team of neuroscientists and psychologists resulting in *AtaXia*, as well as several other works in which he collaborates with lighting designers, filmmakers, sound designers, and dancers, such as *Atomos*, *Self and Other*, *Future Self*, and *Living Archive: An AI Performance Experiment*. McGregor's improvisational process of devising movement by offering the dancers impossible tasks to respond to, and his casting of dancers based on their thinking alongside their movement capabilities are further influences on my own creative process.⁹

It is these forebears among others who inform my thinking, who inspire me, and who challenge me to investigate using dance as means of investigating interdisciplinary collaboration and representation of neurological and psychological phenomena through an artistic lens. I am deeply influenced by the various ways these artists and scholars are working across fields of study and are informed by research outside of their primary discipline that provides them with a deeper understanding about the human experience, from both scientific and artistic perspectives. Their creative and scholarly work serves as examples as I seek to bring together multiple ways

⁷. Jodie Doreen McNeilly, "A phenomenology of Chunky Move's *Glow*: Moves toward a digital dramaturgy," *Australasian Drama Studies* 65, no. 65 (2014): 53-76.

⁸. Scott DeLahuanta, "Wayne McGregor's Choreographic Language Agent," *Transmission in Motion: The Technologizing of Dance*, ed. Maaike Bleeker (London: Routledge, 2016), 108-117.

⁹. DeLahuanta, "Wayne McGregor's Choreographic Language Agent," 108-117.

of thinking that resonate for me to answer questions about memory and other neural processes, collaborative practices in dance, and the significance of embodiment through choreography and performance in our understanding of brain functioning.

Research Methods

Research Questions

My current creative research centers around embodying scientific phenomena in the development of movement material, choreographic devices, and improvisational structures. More specifically, my MFA Thesis work, *...(con)fabulate*, reflects on memory processes, errors, and failures through abstraction of neurological principles as well as psychological and personal reflections on remembering and forgetting. Taking theoretical concepts from cognitive neuroscience and psychology into the dance studio, I investigate the artistic possibilities for a deepened understanding of the human experience through an embodiment of brain mechanisms in collaboration with a composer and multimedia artist. This work, alongside continued explorations of memory in my other choreographic processes throughout the graduate program, explores how we store and recall memories, what we remember and forget, and how our present experiences are changed by the different ways we conceptualize our memories through recollection, embodiment, sharing, and sensory stimulation that engages reflection on/of the past. In addition, this work considers how interdisciplinary collaboration with other art mediums heightens possibilities for the abstraction of scientific phenomena in live mixed-media dance performance. While the means by which I probed the conceptual themes changed throughout my choreographic process, the actual concept I set out to explore in my initial thesis proposal surprisingly remained the same.

Throughout this process, my research questions included the following: What methods of interdisciplinary collaboration in dance afford a depth of understanding and an enhanced connection to scientific information about brain functioning as it relates to the human experience? What creative approaches to dance-making are particularly effective in this aim? How can abstraction through movement aid in deepened, embodied understandings of scientific information about the brain, and what are effective theoretical and practical strategies for working choreographically in this way? How can these methods of creating dance be used to influence performers and audiences to reflect on their own experiences of memory, attention, and perspective in a new or heightened way? Furthermore, up until the very end of my rehearsal process, I was also interested in the following question: What are the artistic and analytical possibilities that arise in choreographic structures that allow for a live representation of memory error in dance? The methods utilized to examine these questions were approved by the UNCG Institutional Review Board.

Conceptual Development

Throughout the process of creating ...*(con)fabulate*, I explored the overarching theme of the ever-changing nature and fallibility of human memory due to the brain's neuroplasticity and the abstraction processes that occur neurologically in the interpretation of external stimuli. I investigated this theme through three interconnected ideas: 1. Abstraction in brain processing of past experiences during memory recall, 2. Memory interruptions and failures, and 3. Memory fragments and shared memory. As I worked on translating principles relating to these themes, I began to see them not as completely separate, but rather as different windows through which to view the mysterious, fickle, and sometimes even deceptive nature of our own memory. To

examine memory through these different windows, I employed many different choreographic methods in the creation of my thesis work.

Choreographic Methods

Collaborating with natural and genuine consequences of fallible memory, I experimented with various ways of “teaching” movement material to the dancers. More specifically, some of the movement sequences performed in the first half of the work were intentionally taught in a way that made it impossible for the dancers to be *able* to remember the entire sequence perfectly. Creating two phrases of material before rehearsal with the dancers, I then demonstrated these two long sequences of material three times in a row without using words, counts, or taking any questions. In my choreography journal, I titled this method “Overwhelming the Working Memory Capacity,” based on the “magic number seven” rule in psychology that states that general working memory capacity is seven plus or minus two items.¹⁰ Dancers were then asked to get with a partner to recall as much of the material as possible, with the aim to recreate the sequence as accurately as possible based on their own memory of what they witnessed. The goal was not to get it all perfect but to put together a phrase based on what they collectively thought they could remember, without worrying about whether or not it was right or what they might have forgotten.

