

Hybrid Knowing:
Preserving Physically and Digitally Entangled Traces in Hybrid Game Design

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A Thesis
in
The Individualized Program

Presented in Partial Fulfillment of the Requirements
For the Degree of Doctor of Philosophy (Individualized Program in Fine Arts) at
Concordia University
Montreal, Quebec, Canada

January 2021

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ABSTRACT***Hybrid Knowing: Preserving Physically and Digitally Entangled Traces in Hybrid Game Design*****Jess Rowan Marcotte, Ph.D.
Concordia University, 2021**

This dissertation represents the written portion of an interdisciplinary research-creation project that explores ways of studying creative practices with a focus on a kind of interactive experience called a hybrid game. It represents a contribution to the field of critical game design research. It builds on research from an extensive range of fields, including queer game design, intersectional feminist theory, critical design, critical game design, game design practice and methods, practice-based research and research-creation research, performance and theatre, live-action roleplay studies, alternative controller studies, autoethnography, and archival studies. From there, this research proposes and uses a methodology for studying the practice of creating interactive experiences that have non-standard, custom physical elements along with digital ones, especially those involving a facilitator. I make the case that autoethnography, though it has some limitations, is a well-suited method for research-creators engaged in design research.

I performed this autoethnographic research through the use of three case studies undertaken over two years. During that time, I used the methodology that I proposed to create records of my own design practice. Using these records, including audio recordings, video recordings, photography, sketches and handwritten notes, a digital journal, and playtesting data, I analyze the process and each project in turn. I argue that in order to avoid self-deception and arguments made only based on designers' memories, it is crucial for the study of design processes to create timely records of practice. Further, I argue that this serves as both valuable data for the designers who do so as it facilitates learning about their own practices, as well as for other game design researchers seeking primary sources.

For Tom, my dear spouse, who still seems to think that he got the better deal in this whole arrangement, even after fourteen years. That's very funny.

ACKNOWLEDGEMENTS

This five-year undertaking has benefited from the support of an uncountable number of people — family, friends, peers — who have offered advice, time, expertise, kindness and love. If you are reading this and you came to a playtest, offered encouragement or commiseration, or other support: thank you.

I am grateful to my supervisory team for their support. To Dr. Rilla Khaled: thank you for supporting me through many changes, through a move to new pronouns and my transition, through a move to Fort McMurray, AB and back again, through the many times that my project pivoted directions as I found my way in the early days of this work. To Lynn Hughes: thank you for never missing a chance to play one of my prototypes and providing generous, sincere feedback, and for the way you approach opportunities for collaboration. To Jason Camlot: thank you for providing perspectives and frameworks that have helped me connect my previous scholarship in English to these new disciplines, and for your enthusiasm and support as my project evolved and changed. To all three of you: I have appreciated our time together.

To Pippin Barr, Dietrich Squinkifer, and Enric Granzotto Llagostera: thank you for helping me build confidence in my ability to code and for getting me unstuck many a time. To Ida Toft and Enric: thank you for helping me think more deeply about this research. To Gina Hara, Jordan McRae, Michael J. Marcotte, Drew Pascoe, Thomas Deliva, and Annie Duchesne: thanks for being a constant in my life and for the many fantastical adventures we've had as I roll yet another natural 20 — in-game, and in friendships. To Squinky (again!) and Allison Cole: Thanks for being my constant collaborators and making weird stuff with me. And finally, to Tom, again: words fail to describe the unflinching support you have given me — thank you. Ask me and I'll try, but I don't have the space to write another dissertation in the acknowledgements.

I would also like to acknowledge that I live and work on unceded Indigenous lands. The Kanien'kehá:ka Nation is recognized as the custodians of the lands and waters that I call home. Tiohtià:ke/Montréal is historically known as a gathering place for many First Nations. Today, it is home to a diverse population of Indigenous and other peoples. I respect the continued connections with the past, present and future in our ongoing relationships with Indigenous and other peoples within the Montreal community. I encourage those reading to consider, as I continue to do, their own personal and structural relationships to the lands that they live on and reflect on what they are doing to support indigenous self-determination. (This statement was adapted from the Concordia University Territorial Acknowledgement, informed by conversations with other Indigenous folks that I work with.)

I wish to acknowledge the support of the TAG (Technoculture, Arts and Games) Research Centre, my base of operations since 2013, for providing resources, equipment, and opportunities to work on research projects with many excellent researchers and creators. This support has been invaluable. Thanks also to the Milieux Institute for its support of my many unusual research initiatives and for providing physical space for playtesting.

This research was supported by the Social Sciences and Humanities Research Council of Canada.



Social Sciences and Humanities
Research Council of Canada

Conseil de recherches en
sciences humaines du Canada

Canada

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*Mony klyf he ouerclambe in contrayez straunge,
Fer floten fro his frendez fremedly he rydez.
At vche warpe oper water þer þe wyȝe passed
He fonde a foo hym byfore, bot ferly hit were,
And þat so foule and so felle þat feȝt hym byhode.
So mony meruayl bi mount þer þe mon fyndez,
Hit were to tore for to telle of þe tenpe dole.
Sumwhyle wyth wormez he werrez, and with wolues als,
Sumwhyle wyth wodwos, þat woned in þe knarrez,
Bope wyth bullez and berez, and borez operquyle,
And etaynez, þat hym aneledede of þe heȝe felle;*

— The Pearl Poet, *Sir Gawain and the Green Knight*

INTRODUCTION

1.1 Introducing *Hybrid Knowing: Preserving Physically and Digitally Entangled Traces in Hybrid Game Design*

The genesis of this project was the process of learning to trust my own creative impulses instead of resisting them.

In January 2015, when I made the application to begin my doctoral studies, I had already been making games for two years. I had been making games with alternative controllers and wearables like *Nitrogen Narcosis* (Marcotte 2013), an asymmetrical two-player game about the experience of having nitrogen narcosis, or *In Tune* (Cole, Marcotte and Miller 2015), a game about navigating consent for physical touch beyond sexual intimacy. As part of a games incubator called *Critical Hit*, I had made a feminist cyborg zombie puzzle game exploring stereotypes about women and being the "zombie-who-has-it-all" called *Assembling Rosie*¹ (Fisher, Lunga and Marcotte 2013). My prior work also consisted of multiple multiplayer jam games, including one about competitive composting (*Eat Dirt!* — Kornek, Marcotte, and Van Geest 2013), as well as a project entitled *A Fistful of Wizards*, a game of alien cowboys versus wizards tag (Kornek, Marcotte, and Van Geest 2013).

Despite all of this, I initially decided to propose a project about NPCs (non-player characters), AI (artificial intelligence) and affect theory. And so, I began my studies. I knew that to accomplish my intended project, I would need to bolster my programming skills, so I began to do so. Meanwhile, I also fostered an interest in critical design and physical making, learning about industrial design, design fiction, and fictional radios embedded in resin teeth (Auger & Loizeau 2001, in Auger 2013). I studied theatre and puppetry. I designed and constructed a (non-functional) speculative breathing apparatus for dolphins to talk about climate change. In my personal practice, I began work with Dietrich Squinkifer on *The Truly Terrific Traveling Troubleshooter* (2017b), a hybrid game about feelings, radical softness, and expectations around labour contained entirely in a carry-on suitcase. Before it was even finished, we followed it up with an ASMR live-plant dating simulator hybrid game called *rustle your leaves to me softly* (2017a).

It was somewhere during the creation of *The Truly Terrific Traveling Troubleshooter* that I realized that I most definitely needed to shift my research project. What I had thought I wanted to research and what my creative impulses led me toward were completely different. As I prepared for my comprehensive exams, I wrote to my committee and told them that there had been a change of plans. Immediately, the work began to make more sense to me.

I spent the next two years engaged in research-creation and the documentation of both the resulting games and the process of their creation. This written dissertation represents the results of that work in a written form, along with one version of what can be learned from the data. The lenses that inform this written portion of my work come out of my research questions, introduced below.

¹ Yes, I had recently read some Deleuze and Guattari.

1.2 Research Questions

This doctoral project engages with multiple ways of knowing and creating knowledge, and my research questions reflect that. As a creator engaged in academic work, I make use of many ways of knowing. When I make, I create knowledge for myself and others through the making that I do, through my reflections on that making and through the traces of it left behind. I also learn from the academic and practice-based work of others, which informs my own practice. I use the process of writing (such as my journal entries and this dissertation) to share what I have learned as well as to work out tacit, as-of-yet un verbalized ideas.

With that in mind, my research questions follow. My first question is:

What are the affordances that physical-digital hybrid game experiences offer as a form for creating opportunities for critical, reflective play about nuanced subjects and what possibility spaces does this form open up for designers?

Or, put another way, what does this form of experience, including the design approaches and the objects that create the experience, allow designers to do when it comes to creating critical, reflective play experiences? What does it do well that other forms may not? On a personal level, this question becomes, for me, what is it about the kinds of ideas and experiences that I want to get across that draws me continually back to this form?

My second question is:

What methods can creators of physical-digital hybrid games use to create robust traces and records of their in-situ praxis and creative output for future examination, and what impact might such records of praxis have on their work, their ability to reflect on their craft, and their growth as designers?

In other words, given that I am working in this particular form, how do I share both my finished work and also preserve the in-the-moment work that I have done in order to learn from it, and what can I learn from it?

Some parts of the answers to both of these questions are non-verbal, living in the process, in the resulting projects, and in my experience of both of those. My task for the written portion of my dissertation has been to draw out as much of that knowledge as possible, attempting to make visible the invisible, and communicate the tacit knowledge of experience.

1.3 Three Projects

From February 1st, 2018 to March 13th, 2020, I undertook the design and creation of three "human-assisted physical-digital hybrid games".² These three research-creation projects and the findings that I have gleaned from the data produced throughout their creation form the basis for this, the written component of my dissertation.

Project 01 is entitled *Flip the Script!* In this game, the moderator (myself) uses sociodrama, improvisational theatre techniques, and puppetry to help players find common ground about a particular shared experience (suggested through discussion amongst the participants). Either the player or the moderator can interrupt play or change the direction of play. This is done using devices distributed to the players, which are worn on their puppets' backs and fronts on a vest, networked together using radio signals. After playing out multiple scenes with the puppets, players work together with the moderator to develop an aspirational statement about how they would like the world to be, compared to the way that it is.

Project 02 is entitled *TRACES*. Informed by my experiences as a transgender person and an active participant in the queer games community, this speculative piece imagines what the time period of late 2018 through early 2019 would look like through the eyes of transgender time travellers from a distant future and another galaxy. In it, the player takes on the role of a field operative, tasked with collecting the traces of the time travellers who have visited the era before them. These take the form of audio logs (which can also be accessed in written form on their scanner). These are stories of love, pain and hope.

Project 03 is entitled *UNLOCK. UNPACK*. The project was initially inspired by a desire to design an escape room where the puzzles had stronger thematic throughlines than is typical for escape rooms and the desire to design something portable for festival travel. The experience invites players to change their relationship to the usual rhythms of this genre. There is no time limit for the game and an infinite number of clues and explanations. It is played in small groups. Together, players are asked to use the puzzles as "puzzles-to-think-with." Once each puzzle is solved, there is a question inside that asks players to reflect on their relationship to themselves, to others, and to their environment. The answers of past players are also inside.