This approach proved to be an incredibly successful method for creating theme and variation with base material. When I had all pairs perform their variations together across the space, it looked like I had spent hours changing small details and altering the sequence for each pair. It produced a movement structure that you could tell was from the same root place but had

¹⁰. George Armitage Miller, "The magical number seven, plus or minus two: Some limits on our capacity for processing information," *Psychological Review* 63, no. 2 (1956): 81–97.

sequence order, quality, directional facing, level, and gestural differences sprinkled throughout. This choreographic method of communicating phrase work to the dancers proved to be a fascinating investigation of the fallibility and capacity of human memory while also providing subtle, yet intriguing movement motifs and variations—something that would have taken *hours* to create had I not utilized the power of forgetting to our advantage in the creative process.

I also found value in this particular way of working because of the collaborative advantage. A plausible argument against collaboration is that it can often take more time and effort due to navigating multiple perspectives, ideas, and values.¹¹ So, finding a way to work both collaboratively and efficiently was quite satisfying. This method was also exciting in that I was able to find a direct pathway for bringing theoretical scientific principles into tangible artistic practice in the studio. Through exploration of what psychologists and neuroscientists know about working memory capacities, I was able to overwhelm the dancers' working memories to the point of not being able to capture all of the information accurately during encoding. Then, during memory recall, the dancers were able to reproduce a phrase that visibly revealed how our perception and working memory capacities alter what we remember. Each pairing remembered things slightly differently than the others even though they all experienced the same initial experience; I did not change the phrase for each pairing, but what they collectively remembered of the movement and what they were able to then reconstruct was different. Therefore, the resultant phrase reveals some of the limitations of our memory in recalling an event we experienced. Furthermore, it was a successful method because it was aesthetically pleasing for me as an artist, while also directly interdisciplinary in process. This method conquered two goals

¹¹. Ali Duffy and Allison Beaty, “Flexibility of artistic roles and shared ownership between dance educators and students in choreography and performance,” *Research in Dance Education* 20, no. 2 (2019): 145.

with one approach, and while it may not always work that way, for this particular phrase it was highly effective.

In the development of ...*(con)fabulate*, I also began exploring the translation of neurological and psychological principles of memory into choreographic devices. In one example of this method, I studied different types of memory errors—including “transience,” “false memory,” “misinformation effect,” “source confusion,” “intrusion errors,” “absentmindedness,” “time-slice errors,” “problem of bias,” and the “DRM paradigm”—and translated the psychological definitions into improvisational and choreographic tools for manipulation of movement material (which can be seen in the list below). These kinds of manipulation processes were uniquely developed for each memory error to create movement themes and variations utilized throughout the work.

- Transience = This memory error refers to a weakening or loss of memory detail or accessibility over time. Movement details are manipulated to their most general state, making the new sequence left with only the “essence” of the original sequence. To do so, dancers are asked to write down a verb for each major movement in the original phrase. The ordered list is then utilized in the creation of a new phrase based only on the list of verbs; all other details from the original sequence are discarded.
- False memory (also called confabulation) = This memory error refers to the unintentional creation of false memories, inaccurate details, or recollection of something that never happened without the intent to deceive someone. Details are added to the original movement sequence that were not originally present, including things like extra rotations, jumps, gestures, positions/movements of the arms and legs, etc. The sequencing and

major movement concepts are not altered, only additional details are layered on top of the original phrase.

- Misinformation effect (also called suggestibility) = This memory error refers to a change in memory due to the presence of information during recall, like leading questions or suggestions. Movement material is manipulated to become a duet, rather than a solo phrase. To do so, dancers are paired up and asked to complete the original sequence via several avenues: 1. Splitting movement concepts up into two parts that then influence/are influenced by each other, 2. Manipulating the movement into contact partnering work, 3. Finding moments of positive and negative space to recreate from the original phrase.
- Source confusion (also called misattribution) = This memory error refers to the misattribution of the source of the memory or forgetting of where the memory originally came from. Movement initiations are placed into a different body part from the original phrase.
- Intrusion errors = This memory error refers to the presence of irrelevant information brought to recall or awareness while attempting to remember something. Multiple separate movement sequences are spliced/woven together to create a new phrase that incorporates material from the different original phrases. To do so, dancers are asked to pick a specified amount of material from two separate phrases. They are then asked to take the first phrase and pick multiple parts of interruption to splice in material from the second phrase.
- Absentmindedness = This memory error refers to the inability to remember accurately due to a gap in attention at the time of encoding. Movements are held for determined periods of stillness before continuing in the phrase. Movements missed while paused are

not recreated, but instead, dancers are asked to “catch up” to where the original phrase would be if they had not stopped. To do so, dancers are grouped and asked to find different moments of stillness from their other group members. As dancers pause throughout the phrase, the other dancers are asked to continue completing the phrase until their moments of stillness, and so forth. This results in the original phrase being completed by the group as a collective, but not by each individual.