1.4 Goals and Original Contributions

One of the primary goals of this research is to explore how self-reflexive processes intentionally embedded within design processes can help a designer learn from their past designs and ways of working. In creating and analyzing data from my own implementation of such processes, I am building on the literature about the role of reflection in learning. I believe that my data and analysis can help others to design future studies and experiments focusing on game designers. I also believe that there are still questions left to be asked of the data that I have created, and so, the data itself forms one of my contributions.

One of my major contributions through this work is the development of a methodological toolkit that, though simple, tests many informal theories about recording in-situ design practices

² For more on this mouthful of a term, please see **section 2.8** the **Background** chapter.

and has proven flexible enough to use for different contexts and project types. I used this toolkit over the course of two years to gather data across three significantly different projects. There is a brief overview of the types of data that I collected, as well as how I proceeded to do so and why, in the **Methodology** chapter, while more details about particular projects and which form of data proved most prevalent can be found in the respective project's chapter.

Through this research, I have designed three new hybrid games. Each game encapsulates its own themes and its own unique opportunities for player reflection on a number of intersectional topics. These projects represent efforts to create game experiences that move beyond entertainment and fun as their primary goals. They attempt to explore complex, reflective territory about human connections, identities, and how we relate to one another. As thoroughly-documented and historicized case studies of hybrid games, I hope these will provide insights for other designers and researchers interested in the form.

1.5 Scope and Time

For the purpose of this doctoral project, I undertook three "solo"³ projects. Each of the three design projects took an approximate average of eight months from beginning to end.

In two years of data collection and documentation, I have generated a large amount of data. There will doubtless be stones left unturned and areas of the data that will be underexplored as I focus on my primary research questions. It is my sincere hope that my research data will be useful to other researchers and designers who may wish to investigate similar topics.

1.6 Limitations

To play the three hybrid game projects that I developed throughout my dissertation, my presence, along with the physical interfaces involved, is necessary, and neither are readily shareable or reproducible. Playing these games requires the presence of a skilled facilitator and moderator. For the purposes of this research, it was pragmatic for me to take on that role.

As a result, my sample sizes will be somewhat limited compared to other, larger studies. This means that the data that I can extrapolate from these playtests is also not the type of information from which one might make many generalizable claims about player experience or the effects of certain choices on players. This is not a player-centred study. However, player reception and feedback on the designs remain a crucial part of this research. Playtesting was used for two purposes: to record how people received the games and to use those responses to get a general sense of whether design goals were met, and to allow for iterative design and adjustments to the projects (a piece of technology not working as intended, ruleset adjustments, aesthetic adjustments, adjusting the difficulty level of puzzles, etc.).

The written portions of this research focus primarily on the in-situ experience of my game design process. I focus on examining this process and the records thereof with respect to the

³ With, as I will expand upon in future chapters, the generous help of a variety of designers in my life.

design of a particular type of game, asking what can be learned from making use of various methodologies to both gather and analyze this type of data.

1.7 Communal Health and Safety

Due to the Novel Coronavirus (COVID-19, SARS-CoV-2, severe acute respiratory syndrome coronavirus 2), playtesting for Project 03, *UNLOCK. UNPACK.* wrapped up early in line with Concordia University guidelines regarding human research. As a result, several playtest sessions had to be cancelled, and there is less playtesting data than originally anticipated.

1.8 Positionality Statement

1.8.1 The Purpose of a Positionality Statement

The purpose of a positionality statement is to account for a researcher's subjectivity and way of being in and seeing the world (Davis 2017). It is an acknowledgement that research and knowledge are not created or discovered by neutral, objective entities. We bring ourselves to our research. Our ways of understanding the world shape how we interpret and transmit the results of that research. Further, acknowledging one's position in the world and how those circumstances and experiences shape one's perspective also acknowledges that there are other positions that differ from one's own. This can, in turn, help researchers identify gaps in their knowledge and enable them to seek out other perspectives.

1.8.2 Intersections and Personal Identity

I admit that unpacking these intersections of identity and experience, identifying the different ways in which I benefit from privileges and am oppressed, has been more challenging than I had anticipated. I hope that this and the following section will help the reader to understand, to the extent that this is possible, where I come from as a researcher and some of what has shaped my perspectives about the research that I have undertaken.

I have had Canadian citizenship from birth. As a Canadian citizen, I have access to one of the most "powerful" passports in the world — sharing a ranking for ninth in the world and accepted visa-free or visa-on-arrival in 183 countries (Henley Passport Index n.d.). I grew up the youngest of three children in a lower-middle-class family in Montreal, Quebec, in an (at the time) lower-income neighbourhood called Pointe St. Charles. My mother, who stayed at home with us and later worked a variety of part-time jobs in public-facing roles, did not graduate high school, and my father stopped school partway through college. My father worked as a maintenance worker and mover in a large company with good benefits.

Growing up, I had access to health care, dental care, social programs (supporting education in arts, theatre, technology, gardening, cooking, etc. and in-school snacks and meals) aimed at schools in low-income neighbourhoods, and community programs (such as sports programs, day camps, etc.). I have never had to worry about food security, and my parents were able to save money to help pay for my education in a province with low tuition rates, kept that

way through the struggles of students. As a result, I did not have to go into debt to afford my university degrees. My parents supported me financially throughout my Undergraduate and Masters' degree, providing me with housing and food. Having had the privilege of not needing to work to afford the cost of my schooling, my hours working at part-time jobs did not interfere with my studies.

I was afforded time and opportunity to study. As a result, I was more likely to be able to access scholarship opportunities, which I have been able to do throughout my graduate studies. In addition to monetary support from my home university, I was awarded funds twice from the Social Sciences and Humanities Research Council for my Master's degree and doctoral work. It is a privilege to be able to afford graduate studies. It is a privilege to be able to study a topic such as game design and artistic practices rather than something that will more immediately generate monetary value.

I am a white-passing (so, for practical purposes, white) person of European (French, German, British, Irish, Belgian, Scottish) and Indigenous North American (Mi'kmaq) descent. My mother is part of the Eel River Bar band of Mi'kmaq, whose territories are in New Brunswick and Maine. My mother's family lived in Listuguj, New Brunswick. Though I do not personally experience systemic racism or colonial violence in the same way that a visibly Indigenous person does in Canada in our current context, members of my family, including my mother, have dealt with intergenerational trauma stemming from systemic and colonial violence their whole lives. My mother is also a catholic christian (I think she would insist on the small "c") who brought me to Sunday school and church until I was about twelve — an institution responsible for some truly awful colonial violence, acts of transphobia, and homophobia. I myself am an atheist/agnostic (depending on the day). All of this has impacted my understanding of the world.

From a personal standpoint, I have complex feelings about accessing Mi'kmaq culture and traditions. I am a white(-passing) person with Indigenous ancestry and family. I would like to connect with Mi'kmaq culture, which I have been cut off from by, in many respects, colonial violence. However, it is difficult to know how to ask, whom to ask, and whether it is appropriate for me to ask, or whether it is an imposition on something that does not "belong" to me. As a result, I know much more about my European ancestors because permission to ask has never been a question. I have asked myself whether I am, in fact, inadvertently shoring up colonialism in preserving knowledge of my European ancestors, but not my Mi'kmaq ones. With that in mind, I have recently publicly claimed my identity as Mi'kmaw and begun efforts to create those familial connections and access that knowledge. Nevertheless, this tension is a throughline in my experience with race, ethnicity, and culture.

Having participated in many high-impact sports as a child and young adult, resulting in a number of injuries, not all of which have healed well, I live with chronic pain throughout my body. This pain is largely manageable through orthotics, physiotherapy, a regimen of stretches, stabilizing exercises, and massage techniques. However, it does prevent me from engaging in certain kinds of exercise and limits my ability to do certain kinds of activities. Long flights of stairs are particularly painful for me. Living with this pain impacted how I wrote this dissertation, for example, as I began to experience repetitive motion injury symptoms with my work.

I am a queer nonbinary transgender person in their early thirties who lived twenty-five years of their life identifying (awkwardly and uneasily) as a woman, lacking the language to

describe how I felt about my gender and other aspects of myself. In 2015, having met other nonbinary people and realizing that there was indeed language to express who I was and how I felt, I came out to my spouse, parents, siblings, friends and colleagues. In January 2018, I had a legal name change, and in 2020, I had a bilateral mastectomy (also known as top surgery). My spouse (a white cisgender man who grew up in the same neighbourhood as me) and I have been together since 2007 and have been married since 2014. Since coming out, I have become increasingly involved in queer communities and am currently the lead co-organizer for the Queerness and Games Conference (QGCon n.d.).

These intersections of identity and my experiences resulting from them have shaped my understanding of this research. Indeed, they have made it possible for me to approach this research with an eye sensitive to the systems that operate around and through other people and me. I am an intersectional feminist and, so, one of my goals throughout this research, and throughout all my interactions, really, is to do my best to listen and think through the perspectives that other people bring to the table, do as little harm as possible, and generate as much good for marginalized people as possible.

My awareness of these intersectional topics thoroughly shapes most of my interactions with other humans. Specifically, in my research, intersectional feminist theory and the intersections that I specifically stand at impact how I have written about my work, how I work with others when I am engaged in design work, what topics I take on in that work, and how I broach them.

1.8.3 Scholarly Background

I come to this research as a designer writing about my own design processes.

My prior degrees have been primarily arts- and humanities-focused. My undergraduate degree is in English and Creative Writing through a joint honours program. In addition to core courses related to these disciplines, I took classes in math and science, language learning courses, and more communications studies courses, as well as a singular introductory game studies course. My Master's degree is also in English and Creative Writing, with a focus on Middle English literature, contemporary Russian literature and genre literature.

My games studies education began in earnest part way through my Master's degree with a game development course. Throughout my time in Concordia University's individualized doctoral program, my studies have focused on the areas of human-computer interaction, critical design, intersectional feminism, queer game studies, performance and theatre, computer programming, game studies, game design, and physical making. For more on the specifics of these areas and how they relate to my project, please see my **Background** chapter.

My approach to this and other research topics has always taken into account and, whenever possible, been written from, a practitioner's perspective. My research is informed by lived experience with those practices and forms as well as by academic research. For example, when I wrote my Master's thesis about scuba diving, I sought strategies for how to communicate through and with its complex technical terminology in an accessible way to tell stories from the Canadian coldwater diving community. At the time, I was already a long-time coldwater diver and writer — a practitioner, in this context. I supplemented this knowledge through data

collection trips where I went diving with my local club and listened to their stories. This thesis took the form of research-creation and resulted in a series of short stories about the diving community and the experience of diving. I believe that practitioners' and artists' knowledge and perspectives are essential to furthering academic knowledge on such topics.

1.9 Overview

Chapter 1 is comprised of the **Introduction** that has come before this statement, introducing the genesis of the project, my research questions, the goals, focus and contributions that this doctoral project will make, sections delineating the limitations and scope of the research, as well as a statement regarding my positionality as a researcher.

Chapter 2, the **Background** chapter, provides an overview of the relevant literature for understanding the different areas of knowledge that this work draws on. These include queer game studies, intersectional feminism, critical design, critical game design, game design that does not explicitly position itself as critical, practice-based research, performance and theatre, larp (live-action roleplaying), hybrid games, and personal archival practices.

Chapter 3, **Methodology**, explores contemporary views and approaches to autoethnography, critiques of autoethnography, and my own particular approach to the method. Following this, I discuss my data production and archiving methodology, approaches to iterative game design and playtesting, and the use of grounded theory for data analysis.

Chapters 4 (**Project 01: Flip the Script!**), 5 (**Project 02: TRACES**), and 6 (**Project 03: UNLOCK. UNPACK.**) address each of the three research-creation projects that I created over the course of two years. For each project, I describe the finished project in detail, discuss its genesis and traceable influences, the particularities of the context that it was made in (where, how, and some biographical context), what strategies I used to design it, what can be learned from the traces and materials that I gathered or created during the process, as well as what could be learned from playtests and the challenges that I faced.

Following this, Chapter 7, the **Conclusion**, situates this research amidst the larger field of critical game design research and provides an overview of my contributions, discusses answers to the research questions proposed in this chapter, and ends with an exploration of the limitations of the project and potential future directions for research and critical hybrid games more broadly.

BACKGROUND

2.1. An Entanglement of Influences

As a result of the close autoethnography and documentation work that I have undertaken in the two years since the data collection phase of this project began, it is difficult not to think about how even a single source of knowledge can lead down many strange avenues. My research and personal interest have taken me to many places, and these areas have had an influence on my work. The challenge lies in delineating the boundaries of what it is possible to discuss as part of the background without overloading the reader.

In this chapter, I draw throughlines across major areas of influence and thought that have been integral to my design methodology and to my creative practice, reserving project-specific sources for the corresponding chapter in which said works are discussed. These areas include Queer Game Design, Intersectional Feminist Theory, Critical Design, Critical Game Design, Game Design Practice and Methods, Practice-Based Research and Research-Creation, Performance and Theatre, Live-Action Role Play, Hybrid Games, and Personal Archival Practices.

It is worth noting that it would be possible to divide these areas into two parts: those that have affected the "creations" in this research-creation project thematically and in terms of design influences, and those areas that inform this written portion of the dissertation. It must be said that with so many areas of influence for this project, I am neither an expert in every area nor am I necessarily making an original contribution to each of them. Where my work contributes most clearly is to critical and queer design practices and methods, as well as to the area of hybrid games.

I firmly believe that practitioners are experts who create knowledge, whether or not they are working within an academic setting. This means that, when a community expert is the best source, I have included non-traditional sources that have been essential to me. This aligns with a view of knowledge creation that is skeptical of hegemonic sources of authority while remaining rigorous about these non-traditional sources. This is particularly necessary for a creative context such as game design, where spheres of practice and academic study do not always overlap as fully as they might.

2.2 Queer Game Design: Designing Queerly and Designing While Queer

There is a growing subfield of game studies known as "queer game studies" that explicitly explores queer game design and designers (these are not always necessarily the same), queer remediation and readings of works, and queerness — including but also moving beyond representation — in games.

I developed an interest in queer game design and queer theory as I began to claim and explore my own queerness. Through personal exploration and contact with other queer thinkers and designers such as Dietrich Squinkifer and Allison Cole, with who I have collaborated often, I became further involved in this rapidly-expanding field. Since 2017, I have been involved with

organizing the Queerness and Games Conference (QGCon) and have served as the lead co-organizer since 2018.¹

In the past, I had struggled to find working definitions of *queer*, *queering* and *queerness* that were flexible enough to include the many paths and rhetorical turns that any definition must be flexible enough to include while also being cautious not to empty the term of meaning. As Kara Stone notes about the term "queerness" in our recent co-interview:

I am hesitant to divorce it from the sexual and the gendered, and definitionally move it ¹to something as broad as "the non-normative"[.] I understand the rhetorical device to argue queerness in everything, to make it natural and indestructible, but in a practical way I worry it falls apart. If queerness is opened up to be non-normative, that includes quite a few cis straight men indie game designers, and I worry that will then make people be act [sic] as if, 'well it's already queer so no reason to include other people.'

[...] When thinking about queerness [in] this intrinsic way, I want to be careful not to suggest that everything I do is queer because I am queer, or I am trying to form a queer practice. There are times in which I may re-inscribe heteronormativity if I'm not conscious and careful, as heteronormativity is so pervasive we need to be constantly tearing it down.

(Marcotte & Stone 2019)

There are many boundary questions and objects that must be considered in these definitions. Annamarie Jagose argues, "It is not simply that queer has yet to solidify and take on a more consistent profile, but rather that its definitional indeterminacy, its elasticity, is one of its constituent characteristics" (1996). Bo Ruberg tells us that "Being queer is about being different and desiring differently" (2015b), while Sara Ahmed argues for the preservation of two senses of the word "queer": "First, [...] as a way of describing what is 'oblique' or 'off line'" and, "Second, [...] to describe specific sexual practices", noting that that "specific sexualities [are] describable as queer in the first place [because] they're seen as odd, bent, twisted" (2006). Similarly to

¹ The conference, its organizers, and its presenters have been key in helping the field of queer game studies coalesce and grow. It has spawned, for example, a special issue of *Camera Obscura* co-edited by QGCon organizers Bo Ruberg, Christopher Goetz, and Teddy Pozo (Pozo, Ruberg and Goetz 2017), as well as two special issues of *First Person Scholar* (Ruberg 2015a, Marcotte 2019g). Additionally, QGCon's 2013 "The Arts of Failure" session, featuring queer studies scholar Jack Halberstam (*The Queer Art of Failure* 2011) and game studies scholar Jesper Juul (*The Art of Failure* 2013) in conversation with one another, was recently transcribed for *Queer Game Studies* (Shaw & Ruberg 2017).

Jagose, Ahmed notes the importance of the flexibility of the term as it moves across different conceptual registers:

[If] we return to the root of the word "queer" (from the Greek for cross, oblique, adverse) we can see that the word itself "twists," with a twist that allows us to move between sexual and social registers, without flattening them or reducing them to a single line. Although this approach risks losing the specificity of queer as a commitment to a life of sexual deviation, it also sustains the significance of "deviation" in what makes queer lives queer.

(Ahmed 2006)

After great deliberation, and, as contextualized above, it is this working definition that I have settled on as being most useful for my design-related purposes:

After Ahmed, I take queering as a verb to mean to reorient, redirect, to deviate (2006, p. 161). It is this reorientation and redirection that allows queer designers to bring the 'difference' to design that Ruberg tells us we need for "our discussions of video games and the experience of play" in order to provide alternatives to the status quo (2017, p. 113-114).

(Marcotte 2018a)

Queerness as orientation and intersection of lived experience is about our desires for our own and other bodies, at the same time as being about ways of thinking and relating to the world that are "oblique" to the heterosexist status quo.

(Marcotte 2018a)

So, what does it mean to design queerly? It seems likely that as the status quo shifts, so will the goalposts of what it means to be queerly oblique and bring difference to our design. That willingness to shift and change, to take things as they are and imagine how they might be different, seems core to the exercise. It is difficult to pin down what it means to design queer games, but this is a feature of queer design — part of what makes it queer is its mutability and definitional difficulty. It is largely defined in opposition to the status quo, similarly to critical design. This particular opposition involves the messiness of bodies and desires. It involves being at odds with a world that often actively seems to want to harm and silence us as designers, to want to make us more neat and seemly, in some way "easier" and more palatable to a cis and hetero-normative status quo. When queer people take up space and make work that speaks to them or expresses that queer part of them, that is queer game design.

I have stated elsewhere that "[u]ltimately, inclusive, actionable theories of queerness in games must include intersectionality as a core concern, or risk reproducing the same hegemonic structures that intersectional feminist and queer games theorists are concerned

about" (Marcotte 2018a). When it came to finding examples of queer game design, I quickly noticed that queer games and intersectional feminist games have a great deal of overlap. Although I've separated these sections according to their theoretical histories and threads of discussion, I have chosen not to separate these examples of queer games from intersectional feminist games. The examples that I have provided fall under both categories.

Dietrich Squinkifer's *Coffee: A Misunderstanding* (2014) is an experimental participatory theatre piece for four or more players — five, including the moderator or “director” played by Squinkifer. Two participants are the actors or “puppets” (Squinkifer 2015). The puppeteers or “drivers”, who are also given a pair of iPod touches, sit in the audience and control the puppets from that vantage point (ibid). The puppeteers communicate instructions to the actors from a list of choices on the devices. In their role as the moderator, Squinkifer takes on a director’s role, occasionally superseding the “drivers”, adding directions for the actors, cueing up events such as which sort of music the house band plays, and making choices that alter certain parameters and paths that affect the narrative, including the “weirdness level”.^{2,3}

The piece is designed to be played multiple times in one session with the same audience, similarly to Boal's *Theatre of the Oppressed* techniques (Boal 1979). The performance usually begins with a “baseline” playthrough to establish the basic narrative, which is about the creator of a fairly popular webcomic attending a conference and meeting a fan. The system in place is extensive, and any one session of play only shows a fraction of the narrative possibilities. Some paths are well-worn and commonly played out, while others have yet to be performed at all. Some of the themes and topics explored are fan culture, social awkwardness, queerness and gender identity, sexism, racism, homophobia and transphobia. The subversion of so-called cultural norms is a key concern for Squinkifer:

As we as a society become more aware of the experiences of women, people of color, queer people, transgender people, poor people, and people with disabilities, we gain greater awareness of the fact that what we consider to be the 'normative' progression from childhood to adulthood is nowhere near as onesizefitsall [sic] as we may have been led to believe. There are as many ways of being in the world as there are individual people, and it is absolutely important for our art[,] and this includes our videogames[,] to reflect this.

(Squinkifer 2015)

The examples that I will discuss below have this curiosity and questioning about normative structures and “ways of being in the world” in common. Each questions, in some way,

² I have been told in conversation with Squinkifer that this is an actual parameter in the control system.] (ibid).

³ The performance may also include the House band, which provides improvised music to accompany the scene.

what it means to transgress or defy the expectations of "polite society" — which is to say, the cissexist, heterosexist, white-dominated, often ableist status quo.

In Kara Stone's *Ritual of the Moon*, players take on the role of a witch who has been exiled to the moon (2019). In "Time and Reparative Game Design: Queerness, Disability, and Affect", Stone writes about this project with a focus on thinking through queer notions of time and rhythms of creativity and work, especially as these relate to psychosocial disability (Stone 2018). Stone explicitly points to queer theories of time, especially as these relate to normative milestones, ideas of marriage, family, and other rhythms of living. As a comet approaches the earth, the witch must decide whether to save the earth or let it burn.