- Time-slice errors = This memory error refers to the incorrect recall of the timing of events in a memory that can be caused by interference or schema errors. Movement landmarks are given to dancers for a specific phrase and they are asked to chunk the sequence material in a new order based on the beginning and endpoints of each landmark.
- The problem of bias = This memory error refers to incorrect recall due to distorting influences such as current beliefs, moods, and knowledge that tells more about the person in the present moment than it does about the original experience in which the memory was derived. Movement sequences are altered through subtle changes for each individual in a group of dancers and then performed together. To do so, dancers are grouped and asked to pick moments in the original sequence to alter with a level or directional/facing change that is different from the original phrase and their group members.
- DRM paradigm = This memory error refers to the recall of a feature not present, but related to the original experience during encoding, often influenced by suggestibility or schema errors. Movement details are manipulated through the creation of *either* new upper body or new lower body positions/movements that are performed with the original opposite half of the body (i.e., the new upper body details are paired with the original lower body movements, and vice versa).

I then organized these manipulated phrases in a list from least to most different in comparison to the original phrase (from intrusion, absentmindedness, the problem of bias, false memory, time-slice error, DRM paradigm, misinformation effect, source confusion, to transience). Utilizing this list, I began to craft the structural development of the movement sequences and spatial design to represent the thematic focus of memory changing and becoming further abstracted over time from the original experience/moment of memory encoding. While I also studied other memory errors and types of neural failure in memory recall, the above list is a documentation of the memory error manipulations that were utilized in the final thesis performance.

Collaboration

My choreographic methods are highly collaborative, both with other disciplines, but also with the dancers in the space. I view my creative process as a series of shared exchanges between the dancers, other collaborators, and me that ultimately result in shared ownership of the work.¹²

Liam Francis' research on the collaborative dance-making process concludes that "co-creation equals co-ownership" as the creative process mimics a gift-giving cycle between dance artists.¹³ I am constantly negotiating this gift-giving cycle of shared ownership by engaging in introspective conversation with the dancers and other collaborators, personal reflection on my research goals, and questioning of traditional artistic roles and credit.

Furthermore, improvisation and dancer agency are crucial to my creative process, even when movement and/or structures are set for performance. Reflecting on the benefits of

¹². Jo Butterworth, "Too Many Cooks? A Framework for Dance Making and Devising," in *Contemporary Choreography: A Critical Reader*, ed. Jo Butterworth and Liesbeth Wildschut. (New York: Routledge, 2009), 89-106; Duffy, Beaty, "Flexibility of Artistic Roles," 131.

¹³. Liam Francis, "What is Whose and Who is What?," *Performance Research* 22, no. 8 (2017): 60.

contemporary dance improvisational practices, Annie Kloppenberg's research on choice and agency in collaborative processes describes much of my own collaborative creative process. Kloppenberg notes that "post-control" choreography results in shared ownership, where "the role of the choreographer becomes one of fashioning a total experience in which dancers have a role in shaping their own involvement in a piece, a role that can invite audiences to author their own understandings as they encounter a work."¹⁴ I seek to serve as a facilitator of conceptual and structural direction and as a co-creator of choreographic material in the construction of abstract work that offers audiences the scaffold with which to determine their own personal observations.

One of the most exciting parts of the choreographic process for me is the organic evolution of the concept that results from being steeped in the process of improvisational exploration within the development of the work. While I started this process with a very clear seedling of an idea (and even three distinct sprouts from that overarching theme), I never could have envisioned or perfectly planned what would develop in the resultant work. Something I continued to learn about myself as an artist in this process is the joy I find in allowing the work to become what it is revealing itself to be and letting those in the room with me deeply influence what the work becomes. One of the ways in which I invited space for this to happen in the creation of ...*(con)fabulate* was the utilization of written and verbal reflections based on personal experiences of memory through movement, auditory, and visual explorations that allowed us to remember and consider our past experiences, as well as deepen our understanding of and relationship to our own memory capabilities.

While the dancers and I engaged in written reflections throughout the entire process, most frequently, I asked the dancers to note one moment of a strong memory and one moment of

¹⁴. Annie Kloppenberg, "Improvisation in Process: A 'Post-Control' Choreography," *Dance Chronicle* 33, no. 2 (2010): 189.

forgetting/memory struggle at the end of each rehearsal. Through their weekly reflections, additional themes began to emerge about individual and group relationships to memory that I had not previously planned to explore through this work. Many dancers noted throughout different weeks that they struggled most with remembering solo movement material, as Danielle¹⁵ commented, “I kept forgetting my solo...”¹⁶ and Meredith wrote, “I forgot we even had added my solo entrance.”¹⁷ In addition, dancers often commented that material was harder to remember when it was created in a partnership or group, but then reconstructed or retrieved alone. Amelia wrote, “I couldn’t remember my entrance without my partner,”¹⁸ and Juliet stated “I struggled to remember the walking phrase without my partner.”¹⁹ Jessica noted a moment of forgetting in “trying to remember [her] gestural phrase independently of [her] partner,”²⁰ while Savannah mentioned the impact of trying to recreate material “when facing different directions in space and with different people.”²¹ Most interestingly were the reflections dancers made about the importance and impact of shared experiences on their memories. “I’ve learned that I am able to remember the phrase better when there’s more people doing the same thing. It becomes harder when there are several people doing separate things.”²² In contrast, many dancers often noted from each rehearsal that the moments that stood out to them in their memory of rehearsal were “dancing with everyone at the same time”²³ or “being able to dance in contact with another

¹⁵. Pseudonyms are used in this document, per IRB research protocols.