The game is played over the course of twenty-eight days in small, five-minute increments. Every day, the witch chooses how to use her power, and these accumulated acts determine the outcome of the game. Most of the game's assets were made with physical crafting techniques before being digitized. The text in the game, for example, was hand-embroidered and wood-burned, with many of the textures in the game started as collages or other physical crafts. Stone notes that the team used yarn, paper, clay, quilting, solder, and other crafting media. Drawing on the work of Ann Cvetkovich, Stone connects this to feminist histories and futurity, and queer ways of inhabiting one's own body:

The slow and sensual process of crafting can be a healing experience. It is also important to note the ways in which crafting has been taken up recently, "lest crafting seem pervaded by nostalgia for the past, it is important to note that it belongs to new queer cultures and disability cultures that (along with animal studies) are inventing different ways of being more 'in the body' and less in the head." ([Cvetkovich 2012,] p.168). Although it may seem unique to have handmade art in a videogame, the digital and the handmade are more connected than most realize. The history of technology is interwoven with that of women's work and traditional crafts. We aimed to sew together dichotomous ideas of handmade and digital, the past and the future, magic and science fiction. [...] Early film editing was also seen as women's work, similar to sewing. Pixel art is constructed in the same gridded way as cross-stitching. The connection between craft and technology does not exist only in the past: current technology is made by young women of colour in low-paying factory jobs wrapping thin wires in a specific pattern, bonding to chips, and packaging.

(Stone 2018)

As *Ritual of the Moon* parcels out its story across the twenty-eight days of play, and the player learns more about the exiled witch, there are more complicated feelings that come into play than just the binary of "preservation is good" and "destruction is bad". Speaking to this, Stone says:

The daily decision of protecting or destroying the earth seems like an easy choice. Protection and healing is always better than destruction, right? But something that has been reaffirmed over the political landscape of 2016 and 2017 is that some things need to be destroyed. We need to wipe some things out and sweep away their ashes before we have the space for something else.

(Stone 2018)

When playing, I discovered that part of my experience with the game's durational aspect was that my connection to the earth wavered and changed depending on the day. Committing fully to the game's fiction for just those minutes in my day, I tried to imagine what it would be like to be the witch. There were days when I felt completely disconnected from any care for a world that I could not communicate with, that had exiled me for unfair reasons. On other days, I could call to mind many wonderful things about the world and the beings that existed in it, something worth preserving. Why save a world where I had been rejected for being myself? What did I owe the people who lived there? This meant interrogating my own beliefs around restorative justice, about structural inequalities, and about what it means to try and fix or remediate broken institutions that often seem monolithic and in many ways immutable — a reflection that continues in **section 2.3** of this chapter vis-a-vis discussions of decolonization and demarginalization.

Momo Pixel's *Hair Nah* (2017) is a game about the experience of a black woman who is tired of people touching her hair. The game is humorous in tone but pointed in its message, from the pun title to the exaggerated martial arts-like swinging of the main character's arms around the screen to fend off the people trying to touch her hair. On the project page, Pixel explains that "*Hair Nah* is a response to the perverse action of touching a Black woman's hair without permission. The micro-aggression of assumed authority and ownership of black bodies" (Pixel n.d.). *Hair Nah* is a game that explicitly deals with an experience outside of that of the typical imagined audience for videogames. Using the two fairly-typical game mechanic "verbs" of "hitting" and "defending", it explores the intersection of identity of being black and a woman, and having features (in this case, textured hair) that are atypical of the dominant white culture.

The game's win screen also serves as a further artist's statement: "Way to go, girl! You made it. The game may be over, but this experience isn't. It's an issue that black women face daily. And to those who do it: STOP THAT SHIT" (2017). Pixel positions the game as being both a game that centers black women and their experiences, meant for them to have a laugh, while simultaneously stating clearly that, for those (white) people who think that it is okay to touch anyone without their consent, this is absolutely not the case, and they should stop. One can imagine how frustrating this experience must be. Simultaneously, expressing this frustration can be a fraught, potentially even dangerous experience for black people due to tone policing and respectability politics.

Brianna Shuttleworth's *Pillow Talk* (2018) juxtaposes the act of conquering territory (or capturing zones, as Shuttleworth puts it) with the act of conversing about the potentially quite intimate topic of one's current (one assumes romantic) partnership:⁴

Pillow Talk explores communication, external stresses, and past romances with your current partner. The game takes place on a throw pillow placed between participants. They are to keep a form of physical contact with their partner for the duration of play. Most players will choose to hold each other's hands.

The game is a zone capture strategy game where the two players compete for the most captured area on the pillow. Each player has the option to move or place a new piece on the pillow every turn or to move or put an external blocker on the board which can be a disruptor to the other player.

While the play is in progress, the players answer a set of questions about their relationship. Responding to the questions and creating dialogue around them is the only form of verbal communication that can happen until the end of the game.

The game will end when there are no more moves possible to players. A winner is decided by a conversation between the two players if no agreement can form within a reasonable time then both players lose.

(Shuttleworth 2018)

I first encountered this game at the Queerness and Games Conference in 2018 (QGCon n.d.). What is most interesting about this game is the tension between the two main actions the player is asked to perform in the game and what affective response and meaning each is given by being placed in relation to each other. Playing a game that is framed as competitive with a partner while discussing the intimate details of that relationship forms is a juxtaposition with a lot of potential for tension. However, while the description says what actions players are meant to be performing during play, the *goal* remains unstated. This raises the question of what other potential goals the players could reach for instead. Will they commit to capturing as much territory as they can? If they aim only to win, what will happen with their intimate conversation? What impact might this have on their relationship? What does it even mean to win in this context? Can winning in one sense mean losing in another? How does being actively reminded

⁴ Though the game description only says "with your current partner", and certainly there is plenty of queer and queer-adjacent theory about the oddness of assuming that one's strongest, most important, or primary relationship(s) is (are) one's romantic one(s).

of their relationship affect the player's strategy and desire to capture territory? The answers to these questions are potentially quite different for each couple that plays.

With these examples in mind, which also address intersectional feminist topics of concern, I turn my attention to intersectional feminist theories of writing and practice.⁵

2.3 Intersectional Feminist Theory: Responsibilities and Questions

Writing in a tradition of women-of-colour feminist thought (i.e. Moraga & Anzaldua 1983), Kimberlé Crenshaw proposed the term intersectionality to explain how the experiences of black women differed from both that of other women and of other black people (1989). Crenshaw theorizes that the combination of these two identity positions created complex dynamics and subjectivities that operate within larger systems of privilege and oppression (Ibid). Since its inception, many theorists have expanded upon the term to include other intersections and ideas (i.e. Collins 2000).

To be an intersectional feminist game designer and thinker means to establish, renew, and continually practice awareness related to power, privilege and oppression, including race and ethnicity, gender, sexuality, class, physical ability, mental health, nationality, and power relations and dynamics. It is a commitment to interrogating our first impulses and assumptions and establishing one's own position (known as positionality) within these systems (Davis 2017). It is to acknowledge that systemic forces affect our and others' experiences of the world, that we cannot escape our own subjectivity. Our perspectives are shaped by the positions that we occupy within these systems.

Acknowledging the impact of systemic forces, privilege, and oppression means acknowledging that there are barriers that make it more difficult for marginalized people to find and keep a place in academia. There is no comprehensive picture of the demographics at the intersection of, for example, gender, sexuality and race in either the games industry or academia, either at a national or international level. However, given the picture painted by the statistics for the individual categories of gender and race when it comes to including marginalized people, it seems unlikely that people at the intersection thereof are faring much better.

Within academia, women and marginalized people struggle with stability, with few holding tenure track positions. A survey of data sets between 1993 and 2013 notes that, "[w]hile underrepresented minorities [in the United States] held 12.7% of faculty positions in 2013, up from 8.6% in 1993, they held only 10.2% of tenured positions. Similarly, women in 2013 held 49.2% of all faculty positions, up from 38.6% in 1993, but just 37.6% of tenured positions" (Finkelstein, Martin Conley & Schuster 2016). To my knowledge, there have not been comprehensive studies about LGBTQ (lesbian, gay, bisexual, transgender, queer) academics in this area.

⁵ For more examples of queer games, see the QGCon website, which archives the Arcade games for each year that the conference has taken place (n.d.). For games with LGBTQ representation (whether or not that representation is positive), see the LGBTQ Video Game Archive (n.d.).

The most recent survey of creative workers in the United Kingdom places the number of people of colour or "from ethnic minority groups" in the game industry at just four percent (Creative Skillset 2015). The Game Developers Conference "State of the Industry survey", a yearly survey with a sample size of approximately 4000 workers places the number of women in the industry at 20%, with 2% of workers identifying in the "other" category and another 2% declining to respond.

The State of the Industry survey does not mention race or sexuality at all (GDC 2019). Additionally, game industry workers face a great deal of precarity, with many positions involving short- to mid-term contract work, and the ever-present reality of "crunch" (intense periods of overtime work to meet unrealistic production schedules) leading to an average career length of three to six years (GDC 2019). Labour issues and unionization efforts are on-going, as with the Game Workers Unite movement (Woodcock 2019).

All of this means that many of the thinkers and creators who may tell us the most about where intersectional game studies and game design need to take us may no longer be amongst us. In fact, they may never have been welcomed there to begin with. So, given these statistics and this information, what does the feminist game studies landscape look like, both historically and today?

As Adrienne Shaw notes in "Are We There Yet? The Politics and Practice of Intersectional Game Studies",

Throughout academia, work on gender, race, class, and sexuality is often siloed. Moreover, as Belkhir and Barnett point out, the study of each category (race, gender, and class) is often marginalized in academic fields, and the research itself is done by those who are marginalized within academic spaces. The issue, then, is not that we need models of methods and modes of analysis; instead, we need to demarginalize intersectional work.

(2018)

Shaw takes the position in this article that the field of intersectional game studies has existed for a long time. Yet, Shaw tells us, despite its long history, the work of scholars attending explicitly to this subject is often isolated, "siloed," and "pigeonholed on the very axes of identity we are trying to explore intersectionally" (Ibid). In the case of Shaw's book, "Gaming at the Edge," which was subtitled "Sexuality and Gender at the Margins of Gamer Culture," Shaw tells us that the subject matter was oversimplified by marketing teams for easy palatability even though it attends to matters of race, religion, class and other experiences (Shaw 2018, 2014).

Shaw's arguments in "Are We There Yet?" deal with the dual histories of mainstream academic games discourse and that of the separate silos in which marginalized writers have been placed. Firstly, Shaw proposes that intersectional feminist work has always been a part of game studies. Secondly, Shaw elaborates that this intersectional feminist work is not visible because it is marginalized and relegated to certain siloes. Finally, Shaw proposes that

intersectional feminist game studies (and I read this as being about the field writ large) cannot happen if scholars do not understand intersectionality.

Intersectionality is (and this is my own somewhat acerbic rewriting of Shaw's argument) not a new buzzword replacement for "diversity." The term "diversity" has, over time, been emptied of meaning, used so often by institutions to champion feel-good initiatives with nebulous goals and difficult-to-measure results in service of optical allyship⁶ and unfortunately often at the expense of meaningful change to institutional cultures. This a concern that the Decolonising Design Group takes up in a 2017 roundtable, addressing the issue around how the language of political movements becomes co-opted for credibility and clout by scholars from dominant discourses, and how this has played out in other contexts:

I too have noticed the currency of the term 'decolonizing' being reduced to a hollow gesture. I fear it is traveling in a similar direction to the way the term 'sustainability' was co-opted for neoliberalist means in design. In the last few years, decolonizing practices and movements have proliferated, with some fitting the kind of decolonizing design praxis I would describe as a political ontological design of plurality for sustainment, and others not. The latter are, at best, a token gesture of learning a new set of terms.