¹⁶. Danielle written reflection, October 14, 2021.

¹⁷. Meredith written reflection, September 23, 2021.

¹⁸. Amelia written reflection, October 14, 2021.

¹⁹. Juliet written reflection, November 18, 2021.

²⁰. Jessica written reflection, August 26, 2021.

²¹. Savannah written reflection, August 26, 2021.

²². Bethany written reflection, October 7, 2021.

²³. Juliet written reflection, September 9, 2021.

dancer.”²⁴ They also remarked on the importance of relying on others to trigger memory recall, as Gabriella wrote, “I realize I watch people to remember much more than I thought I do.”²⁵

These reflections (amongst many others about shared memory experiences) caused me to acknowledge that we were simultaneously exploring quite intimate experiences of growth and change in our understanding of memory, shared experiences, and personal stories that arose from an embodiment of theoretical ideas. Upon this realization, I asked the dancers to respond to the following additional prompts as I desired to explore the transformations in understanding that were organically arising from the creative process in the final product that resulted from our work together.

1. What are one to two things you have learned about your brain in terms of memory so far?
2. What are three words you would use to describe your relationship/your current feelings towards your brain’s ability to remember right now?
3. Does the presence of another person help or harm your memory?
4. What does it feel like to perform this piece when a section/person is gone?
5. If you had to perform the whole piece as a solo, what do you think would happen? How would you feel?
6. What does it feel like to share a memory with another person?
7. Think of a memory you share with someone who is no longer here with you. How does that memory feel? What does it feel like to talk about it or recall it without them?

Through the dancers’ vulnerable and profound reflections on this collection of prompts, I developed an additional section based on shared memory that I initially had combined with other concepts/sections of the work. This section soon became one of my favorite parts of the entire

²⁴. Gabriella written reflection, October 26, 2021.

²⁵. Juliet written reflection, November 18, 2021.

thesis work and helped me begin to link the vignettes I created into a cohesive performance with connecting threads throughout the various sections.

Upon reflection on creating this section, I understand that I value this kind of organic development from within the process as it allows each of us involved to be deeply influenced and impacted by the concept without the restriction of how we must represent or work with the themes and principles. It is also exciting to me as an artist to understand that a different group of people working with the same seedling of an idea would result in a different final product based on what specifically resonated and sparked curiosity within that particular group of individuals. What resulted from this process was a sense of agency, community, and shared ownership that felt tangible: a process that reflects the results of what Kloppenberg terms “‘post-control’ choreography.”²⁶ It is partially due to these results, along with many others that I highly value collaboration throughout the entire creative process.

In addition to collaborating with the dancers, I also invited two other artists into the creative process, Sean Mulcahy (composer) and Jacqui Hinkson (visual artist). Collaborating with these artists expanded the possibilities for manipulation and distortion of visual and auditory information through the layering of sound design and projection design on top of the movement design the dancers and I were crafting. However, this collaboration became much more than just a means to layer sensory information. The conversations that the collaborators and I shared in our monthly meetings inspired my creative direction and resulted in many of the conceptual, visual, aural, and kinesthetic elements that are present in the final work. In her book *The Collaborative Habit: Life Lesson for Working Together*, Twyla Tharp notes that “in a good collaboration, differences between partners mean that one plus one will always equal more than

²⁶. Kloppenberg, “Improvisation in Process: A ‘Post-Control’ Choreography,” 180-207.

two.”²⁷ I found this to be particularly true in collaborating with artists of different mediums, as the way we each processed the same theoretical principles through our respective mediums became more visceral and impactful when added together than they would have been on their own.

The final section of *...(con)fabulate* was the section the composer, visual artist, and I developed simultaneously as it contained all three elements of movement, sound, and projection design. When I began guiding our conversations about the thematic focus for this section, I was inspired by psychologist Ivan Izquierdo’s discussions about the “art of forgetting.” As he noted, “thanks to the practice of that art [of forgetting], consciously or not, our collection of memories consists more of fragments and of extinguished or half-extinguished memories than of real and complete memories.”²⁸ While it is true that our lives are made up of more forgetting and fragments than complete memories, Izquierdo also argues that “we all keep enough memories or memory fragments to behave actively and more or less satisfactorily as persons. We remember who we are, where we live, where we work, and who are our relatives and friends.”²⁹ I was intrigued by this perspective on the act of forgetting and inspired to explore these realities through movement, sound, and visual design.