(Schultz et al. 2018)

Building intersectional feminist game studies is not a simple numbers game or a matter of learning (or perhaps co-opting, as Schultz et al. say) new terminology. Academia cannot simply increase the number of marginalized people in the field until they fix the problem for the privileged group and assuage their guilt. Intersectional feminist game studies will require us to take up, name, and address our positionalities explicitly. As Shaw notes,

Unless game scholars make intersectionality central to all of our work and understand our own positionality in relation to the research we produce, cite, and assign, then it will always seem like we need to go out of our way to do intersectional work.

(Shaw 2018)

If intersectional feminist scholarship is less visible within Game Studies, it has less power to shape discourse and less reach. Although Shaw tells us that intersectional feminism is a part of the history of game studies, Shaw's later work acknowledges that this is not what an overview of the field most clearly depicts. According to the Oxford Feminist and Queer Game Studies bibliography (an excellent bibliography that I would recommend as an overview), compiled and annotated by Shaw, Agloro, Nguyen, Phillips, and Ruberg:

⁶ For a primer on this term, see "Day 19" in *me & white supremacy* (Saad 2020).

Much of feminist game studies might more rightly be called women's game studies, as the feminist goals of the work were largely focused on ethnographic and qualitative scholarship on women and girls who play and make games. Research on masculinity in games comprises a much smaller subcategory of research. A related but separate thread of this work includes feminist analyses of game texts, as well as feminist critical game making praxis. Importantly, feminist game studies has existed for as long as game studies has been around (being formally named as such around the year 2000), questioning essentialist and hegemonic approaches to gender differences in game play and production. However, it took several years for feminist game scholarship on the whole to adopt an intersectional approach that could account for how gender presentation, sex, sexuality, race, age, embodiment, and so on shape game play experiences, the game industry, and textual representation.

(Shaw et al. 2019)

Here are some key textual examples of how this has played out in the popular understanding of the literature. For a long time, gender representation in terms of who was playing games and, later, who was making games, was largely the lens through which (white) feminist concerns were present in game studies. Earlier articles often also leaned heavily into gender essentialism and the gender binary. They do not represent an intersectional approach to feminism or game studies.

For example, in "A Game of One's Own" (Fullerton, Morie & Pearce 2007), the authors characterize differences between male and female relations to space: the "feminine impulse" is to gather, put together, construct, and the "masculine impulse" is to scatter, disseminate, destroy. In particular, First Person Shooters are cited as a genre that values particular, "male-oriented" skills. Male-oriented games have a variety of barriers to entry, including escalating difficulty across levels and insider knowledge. Their "Girls in Boyland" section discusses playground behaviour across genders. The calls for inclusivity suggest that girls must be "allowed" into male-gendered spaces so that they can "learn to play by those rules" and in these unfriendly environments. This framing characterizes these play spaces as belonging to the boys and the girls as intruders upon the space.

And, in response, other authors question this essentialism. For example, in an important move, Jenson and de Castell draw on the work of Judith Butler to provide an overview of the "lay of the land" of gender and game studies, of the "conventions and 'norms' that are often repeated when writing and talking about women/girls and playing digital games (2008). They then show how those 'norms' are often misinterpreted, indeed mislabelled as 'evidence' for a stable 'fact' about gender" (Ibid). After Butler, they remind the reader of the necessity of "distinguish[ing] between what appears to be an essential, authentic or inner 'truth' of gender from daily performances of gender conventions that, through their repeated embodiment in actions and self-representations, make those conventions, that artifice, appear both necessary

and natural" (Ibid). Further, their work suggests that it is important to consider whether gendered differences in certain kinds of play, especially when it comes to videogames, could be attributed to other phenomena — rather than "boys" and "girls," for example, perhaps researchers could be talking about "novices" and "experts," or, people who are encouraged to play videogames because of gender stereotypes, and those who are not.

It is easier to name intersectional feminist game studies texts from the last decade (see: Shaw 2014, Gray 2015, Gray & Leonard 2018, Shaw et al. 2019). Further, we are now beginning to see keywords that are explicitly intersectional, or even name intersectionality in their titles, such as *Woke Gaming: Digital Challenges to Oppression and Social Injustice* (Gray & Leonard 2018). There is a shift that authors in the field are clearly aware of between *From Barbie to Mortal Kombat* (Cassell and Jenkins 1998) to *Diversifying Barbie and Mortal Kombat: Intersectional Perspectives and Inclusive Designs in Gaming* (Kafai et al. 2016). The importance of naming one's epistemic framework and positionality has begun to become a part of best practice, even though it perhaps still risks pigeon-holing authors in special issues and book subtitles that are more marketable than accurate.⁷

Moving beyond the demarginalization of game studies scholars and the silos of publishing, these discussions raise the question of what it means to demarginalize (as above, after Shaw 2018) game design.

Decolonizing design shares many of the same concerns as demarginalizing game design, especially where these relate to marginalized identities of race, gender, class, sexuality, legal status, and so on. Ece Canlı of the Decolonizing Game Design Group argues that "decolonizing design praxis, research, and pedagogy [can be thought of] not only as a form of 'doing' [...] but also as [a] form of 'undoing,' as an act of passivating, unravelling and no longer contributing to material-discursive configurations that privilege certain bodies while oppressing and dehumanizing others" (Schultz 2018). In other words, in order to decolonize and demarginalize, there may be certain hegemonic structures that need to be done away with entirely. This includes institutions that ultimately bolster white supremacy (to start with) and colonialist ideas of value and power.

To put it another way, this is not just an additive process, as with building intersectional game studies. It is not simply a matter of adding more marginalized people to these structures that they will fix themselves. Rather, outside of this dissertation's scope and the design work that I have done for it, demarginalizing means that the dominant groups will have to give up some of their power and lose some of their privilege. This loss is not something being taken away, exactly, but rather something that has long been present but unearned being returned to a more equitable state. Through the process of creating more equitable social structures, the power granted by holding certain identities (i.e. whiteness, maleness, cisgenderness, etc.) will shift until it no longer exists. That is an uncomfortable prospect for many.

⁷ Although it is outside the scope of the present discussion, it is worth interrogating the marketability of "woke" terminology like intersectionality and feminism in the present moment. This contributes to the "emptying of meaning" of politicized terms, as discussed above regarding "diversity" and "sustainability".

For structures and practices, this could mean rethinking evaluation practices, altering ways of teaching (both within the field of design and more broadly), changing those ways of determining value that center the dominant group, and so on. In the interim, as Canlı suggests, it may be timely for marginalized people to stop "playing the game", so to speak, of these hegemonic structures, and contributing to the formation and value of structures outside of them. This is a difficult request to ask of already-marginalized groups. Yet if dominant structures continue to marginalize and undervalue them, marginalized designers are not gaining from helping to preserve them through their labour.

Though it is possible to have a thematically intersectional and feminist game in terms of its content, intersectional feminist game design research is in many ways less about what has been produced at the end of the process and more about the practices around the design and making of the project. There are intersectional feminist design practices as the work is in progress, and then there are games with intersectional feminist themes and content. The examples that I have chosen to discuss concerning intersectional themes can be found in **section 2.2** of this chapter (as they also happen to be queer games). What follows are some of the ways intersectional feminist practices show up in my work as both a scholar and designer within the scope of this dissertation.

To start, I emphasize in my research that there are people outside of academia and academics in junior roles who are creating important works and knowledge that do not fit the traditional mold. In some cases, the academic world is inaccessible to them because of systemic barriers. This is why my citational practices include non-traditional sources.

Similarly, one of my chosen methods is autoethnography, a choice which I will discuss in detail in the **Methodology** chapter. Autoethnography has struggled for respect and legitimacy, but is now gaining increasing traction, particularly among queer and intersectional feminist scholars. This is because it provides access to subjects of study that are quite complicated, practically, ethically, and politically, to reach through traditional ethnography or other methods.

Intersectional feminism also informs my creative practice in terms of how I approach collaboration (power dynamics within a group, project management), compensation (such as ensuring that I pay a living wage for services that I require, such as transcription), and even the subject matter that I choose to make games about. As I have noted in the past:

Designers may choose not to address subjects and areas with which they do not have lived experience and knowledge, may engage consultants who do have this lived experience and do careful, thorough research, or may choose to collaborate with someone who does have that lived experience so that this person can "speak" for themselves (understanding that one person cannot speak for a whole group).

(Marcotte 2018a)

In my work prior to and through these three dissertation projects, I have also often chosen to engage with intersectional feminist concerns intentionally in the themes of my work, such as questions around consent for non-sexual contexts (Cole, Marcotte & Miller 2014),

radical softness (Marcotte and Squinkifer 2017a, Pozo 2018), and experiences with gender and sexuality in a variety of contexts (Fisher, Lunga and Marcotte 2013, Cole, Marcotte and Obin 2014, Marcotte and Squinkifer 2018a, Marcotte 2019a).⁸

2.4 Critical Design: Crafting Speculation, Designing for Reflection

Critical Design is a field usually thought of as relating to industrial design and the making of physical objects (Malpass 2017). The term 'critical design' was introduced in 1997 by Anthony Dunne to describe the activities of a group of artists and researchers that included himself and Fiona Raby (Dunne 2005, Malpass 2017). It is commonly understood to comprise a number of practices, frameworks, and approaches, all intended to challenge the status quo of what can be called "affirmative design": "design activity that represents a governing mentality in product and industrial design [that] constitutes widely shared values, norms, and expectations of how product design operates" and is primarily driven by the concerns of the market and profitability (Malpass 2017).

Another way of thinking about affirmative design is that it reinforces rather than questions existing hegemonies. Dunne and Raby describe the relationship between critical design and affirmative design, as they originally conceptualized it in the nineties, thus:

Our definition then was that "critical design uses speculative design proposals to challenge narrow assumptions, preconceptions, and givens about the role products play in everyday life." [...] It was more of an attitude than anything else, a position rather than a methodology. Its opposite is affirmative design: design that reinforces the status quo.

(2013)

It is possible to reinforce certain parts of the status quo while also questioning others. For that reason, I posit that the split between critical and affirmative design should be viewed as a spectrum rather than as two binary opposites. Further, any project must be looked at along multiple dimensions. Projects can be simultaneously critical and affirmative in different respects. This idea is further clarified in the discussion of critiques of the critical design literature, which can be found further on in this section.

The history of critical design is not uncontested. Malpass argues that the common conception of the history of critical design ignores earlier traditions:

Conceptual and critical forms of industrial design have roots in artistic and avant-garde practices, with the earliest form of critical design practice developed in Italy during the late 1950s. This

⁸ I originally wrote up the statistical research presented here for a grant submission to gain support for the Queerness and Games Conference [QGCon], for which I am the 2020 conference lead co-organizer.

movement has been described in a number of ways and termed 'radical design', 'anti-design', and 'counter design'.

(2017)

In addition to these early exemplars, modern practices that are usually considered under the umbrella term include speculative design (Auger 2013), ambiguous design (Gaver, Beaver, & Benford 2003, Sengers & Gaver 2006) and, more specific to games, reflective game design (Khaled 2018) and critical play (Flanagan 2009), which are addressed in **section 2.5** in relation to critical game design. In his taxonomy of critical design, Malpass positions ambiguity as a design method rather than a distinct category, one that the three overarching categories he names (critical design, associative design, and speculative design) share but use in different manners (Malpass 2017).