During the first collaborator meeting, we discussed many of our interests surrounding this theme and decided to explore some of our ideas through the processing of specific fragments of memories from the dancers. Following that meeting, I had the dancers bring in photos that represented a memory they had from an experience with at least one other person, from as far back as they thought they could accurately remember. Dancers reflected through written prompts

²⁷. Twyla Tharp, *The Collaborative Habit: Life Lessons for Working Together* (New York City: Simon & Schuster, 2009), 36.

²⁸. Izquierdo, *The Art of Forgetting*, 61.

²⁹. Izquierdo, *The Art of Forgetting*, 4.

about their memories and also shared their memory verbally, describing all of the details they could remember. Once we gathered these artifacts, we began translating them into movement, sound, and visual material through processes that mimicked neurological and psychological principles of memory encoding and recall.

We were particularly interested in the bits and pieces that the dancers remembered of these moments at different dates and times, the random connections we found between different dancers' memories and the almost dream-like qualities they spoke of when they tried to recall different aspects of their memory. During our second meeting, we began to discuss the phenomenon of “apophenia,” which is the human tendency to perceive a connection or relationship between unrelated items or events. From this point forward, we experimented with mismatching photos, sounds, texts, and movement phrases to create patterns, relationships, and connections between the dancers' unrelated memories. We did so in an effort to represent the distortion of memory over time— particularly when paired with emotion, nostalgia, and/or the influence of others' memories on your own recollection. Through manipulation of images, video, recorded text, and movement material we aimed to create an eerie, dream-like environment filled with fragments of memory that never allowed viewers to experience the complete story. As we discussed in our conversations, we felt that doing so enabled us to reflect on the fallibility of our own memory which is deeply influenced by our unique perspectives, prior experiences, and current interactions with those around us.

This process of developing an idea from a simple concept alongside two other artistic perspectives was incredibly satisfying. When I found myself stuck in a creative rut, they provided me with additional insights and questions that helped all three of us probe the ideas further. In addition, it challenged my choreographic process in a new way, as I not only had to

navigate movement design but also had to simultaneously consider the layering of visual and auditory information that would interact with the choreographic structure. I found myself repeatedly needing to go back into the movement material to strip it down to its core elements to account for the multiple layers of sensory information. The conversations I shared with my collaborators reminded me to allow viewers to sit with an idea for longer periods of time in order to provide them with the time and space necessary to take in this amount of abstracted and distorted information. This collaboration was also satisfying as I felt like we were able to fully exhaust an idea—something we are often encouraged to do (and desire to do) as artists. Through the creation, manipulation, and editing processes of three mediums based on the same theoretical principles and experimentation of multiple avenues of presentation of the artistic outcomes resulting from our discussions, I felt like we fully explored the depths of our research interest by the time we concluded the rehearsal process. While we created much more content than what was shown in the final concert, the process of collaboratively refining the final section felt artistically exhaustive in the best way possible.

A significant part of this successful collaboration was the genuine personal connection and interest each of my collaborators shared with me in psychology, neuroscience, and memory studies. Both artists were also steeped in research from cognitive neuroscience and psychology from their own personal and academic studies when I began working with them, which resulted in numerous fruitful artistic process conversations deeply embedded in scientific principles that further pushed the concept forward in irreplaceable ways. It was not necessary that I spend time during our meetings explaining the basic underlying neurological and psychological principles of my research to the collaborators, as they already had this framework for understanding. Rather, we were able to spend our time discussing various ways we could explore these principles

through the crafting of our three mediums and how the three outcomes might fit together to further the artistic product of these investigations. While I wish that we had the opportunity to collaborate in person during the weekly rehearsals, I do feel that the discussions that we were able to have monthly over Zoom and in between via email, as well as the commitment and investment of the collaborators to the concept and project as a whole led to a cohesive product of movement, sound, and visual layers.

Choreographic Problems

One of the biggest challenges during this process was coming to terms with the amount of editing that was necessary for the work. During my graduate studies, most of my creative output shifted to the realm of screen dance—partially out of necessity due to the COVID-19 pandemic, but also due to the newly gained resources and knowledge provided through the curriculum that I had long been yearning for as an artist desiring to explore film/technology within dance.

Through this medium, I have discovered a love for the editing portion of the filmic process. This stage feels the most like choreography and provides me with ample opportunity to explore all the possibilities of what *could* be. In editing for screen dance, I feel free to play—nothing is precious and I understand that all the footage that remains must fully feed the work. I do not feel constrained by a concept or the desire to force the work to be something it is not; rather, in the creation of screen dance I am satisfied with—and even excited about—letting things go to allow the film to become what it reveals itself to be over time. It is a thrilling creative practice that I could spend hours immersed in.

Diving back into developing live dance after over two years removed, I assumed the love I found for editing within screen dance would naturally transfer over to my live dance

choreographic process. I was excited, feeling confident that I had learned one of the hardest choreographer lessons—the power of editing. However, when I began creating movement and developing structures, I quickly started getting attached. There were several moments throughout the creation of each section of the work when I took a step back and thought, “I wonder if I *really* need *all* of this to accomplish what I want,” followed almost immediately by, “but I really like this phrase I made!” or, “but the dancers have so much fun doing this section!” If these moments in question had occurred in a filmic timeline, I have no doubts that I would have immediately cut the footage from the work without hesitation or grief. Why did they feel impossible to let go of in this live rehearsal space?

The first big moment of editing occurred about halfway through the rehearsal process when I drastically stripped down the choreography I had developed for the final section. While I struggled a bit with the fact that these editing choices meant the majority of the dancers lost most, if not all of the solo material they created, it felt necessary to cut movement and structure down because this section also needed to account for the sound and projection design layers. When viewing the complexity of the layers coming together for the first time, it was glaringly obvious that editing needed to occur as even I was completely overwhelmed with sensorial information. I was immediately reminded of the power of editing from my work in screen dance.

While less obvious, a second moment of editing I needed to address occurred later on in the process within a portion of choreography that was one of the first things I had set. In this section, I aimed to recreate a structure that originally occurred only by chance when I was capturing four duets moving at the same time for archival/review purposes only. I was amazed when I later watched the video, as it looked like I had spent hours choreographing subtle changes into what was otherwise a unison phrase. Stemming from the idea of subtle changes in memory

over time, I ran with this serendipitous event and started developing repetition and looping of these duet phrases around this specific moment. However, as the choreography progressed before and after this section, this specific moment no longer served the work and started to take away from the building momentum of the work. What once had served as an entry point into the overarching choreographic structure now lagged with the bookends that encapsulated it.

It took a pair of outside eyes from one of my committee members to help me finally let go of this initial idea that no longer fed the work and go back to allowing myself to *play* with different possibilities. At first, I did not want to cut this moment that felt like it was directly related to a psychological conceptual idea, but in reality, revisiting and reconstructing this section actually empowered me to deepen the exploration. In allowing myself to reimagine, I realized that the structure that I had created did not actually represent a subtle change in memory *over time*, but merely revealed differences *between people*. The major rehaul of this moment provided me with the opportunity to build upon not only the visual and kinesthetic momentum of the preceding choreography but also enabled the development of a more perceptible representation of subtle changes over time that I was trying to explore and present in a tangible way. This choreographic obstacle reminded me yet again of the necessity of allowing the work to shift directions and reveal itself and the power of editing to help accomplish that aim.

Another choreographic problem that arose from the process of creating ...*(con)fabulate* was balancing the multitude of interests and bulk of material I generated from nearly three years of investigation throughout the MFA choreography curriculum. Up until a month before the thesis concert, the dancers and I were working on an improvisational structure that occurred in the middle of the work based on the idea of losing your train of thought. While I did not ultimately present this section in the final thesis concert, it was a significant part of the

development of this work, who I am understanding myself to be as a multifaceted artist, and where I envision further investigations arising in the future. The “Train of Thought” improvisational structure may not have found its place in my thesis work, but I learned much about who I am through a reckoning with its complexities. Furthermore, I plan to find a place for this experiment in my future creative work.

I began working with this idea in movement lab rehearsals in Fall 2020, exploring different means of memory interruptions, distractions, and sensory overload that prevented dancers from accomplishing a task. At first, I was primarily interested in exploring what Nina Martin coined, “spontaneous choreography” through neurological considerations of the explicit and implicit brain systems that posed complex situations for dancers requiring creative problem solving amidst navigation of working memory overloads.³⁰ Playing with the balance of control and chance, or the “known” and “unknown”³¹ I found that certain ratios between these two opposing ideas led to exciting, interesting choreographic results for viewers and dancers. However, I also found that the structure became unsuccessful when the balance was too far towards chance, resulting in a lack of rhythm and reason that led to so much sensory information that it was impossible to follow. This realization reflected the improvisational framework guidelines posed by Pil Hansen based on principles of cognitive neuroscience that continually provide performers with enough—but not too much—new information to be creative. Hansen offers guiding rules for developing successful improvisational frameworks based on the implicit and explicit brain systems that include a “gradual addition of new source material, new improvisers, or new environments,” to prevent overwhelming or underwhelming the dancers’

³⁰. Martin, “Spontaneous Dancemaking,” 27.

³¹. Susan Leigh Foster, “Taken by Surprise: Improvisation in Dance and Mind,” in *Taken by Surprise: A Dance Improvisation Reader*, ed. Ann Cooper Albright and David Gere (Connecticut: Wesleyan University Press, 2003), 3; Martin, “Spontaneous Dancemaking...,” 27.

brains.³² These principles also seem to hold true for viewers as well, as expertise studies researchers such as Paul Silvia and Peter Delaney in psychology note that art is most enjoyable when it is both new and complex, but also somewhat familiar and comprehensible.³³ Seeking to find the right balance between control and chance resulting in an experience that is both new and exciting but also comprehensible (even at a basic level) for performers and viewers, I experimented with the “train of thought” improvisational structure through various theoretical and artistic lenses.