Auger describes speculative design as "remov[ing] the constraints from the commercial sector that define normative design processes [...] and us[ing] fiction to present alternative products, systems or worlds" (2013). Given that, I argue that using ambiguity to present alternatives is also a distinct, if compatible, category of design, rather than something that can be collapsed within critical, associative and speculative design. Ambiguity is a common feature of queer theory and design as well, but consciously designing and working with ambiguity in a project is not common to all queer works. Ambiguity is about control of meaning and interpretation. Indeed, the literature about ambiguity in design suggests that designers can create what they wish but cannot fully control that players might experience something unintended by the design, as they bring their own experiences and knowledge to the experience (Gaver, B., Beaver, J. and Benford, S. 2003, Sengers & Gaver 2006). Therefore, a proscribed mapping of specific types of ambiguity as subordinate to these other larger categories of design seems inaccurate. Naming ambiguous design as its own category gives us the power to design with it broadly in mind and address it. As I have said elsewhere, "while designers cannot ensure that those experiencing our design work will feel or think exactly what we expect, we can create contexts and situations that encourage certain effects" (Marcotte 2018a).

Recent salient critiques of the dominant critical design literature and well-known approaches in the field come from the explicitly intersectional and feminist Decolonizing Design Group, comprised of Tristan Schultz, Danah Abdulla, Ahmed Ansari, Ece Canlı, Mahmoud Keshavarz, Matthew Kiem, Luiza Prado de O. Martins and Pedro J.S. Vieira de Oliveira (Schultz et al. 2018). They point out that while speculative and critical design employs and positions itself as contributing to a "supposedly counter-hegemonic design vocabulary", most well-known examples from the canon fail to address the positionality and privilege of the designers creating the works or to engage critically with the status quo:

[Speculative and critical design] acts as the mildly dystopian wing of the status quo, an asset of and for coloniality; instead of questioning hegemonic discourses, it depicts futures in which the systems of the colonial matrix of power are still intact, only glazed with a thin layer of middle-class dystopia [...] Modernity, capitalism, patriarchy and whiteness are not only assumed to be 'universal' or

'neutral' modes of existence in the world, but also to continue to be the pillars upon which the future must be built.

(Schultz et al. 2018)

Mainstream critical designers have largely positioned themselves within industrial design spaces. They have done so almost too cleanly. The polished and sleek artefacts most often held up as prime examples of critical design could easily belong in a commercial storefront. In so doing, the field has failed to make space for or acknowledge intersectional realities. Prado and Vieira de Oliveira note that speculative and critical designers often "depict a dystopian universe where [...] their own privileges of their own reality are at stake, while at the same time failing to properly acknowledge that design is a strong contributor to the complete denial of basic human rights to minorities, right here, right now" (2017). The way that these objects are contextualized in their fictional realities illustrates the problem clearly:

The visual discourse of SCD also seems interestingly devoid of people of color, who rarely (if ever) make an appearance in the clean, perfectly squared, aseptic world imagined by these designers-researchers. Couples depicted in these near-future scenarios seem to be consistently heterosexual; there is no poverty, there are no noticeable power structures that divide the wealthy and the poor, or the colonialist and the colonised; gender seems to be an immutable, black-and-white truth, clearly defined between men and women, with virtually no space for trans* and queer identities (let alone queer and trans* voices speaking for themselves).

(Prado & Vieira de Oliveira 2017)

Some proponents of critical design, such as Auger, discussed above with respect to how speculative design removes commercial constraints, have made statements in the recent past that demonstrate that they do not acknowledge the need for interrogating their privilege or position, nor do they appear to understand how that might impact their understanding of the design space:

When questioned on the validity of a discipline that consistently dismisses and willingly ignores struggles other than those that concern the intellectual white middle classes — precisely the environment where SCD comes from — designer James Auger responded:

"What is this obsession with class systems? The UK may have its financial problems but most of us stopped obsessing about these divides in the distant past."

As Brazilian [sic] designers based in Germany struggling to understand our position in the blindly privileged environment of SCD, Auger's reaction sounds all too familiar. Being able to ignore things like class, gender and race is the clearest demonstration of privilege: you don't notice it (or rather, sometimes knowingly choose not to) precisely because it doesn't affect you.

(Prado & Vieira de Oliveira 2017)

This is not, of course, a matter of one person's particular beliefs, but rather a significant concern for the field of speculative and critical design writ large. There are plenty of examples to support the critiques around positionality, intersectionality, whiteness and privilege that the Decolonizing Design Group raises. However, I understand this frustration, especially when such a central figure (one who I cite here for his contributions to the field and to my own understanding) makes what seems to be such an unexamined statement when faced with legitimate critique. My own similar feelings concerning normative design fields and critiques thereof such as these have led me to reach for and center intersectional feminist and queer design principles in my practice.

Reading in the area of critical design has been very influential to my work, particularly because so much critical design is about crafting physical objects with reimagined contexts. Once the connection is made, it is difficult to unsee how games and game design are naturally suited to imagining alternate worlds and systems, as well as for using critical design methods. Yet, with some exceptions, little has been written to date connecting game design to critical design. And so, I next address the connections between the critical design literature and game design.

2.5 Critical Game Design: Acknowledging Debts, Acknowledging Particularities

In 2009, Mary Flanagan published a landmark book, read widely by scholars and designers, called *Critical Play*. In it, Flanagan investigates "games designed for artistic, political, and social critique or intervention, in order to propose ways of understanding larger cultural issues as well as the games themselves" (2009). Many of Flanagan's sources, in addition to game-specific examples, are drawn from fine arts traditions. Flanagan's work lays out a rich landscape and history of provocative, dynamic work that game designers could draw upon to make games that engage more deeply with critique.

There are some gaps, and the landscape has changed in the decade since the work was published. The critical game design model that Flanagan suggests in the final chapter of *Critical Play* is somewhat general and lacks an actionable or a concrete example of her own approach or another potential approach. Though there are some mentions of "diverse audiences and playstyles", comparing Flanagan's figures of the traditional iterative game design model and the "critical play" game design model shows some differences at the level of process, but not at the level of organization, who is designing, or differences stemming from a response to the systems and contexts which games are made in. In *Values at Play*, Flanagan and co-author Helen

Nissenbaum expand on some of the ideas that Flanagan introduces in *Critical Play*, inviting researchers and designers to contribute chapter-sections that deepen the practical understanding of the methodology (2014).

Values at Play responds to many of my questions about the practical and philosophical implementation of the ideas introduced in *Critical Play*. The core contribution of *Values at Play* is in the ways that they provide instructions for "conscientious designers". Notably, they provide two clear heuristics:

1. Pay systematic attention to a game's elements. In this process, designers consider the full range of a game's elements, such as narrative, character representation, game actions, and even the substrate of game engines and hardware. This opens a wide array of ways to implement a given value. Although successful implementation is often a challenge, designers may improve their odds by creatively but systematically seeking different combinations and striking out in unusual directions. The VAP heuristic does not require adoption of the specific analysis of games elements that we offer in this book. The key idea is to conceive of all analytic components (under whatever analysis one prefers) as potential vehicles for values implementation.

2. Consider what you are trying to achieve and how your game conveys values to players (and potentially others). You might be interested in changing behavior (for example, through generous deeds), enabling a valued performance (through creativity), inducing a desired experience (freedom or its opposite, for example), or inducing feelings (such as empathy, disgust, or shame) to attune players to certain issues and affect their inclinations to act. With values such as peace, racial justice, and democracy, you may aim for a cognitive effect (to engage users' beliefs, prejudices, and emotions or deepen their understanding and appreciation of issues). Because players may not experience a game in the ways a designer intends, an iterative design process that includes values in a play-testing regimen is essential for the implementation process.

(Flanagan & Nissenbaum 2014)

This is the clearest, most concrete advice provided in the "Implementation" chapter of the book, and I find it quite vague. It is clear from the authors' accounts throughout the book and in their reflection at the end that the *Values at Play* workshops have had lasting impacts on attendees, who feel equipped to ask questions that account for power dynamics and intersectional concerns, about what a game says about a particular topic and what values are

thereby espoused (Ibid). This makes sense because they have been through a reflective, practical process (and, as I will address in this section shortly, reflection is a necessary part of learning). However, it is unclear whether the book itself, in its perhaps over-expansiveness, provides clear enough instructions for designers who want to be conscientious, if they are not already engaged in critical practices. At the same time, I wonder whether a designer already engaged in critical practices around values and intersectionality would gain any new knowledge from the work.

There is a clear struggle to account for the many broad use cases that the authors want to cover. The work is often broad in scope but narrow in depth. I posit that it would have benefited from a narrower scope and a clear positionality statement (this seems to be one of those examples of works that does not explicitly position itself as intersectional feminist but appears to be so and certainly espouses such values). Further, the case studies are largely focused on existing games, not those that have used the *Values at Play* methods. More instances about how a particular designer used *this approach* in a particular work from conception to release more thoroughly, moving beyond workshop exercises or the experimentation that they describe with the "Grow-a-Game" cards, would be desirable (Ibid). This desire is perhaps unsurprising given the methods that I have chosen, as will become evident in the **Methodology** chapter.

Further, as I have noted in my work on queer game controls, "despite *Critical Play's* familial resemblances to other categories of critical design practice, it does not directly draw on critical design literature, and there are, to date, few examples of literature from the Critical Design tradition being applied to game design contexts" (Marcotte 2018a). The same is true of *Values at Play* (2014). Throughout my research, the framework that I have found connects the two contexts most explicitly, and that has been the most applicable to my research is the Reflective Game Design framework, which is introduced in "Questions over Answers: Reflective Game Design" (Khaled 2018).

Reflection, in this context, is "the mental process that occurs when we encounter situations that cannot be effectively dealt with using previous experiences and solutions" and has been acknowledged in educational psychology as an essential part of the learning process (Khaled 2018, Boud et al. 1985, Mezirow 1990). Having worked with Dr. Khaled throughout my doctoral program and participated in the Reflective Game Design research group, this framework has provided language and tools for thinking about and designing games that encourage reflection for both creators and players.

Khaled argues that games have an opportunity to be true "reflection machines" (Ibid). The Reflective Game Design framework refers to four design patterns that are likely to encourage reflection: "Questions Over Answers", "Clarity Over Stealth", "Disruption Over Comfort", and "Reflection Over Immersion" (Ibid). As I have mentioned in the past, "[t]he framework, in naming reflective game design patterns, also encourages us to recognize common design choices as patterns, where individual choices exist in [relation] to each other" (Marcotte 2018a). Because the four design patterns that Khaled has identified have become a part of my design toolkit, I will briefly introduce each one, using Khaled's contextualization and definitions.