As I began exploring the different ways our memory processes get interrupted, distracted, or even derailed in the pursuit of accomplishing a task, I started to experiment with two primary concepts: 1. Representation of genuine memory error in dance performance, and 2. Principles from the Theatre of the Absurd movement. Before this process, I was not aware of absurdity principles in theatre, but it was brought to my attention that I was utilizing some of these tenets as I continued to experiment with various ways of embodying memory disruptions and failures through an improvisational structure. As I aimed to heighten the representation of memory error and failure through complex improvisational tasks, I was employing the following principles from this theatre movement: 1. Mixing of realistic and unrealistic scenarios, 2. Repetition and ritual, 3. Illogical flow or narrative, 3. Action that sometimes defies logic, and 4. Emotional extremes (i.e., going from humor to desperation) and mixing of the highly serious with the highly comical. Finding this framework to give language to what I was already exploring allowed me to dive deeper into my investigations and practice blurring the disciplinary boundaries of theatre and dance.

³². Hansen, “Minding Implicit Constraints in Dance Improvisation,” 79.

³³. Paul J. Silvia, “Interest: The Curious Emotion,” *Current Directions in Psychological Science* 17, no. 1 (2008): 58.

In hindsight, I now understand that my instinct to develop this improvisational section in the middle of my thesis work reflects a distancing tactic from Brechtian theory, called the “*verfremdung* effect.” This alienation technique is utilized in theatre to interrupt or truncate emotional engagement and prevent the audience from over-identifying with the narrative. While I was not presenting a clear, linear narrative in my thesis work, I recognize the emotional and sensorial build I developed caused an overwhelming emotional response for some audience members. I understand that audiences will have varying reactions to art experiences, and it is not my responsibility to ensure audience members do not get overwhelmed (in fact, this is a choice I can make as an artist and did consciously choose for this work). However, identifying my initial instinct to truncate that emotional response and understanding theoretical frameworks backing that instinct provides me with the opportunity to further my research to be able to make other choices in my future work if I so choose.

After months of experimentation, the primary reason I decided to remove this section from the final work was because it felt highly limited by being bookended by the other sections of the work. The development I created with my other choreographic structures and designs did not allow the time and space I felt I needed to fully explore the improvisational structure I had envisioned. In addition, it felt as if including this section actually *took away* from the structure itself, as well as the threads and connections I had built in the preceding and following sections. While I ultimately decided to remove all versions of the “train of thought” improvisational structure experiment from the final presentation of my thesis work, I believe that I will go back into investigations of this structure in the future. I am highly interested in examining brain processes of memory error through multiple artistic perspectives, including humor and absurdity. The experience of remembering and forgetting is multifaceted in our daily lives; it can be

frustrating, exhilarating, devastating, nostalgic, mysterious, and even comical. I remain interested in exploring these multifaceted experiences of human memory, and more generally humor and absurdity through movement in my choreographic research as a whole, as an artist who has been influenced by theatre and comedy as a performer. As a performer and viewer, I am intrigued by and drawn to both abstract, post-modern, and contemporary dance, but also dance performance that incorporates chaos, comedy, and absurdity. Working on this improvisational structure has revealed to me how difficult it is to create something that intertwines these elements and has challenged me to spend more time diving intentionally into the development of these ideas in the future.

Further Reflections

Audience Experiences

The focus of my research in the creation of *...(con)fabulate* was not centered around audience experience. However, some of the varied responses and reactions to the work during the two live performances were highly intriguing and thought-provoking and have informed my reflection on this process as I seek to understand more about myself as an artist. Several audience members were intellectually stimulated, others focused on the complex sensorial experience, and many noted a heightened emotional state and/or sympathetic nervous system arousal. During the artist talkback and after each performance, I had many audience members comment that the work stimulated a reflection on their own specific memories, even distracting them from the choreographic development on stage as they almost felt transported back in time to a specific memory. Corban Mills, a review writer from *The Carolinian* noted that he began to question his

own understanding of memory itself, questioning “what is real and what is not?”³⁴ I anticipated these kinds of cognitive reactions, as these were many of the personal reflections the dancers and I experienced throughout the process of creating the work. Further, I intentionally sought to provide space for audiences to experience these same kinds of questions through my choreographic choices.

In addition, I also expected that audiences might feel overwhelmed sensorially, as I desired to mimic the multitude of sensory reactions that often accompany the act of remembering, particularly for memories that are more emotionally charged, distant, and/or incomplete and fuzzy. Aneesah Abdur-Razzaq from the *Cultural Voice of North Carolina* wrote, “I was taken aback by the sensory overload at the beginning of the piece as it featured various voice recordings of the cast expressing memorable experiences. I wasn’t sure what to pay attention to at first...”³⁵ During the artist talkback after the first performance, another audience member also commented on the overwhelming sensorial experience she felt specifically in the final section of the work. She described the arc of the entire work as a journey from order, structure, and understanding to chaos and sensory overload that finally settled back into an organization that was comprehensible again at the end. This comment was extremely satisfying for me as this trajectory of experience was the route I was creating for myself as an artist making the work.