"Questions Over Answers", Khaled notes, is important because "[Reflection] concerns deep consideration of problem spaces and is premised on questioning and revisiting our existing assumptions" (2018). Providing interpretive space in the context of the current game, as well as a player's own life, knowledge and beliefs, is important for creating the conditions for reflection. "Clarity Over Stealth" refers to "stealth learning", or learning separated from the context in which it is intended to be used, and encourages designers to avoid stealth learning (Ibid). Khaled explains that "Reflection is triggered when we are not strictly comfortable, when our assumptions are thrown into question and when we are confronted by situations that challenge our *status quo*" (emphasis in original), which is why design that aims for "Disruption Over Comfort" is more likely to engender reflection (Ibid). If players are presented with situations that they are familiar with and agree with, and there is no problematization or disruption of those situations, then they are unlikely to reflect. Regarding "Reflection Over Immersion," Khaled explains that:

Immersion is a highly desirable quality if design objectives mainly concern escapism. But reflection is precisely not about escapism: it concerns revisiting our previous beliefs intentionally and with a high degree of self-awareness. In the context of games, it requires acknowledging and incorporating the "fourth wall", even if this conflicts with the experience of "being there".

(Ibid)

Games that pull us in and keep us there, in the "flow state" (as popularized by Mihaly Csikszentmihalyi [1990]), where time passes unnoticed and our boredom and frustration are perfectly managed, do not provide players with the critical space to reflect. They may provide other rewards, but there are many purposes that games can serve beyond providing entertainment or "fun" — a complicated word that often stands in for many other concepts (see: Ruberg 2015b).

It is important to acknowledge that designers have been interested in creating these types of experiences for well over 15 years now, if not longer. Serious games, for example, is one of many terms used for games that have begun to move beyond just "fun", with the term in use as early as 1970 (Abt 1970). Other terms one might hear referenced include "games for change" (and there is a non-profit organization that uses this name), or games for health. I have largely found educational game scholarship to be useful when it overlaps with praxis-focused research, as in research regarding the role of debriefing, which I will discuss further in **section 2.8** of this chapter.

2.6 Game Design Practice and Methods

Indeed, while there is, of course, a wide body of research on digital game design, there is relatively little academic praxis-focused work written by practitioners. Well-known academic writing where designers speak about their work include articles written about the development of

Façade (Mateas and Stern 2005), and Douglas Wilson's *B.U.T.T.O.N* (Brutally Unfair Tactics Totally Okay Now) (Wilson and Sicart 2010).

Façade is known for its at-the-time revolutionary artificial intelligence system, which the player attempts to navigate as they share an evening with a couple whose marriage is disintegrating. In *B.U.T.T.O.N*, players share one controller and are competing to press a button on said controller, constantly re-negotiating the limits of what constitutes fair play as they do so. In an uncommon move, Wilson and Sicart connect "abusive design" — the term that they proposed for games like *B.U.T.T.O.N* at that time — to the speculative critical design work of Dunne and Raby, such as Dunne's *Faraday Chair* (Wilson and Sicart 2010).

Before entering into this brief overview of more general game design process research and methods, it seems important to state clearly what may already be apparent from the previous sections and provide some more context for it. I take it for granted that games, as designed experiences, have both a meaning that can be interpreted (even if this meaning is unsettled or ambiguous — **see section 2.4**) and also, embedded within them, traces of the beliefs and ideologies of their designers, which may also be revealed in the design. How these ideas and meanings reveal themselves are multiple: through the individual, nameable parts of the design (i.e. interfaces and control schema, written information, sound design, mechanics and rules, themes and aesthetics) as well as the totality of the game and the context and conditions in which the game was created.

The concept of "procedural rhetoric", as described by Bogost (2007), is a useful starting point for imagining the aspects of the game that can be "read" that are not already described by interpretational methods from literature (i.e. the reading of texts, paratexts and contexts; see: Genette 2001) or other media (visual arts, music, film, etc.). Procedural rhetoric is the idea that rules and processes have meaning and ideology within them that can be learned, read and interpreted (Bogost 2007). To this, I would add, as I have discussed elsewhere, the concept that interfaces and the means by which players access and control a game also have embedded meaning and signal beliefs and ideologies (Marcotte 2018a).⁹

With that in mind, here is further discussion of some of the examples of current research that, as a primary goal, aims to describe or find tools to describe the process of designing games.

Anakaisa Kultima's dissertation project, *Game Design Praxiology*, focuses on "games as created" and "game development practice as experienced", through an ethnographic study of (largely) Finnish designers (2018). Kultima develops five general claims about game design: "game design is timely and particular", "game design is value pluralistic", "game design process is opportunistic", "game design process is a plethora of ideas", and "game design practice is natured and nurtured by the surrounding ecosystem" (Kultima 2018). In Kultima's own words, "[these] five theses are mostly not based on direct observations of people working on their projects, but on the game developers own sensemaking of their work."

I am largely inclined to agree with the resulting theses based on my own experiences with game design and Kultima's explorations of each thesis, as I will elucidate throughout this

⁹ For further discussion about procedural rhetoric, see Sicart 2011, Treanor & Mateas 2014, Marcotte 2018a.

dissertation. However, I must take methodological issue with what Khaled and I have named elsewhere as the potential for "justification after the fact" of design decisions when designers are only asked some time after a decision has been made and there is no record of the discussion around a decision (Marcotte and Khaled 2018). This concern will also later help me contextualize my decision to focus on autoethnography as one of my primary methodologies in the **Methodology** chapter.

In searching for examples of designers examining their own process, I happened across the 30th-anniversary edition of *The Making of Prince of Persia* (Mechner 2020). This book is comprised of the annotated journals of *Prince of Persia* designer Jordan Mechner. The journals reminded me very much of my own writing about the gamemaking process. Their very existence as a published work gives me some hope that what I am creating, both in terms of my artistic output and my analysis thereof, will be a welcome contribution to the field. I hope to deepen my own approach and move beyond casual annotation.

Perhaps unsurprisingly, as we share a context and I have been in regular contact about design questions and research, the work that is closest to my own within this subfield of "practice-focused game design research", or "game design practice and methods", is that of Khaled, Lessard and Barr. In "Documenting Trajectories in Design Space," they propose the use of code repository "commits" as a way of gathering recoverable traces of the game design process:

As researchers of game design, we found ourselves asking: *why is it that game designers in the "real world" can make assertions about game design that we within academia we [sic] feel uneasy about making, unable to justify, and/or hard to get published?* Less colloquially, what is lacking in our methodological toolkit for researching game design that means we cannot ask and answer the same questions that our non-academic practitioner peers can? [...] Our desire is to create an academic space for game design research that acknowledges the closely knit relationship between making and articulation, the special insights a maker has into their creations, but also the fragility of context. However, we also need something akin to rigour to be pursued in this form of research as otherwise the academic context affords nothing in addition to "real world" game design. Such rigour is misleading and perhaps even irrelevant in the context of design practice, however, a realm in which identical problems can rarely be replicated, designerly intuition is important, and aesthetic taste plays a significant steering role. Instead we align with the idea of *recoverability* as a design-friendly alternative to rigour that has been adopted from action research into design research, referring to the designer-researcher's need to ensure that "the process is recoverable by anyone interested in subjecting the research to critical scrutiny" [38, 49].

(Khaled, Lessard & Barr 2018, emphasis in original)

This is exactly the problem that has plagued me! Their method provides the beginning of a solution — one that forms part of my own methodological toolkit for documentation. The code for particular builds can easily be accessed in all their (bug-riddled) glory, and a timeline of the work is generated automatically. However, as I am not working in a wholly-digital design space, I had to seek further documentation methods that could accommodate my project's needs. Further, there are ethical concerns around participant data that mean that I cannot store or even provide access to all of my data in one open-source repository. Future projects might be able to account for these ethical concerns. Meanwhile, I used a variety of methods, including code repository commits, to track my projects.

Although he has not written anything formally about it to my knowledge, I must also mention the impact of Pippin Barr's 2013 *Curious Games Studio* course and subsequent mentorship on my thinking regarding critical game design, particularly in pushing against design best practices. It is during the *Curious Games Studio* that I developed my first physical-digital hybrid game, a short asymmetrical tic-tac-toe game called *Nitrogen Narcosis* (Marcotte 2013) where the physical scuba diving gear that one player was required to wear mimicked the effects of nitrogen narcosis, or, the drunkenness of the depths, that divers experience during deep dives. It is also during this course (and through my follow-along of the Pixelles Game Incubator initiative aimed at people who had not yet made a solo game that year) that I formed the habit of reflecting on my game design experience regularly with journal entries.

What is particularly important about many of the researchers mentioned in this section is that they are both practitioners and researchers. These researchers have extensive design practices of their own, which provides additional insight into the processes they are studying. This is crucial because I am interested in tacit design knowledge and knowledge that one gains through designing, not only what is accessible by studying designers and their finished work.

2.7 Practice-Based Research and Research-Creation

Research-Creation is the term that is most commonly used in a Canadian academic context to describe work that focuses on creation, making, and art practices as forms of knowledge creation, combining those with analytical work around these same forms and their resulting objects. Perhaps unsurprisingly, there is sometimes a tension between the act of creation, the creations themselves, and the act of interpreting and translating that into something that can be shared in a written form that resembles more traditional research. There are many perspectives on how these types of practices emerged and what they should look like.

As a member of Hexagram, which is a network focused on research-creation that connects researchers, artists and practitioners from Québec with an international network (Hexagram n.d.), I have participated in research aimed at trying to create knowledge about research-creation through interviews and mapping of data. This research, led by Cynthia Noury and Louis-Claude Paquin, synthesizes broad swaths of data and provides a comprehensive overview of the field as it appears in the local Québec context (which is my own). The resulting

paper is currently publicly available on Paquin's website, though it is as-of-yet-unpublished. It wrestles with (in addition to many other topics) both definitional difficulties and the problems with neat narratives of the history of such work:

CN: At this stage, it is difficult to provide a very specific account of the development of research creation in Canada—and the Province of Québec especially—since multiple and fragmented organizational and individual recollections and perspectives still have to be brought together and fully documented.

LCP: I would add that these historical notes, like all the others, whatever their authority, should be read from a postmodernist perspective. Following the “end of the great narratives” (Lyotard, 1979), only small, situated, subjective and embodied narratives remain, including this one.

(Noury & Paquin forthcoming)

In the course of our work, we identified over 20 terms describing the articulation of research and creative practices into academic settings, including: Artistic Research (AR), Arts-Based Research (ABR), Performance as Research (PAR), Practice-Based Research (PBR), performative (social science) research, studio-based research and many others (Paquin et Noury, 2018a). [...] That is to say research-creation has the potential of encompassing a large diversity of approaches as it is mobilized and continuously rearticulated by researcher-creators, each time with its own epistemological, ontological, practical and sometimes “disciplinary” specificities. Accordingly, we use the term research-creation throughout this text with this diversity in mind.

(Noury & Paquin forthcoming)

In the end, Noury and Paquin refuse to define research-creation in any sort of settled or traditional fashion, because research-creation must allow for such a multiplicity of approaches (forthcoming). This is true across their work for all sorts of terms, from what it means to have or do “practice” and a host of other terms related to research-creation. A more thorough exploration of these nuances is out of scope for this project, but I would encourage the curious reader to read their work for more details.

With these observations in mind, I have had to narrow my focus to those concerns and approaches that seem most relevant to my own. My work in this area perhaps most closely resembles that of Chris Salter, author of *Alien Agency* (2015), or R. Lyle Skains, who writes

about practice-based research (or PBR) in the context of creative writing and digital writing (2018).