While I anticipated the above responses to my thesis work, I was surprised to hear about additional reactions that I did not anticipate. I expected audiences to feel cognitively and

³⁴. Corban Mills, “The Dance of Freedom: The MFA Projects of Caitlyn Schrader and Allison Beaty,” *The Carolinian* UNCG, *The Carolinian*, April 5, 2022, <https://carolinianuncg.com/2022/04/05/the-dance-of-freedom-the-mfa-projects-of-caitlyn-schrader-and-allison-beaty-%ef%bf%bc/>.

³⁵. Aneesah Abdur-Razzaq, “Inside Out and Upside Down” of liminal space & ... (con)fabulate in UNCG Dance MFA Thesis Concert,” *The Cultural Voice of North Carolina*, *The Cultural Voice of North Carolina: An Online Arts Journal in North Carolina*, March 25, 2022, <https://cvnc.org/article.cfm?articleId=10345>.

sensorially overloaded, but I did not foresee the emotional overload that many audience members noted. This was fascinating to me, as I also did not anticipate the level of emotional build that resulted in the final work itself. It was not until the week of technical rehearsals for the show that I realized how intimate, personal, and emotional the work had become. I had been so focused on the science in the choreographic process that I did not fully understand the depth of impact of connecting the mind and body in this investigation. The embodiment of these scientific concepts by the dancers and me—and the resulting influence that embodiment had on our understanding of our own memory capacities—drastically shifted the arc of the work. It makes perfect sense now (it was even a research question and goal I had from the start!), but I was not able to step back and see this remarkable influence of embodiment on the final work until the week of the show.

Furthermore, several audience members spoke to me after the performances and mentioned feelings of anxiety, fear, distress, and even a reappearance of emotional states from past traumatic memories. Several people felt a desire to look away and/or leave due to this hyperarousal. Upon reflection on these comments, I find myself considering the profound impact I have the potential and responsibility for in my creative work. This kind of multilayered, live performance art offers opportunities for deep, embodied reflections on the concepts presented in ways that are personally meaningful and impactful. I had the capacity through art to bring and keep people in a state of hyperarousal that then caused them to think about their own attention, memory, and emotional states in a profound way that I hope they will continue to reflect on long past the performance itself. It also reminded me of the myriad of choices I have as a choreographer in shaping the arc of a work. In future work, I have the power to create this kind

of emotional and cognitive arousal again or to choose a different path based on my creative goals and intentions.

Finally, and possibly the most satisfying audience feedback I received, was from my former Cognitive Neuroscience professor, Dr. Robert Wiley. One of my goals as an artist and researcher who is involved in both the arts and the sciences is to help bridge traditional, historical gaps between these disciplines and find meaningful, accessible ways to represent and understand scientific information through an embodied approach. Throughout this process, I knew I was deeply impacted in my knowledge of theoretical principles from cognitive neuroscience and psychology through creative practice. It also became clear that this was happening in an inspiring way for the dancers involved in the development of the work as well, as they noted in multiple reflections newfound elements about their own memory capacities that helped them better understand what they needed to do in order to accurately store and retrieve information. However, I did not know if this influence of embodiment on scientific understanding would translate to audiences. Moreover, I could not anticipate how viewers that were well-versed from the science side would react to these theoretical principles being represented through abstract dance that was not overt in its presentation of the science. After the performance, Dr. Wiley noted that he tangibly saw the depth of research that was present in the work. He commented that it was clear that the investigation of memory principles the dancers and I were exploring were not surface level, but rather represented the science well. This feedback was incredibly satisfying to hear, as it revealed the potential discussions and further collaborations that are possible between artists and scientists. These disciplines do not have to be at odds with each other, as is often pressured in university and research institutions. Rather,

interdisciplinary art-making can create space for shared dialogues that are mutually beneficial for both artists and scientists in profound ways.

Thoughts for Future Research

In addition to further experimentation of some of the improvisational structures and ideas mentioned earlier, I also foresee myself engaging in additional creative investigations probing other principles about cognitive functioning in the future. While I assuredly have other artistic interests worth traversing, I find myself currently captivated by utilizing scientific principles as a muse for embodied exploration. The intellectual and artistic satisfaction that I felt from this process motivates me to continue diving deeper in an investigation of the possibilities that arise from this dialogue across disciplines. I am curious about the potential for the inclusion of additional technical elements, such as motion tracking, live manipulation of sound and visual design, and other technologies that I hope to consider in the near future. Furthermore, I am committed to continuing to explore interdisciplinary, collaborative creative processes throughout my career in pursuit of meaningful conversations across disciplines, art mediums, and perspectives that provide space for significant growth for me as an artist, for all collaborators involved, and for audiences that experience the result of the collaborative work.

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