In *Alien Agency*, Salter asks,

How does art making produce knowledge, or if it does not, then how is artistic work research in the institution's eyes? How is it to be evaluated and compared to other knowledge-making disciplines that primarily use text and language? What is unique and different in comparison to the kind of knowledge produced in the humanities and social sciences?

(Ibid.)

This project is similar to my own in terms of both its questions and its methods. As Salter describes it:

Alien Agency thus proposes a reflexive insider exploration of both practice and a method to capture that practice. It explores what scholars, researchers, administrators, curators, funders, and policy makers (and even some artists) desperately seek to know about how researcher-creators engaged with technoscientific-cultural processes actually work, what it is that they produce, how such work and experience circulates among different constituencies, and what affects it produces in the public encounter. Is it possible that other methods might emerge from practice rather than be applied from a priori frameworks from outside that are not indigenous to that particular practice? Is it possible to be rigorous using experimental techniques to capture making in action, particularly in writing and after the event?

(Ibid.)

This calls back to the problem and attempt to resolve "justification after the fact" as well as avoiding altering the very process that one is trying to study through one's methods. This is a problem that I encountered in early experimentation with process-focused research for game design involving other designers who did not already have this kind of data collection as part of their practice (Marcotte and Khaled 2018). Skains' methodology and overview of practice-based research for creative writing and digital writing directly address these kinds of concerns. "Practice-related researchers [...] observ[e] and analys[e] themselves as they engage in the act of creation, rather than relying solely on dissection of the art after the fact" (Skains 2018, Marcotte and Khaled 2018).

Mirroring our concerns, Skains notes that "Reflection, [...] dependent as it is upon memory, and conducted after the creative act rather than during (or as close to as possible), can

be an unfortunately fallible method, and often fails to offer insights into the cognitive processes of creation that are frequently the focus of PBR [practice-based research]" (Skains 2018).

As in my own work, the solution that they turn to is a methodological approach that aims to more closely examine in-situ practice as it happens. In this case, their sample methodology involves using drafts, revisions, and "research logs (noting insights, process, difficulties) [...] which can later be analysed as in situ utterances" to trace the process of a creative writer, as well as allowing distance before analysis of the data is attempted, to provide perspective (Skains *Ibid*). This is what Skains calls a "Practitioner Model of Creative Cognition sample methodology." In the **Methodology** chapter, I elaborate on how my methods resemble and differ from Skains, Salter, and others.

2.8 Performance and Theatre: Theatrical Techniques and Facilitation

My interest in performance studies and theatre initially grew out of necessity as my design reach exceeded my programming grasp, and I became interested in physical interfaces. These interfaces, given that they were custom-created, and unknown to everyone, required introduction and facilitation for players. Through my collaborations with other designers such as Allison Cole and Dietrich Squinkifer, I began to consciously incorporate more theatre, improvisation, and other performance techniques into my practice.

Game studies scholars have long seen the value in incorporating approaches and techniques from theatre in digital games, from Brenda Laurel's *Computers as Theatre* (1991), which focused on human-computer interaction and metaphors for computational interfaces, to Gonzalo Frasca's *Videogames of the Oppressed* (2004), which proposed that games could be used to think through social and personal problems that could be modelled as systems and modified to think through solutions. The overlap between games and theatre is extensive. Game writers may structure the narrative as a series of "acts" as is done in plays and draw on scriptwriting best practices for dialogue writing. Players in online multiplayer games have even been known to create custom costumes, animations, and rehearsals to stage in-game versions of famous plays (Parker 2014). Artificial intelligences and algorithms are being trained to write scripts (Murray 1997), and robots are performing them (Poulton 2015). As one might imagine, this is quite a broad field of study, and engaging with it requires a refinement of focus.

Doing so means returning to my goal of creating reflective, critical experiences from an intersectional feminist and queer point of view. This prompted an interest in experimental theatre techniques that were also interested in rejecting comfort in favour of disruption, and creating different effects than immersion and flow in their audience.

In some respects, the connection between critical design, particularly speculative design and design fiction techniques, is inescapable. Brecht's *Organum for the Theatre* offers advice for creating the *Verfremdungseffekt* or the "alienation effect" in order to avoid an audience that is too comfortable and therefore complacent (Brecht & Willett 1964). Brecht's stance was largely anti-immersion, and he was a proponent of interpretational ambiguity (*Ibid*). This brings once again to mind Khaled's reflective game design framework and the pitfalls of the flow state (2018).

Defamiliarization and "making strange" in the service of reimagination is also a common approach to creating speculative objects (Shklovsky 1965, Dunne 2005, Auger 2013). Although not specifically an essay about theatre or performance, this approach has been useful in thinking through what might be called "set design" or "prop making" for my projects, two essential theatrical skills. Thinking of the boundary between the "outside world" and the "game world" as one that can be physically represented by a liminal object, such as a tablecloth, has been quite generative in thinking through how to invite players into the game world.

Dunne and Raby further discuss the idea of the creation of speculative objects as analogous to prop-making in chapter six of *Speculative Everything* (2013). They note how "[props in design speculations] help us think about alternative possibilities—they challenge the ideals, values, and beliefs of our society embodied in material culture." Because they represent an imagined reality "made real", they allow the audience to better imagine what a world where such an object exists might be like, and to perhaps better imagine their own role or place in such a world: "Speculative design props function as physical synecdoches, parts representing wholes designed to prompt speculation in the viewer about the world these objects belong to" (Ibid.) These objects, embedded in and contrasted with the world that we know rather than immersing the audience entirely, serve as an entry point into speculation, and, relatedly, reflection of the kind that Khaled describes as desirable in the Reflective Design framework (2018). Given that it is challenging to transform (decorate, build, alter) an entire physical space even temporarily (let alone book, rent or buy such a space even semi-permanently) for immersive play on a solo graduate student budget, the idea of props as invitational synecdoches has certainly proven useful to me.

Using facilitation and performance techniques to help players allow themselves to be vulnerable and perhaps even a bit uncomfortable (as safely as possible) is also something that I have learned by focusing on specific areas of performance studies. Adding to Boal's *Theatre of the Oppressed* techniques (1979), sociodrama and psychodrama techniques have provided insight into creating common ground amidst players and developing rapport (Moreno & Fox 1987, Sternberg & Garcia 2000, Karp, Holmes, & Bradshaw Tavon 2005). Sociodrama in particular, as it focuses on group dynamics rather than focusing on one individual's experiences in a session, has been of use to me (Sternberg & Garcia 2000). By placing the individual's experience in context within the group, sociodrama allows participants to draw larger conclusions about the patterns and systems that those experiences exist within. When it comes to games and multiplayer facilitation, facilitators can create opportunities for players to move between the registers of what the group needs, desires or thinks in relation to what the individual does.¹⁰

Immersive theatre, participatory theatre and other "interactive" performances are increasingly popular in the "experience economy" (Lavender 2016). These are performances that make claims about increased audience agency, to varying degrees. Whether or not audience members actually have an impact on the content of the performance, this type of theatre often aims to create at the very least the illusion of agency for individual audience

¹⁰ For more on group dynamics and facilitation experiences in games, see **Chapter 4** about Project 01 and **Chapter 6** on Project 03 in particular.

members. Some common techniques at a glance might include the lack of a boundary between the stage and the performers, allowing audience members to wander through the set, direct address of the audience and fourth-wall breaching through questions or call and response, the use of technology to prompt a specific narrowly-bounded set of actions from audience members, and other invitations to participate in the performance. The degree to which audience participation actually impacts the performance in a meaningful way varies widely, as many are eager to capitalize on the "experience economy". The number of troupes and performers engaged in this type of interactive performance is constantly multiplying. Even amidst the COVID-19 pandemic, there are a plethora of online interactive performances available to participate in.

I have been particularly inspired by the work of Blast Theory, creators of *Ulrik & Eamon Compliant*, which deals with anxieties around homegrown terrorism (2009) and ZU-UK, creators of *Hotel Medea*, a retelling of the myth of Jason and Medea, or the myth of the Golden Fleece (2009-2012). Through my work at TAG, I have had the privilege to participate in workshops and some collaborative work with ZU-UK, which has been quite instructive in terms of witnessing and participating in the process of creating this type of work.

Witnessing different introductions, appeals and offers intended to comfortably "on-board" players has been very instructive for doing the same in my work. Facilitation requires the ability to go "off-book" and adjust for different player needs while simultaneously maintaining character and the fiction that one is trying to build. Learning that flexibility is largely a matter of *doing* and practicing. In that respect, in addition to immersive theatre and larp (more on this in section 2.9), I have found that improvisational theatre, which changes the stakes of performance entirely, is also quite useful. Learning to continue an interaction and manage feelings of nervousness, shame, or fear about the quality of one's performance, and learning how to take in live suggestions or feedback and respond quickly, are useful qualities for facilitators. My knowledge of improvisational theatre comes from contact with the local Montreal community, its performers, and observation of their practices.

Safety techniques, post-performance reflection techniques, and insight and terminology for the impacts of highly involved performances developed for use by live-action roleplayers (or "larpers"), are essential for creating as safe an uncomfortable experience as possible, understanding that there can still be unexpected consequences to broaching difficult subjects. With that, I turn to the literature on larp (live-action roleplay), and the terms, techniques and insights that I have drawn from the form.

2.9 Live-Action Role Play: Designing for Safety and Processing Feelings

Larp (Live-Action Roleplay, commonly stylized by the community as larp, similarly to the word "laser") has no single point of origin, and many styles of play can reasonably use the term. Mainstream media depictions of larp are largely fantasy-focused, involving running through the woods in-costume with fake weaponry, a la *Role Models* (2008). While many of the first large-scale larps recognizable as modern larps, such as *Trenne Byar* (1994, discussed in Montola & Stenros 2009), were fantasy-focused, modern larps encompass broad and varied subject matter. Jokinen and Virtanen's "Ground Zero," for example, explored the "first day of a

nuclear holocaust," while Fatland et al.'s "Europa" was themed around "intimate refugee role reversal," and Pettersson and Pohjola's "Luminescence" explored themes related to terminal illness, therapy, and "abstractions of bodily experience in 800 kilos of flour" (Stenros & Montola 2009).

No larping tradition is better-documented than the Nordic larp tradition, which comprises a loose set of communities in Nordic countries (Sweden, Finland, Norway and Denmark). This makes it an ideal starting point for getting a sense of what larps are like (Stenros 2013). These communities come together especially for the yearly Knutepunkt (sometimes Knudepunkt) conference, which started in 1997.

Knutepunkt organizers publish a yearly book of conference proceedings, which is generally made available for free online. Additionally, the "nordiclarp.org" website maintains a wiki of larp-related knowledge as well as publishing articles about larp regularly. While academic writing regarding Nordic larp exists, it is not sufficiently voluminous to constitute a primary category of larp writing, making some aspects of studying larp quite difficult as one is often citing blogs and informally-published collections of books.

Harviainen's 2014 analysis of the Knutepunkt books (and similar publications) focuses on "the way in which they can – or can not – be seen as a part of academic discourse," citing the very different concerns and audiences that are in balance in editing such a volume. He notes that many texts are tonally "often closer to academia than journalism or practical instructions" even though the work comes from community members with variable levels of academic writing experience (Ibid). Increasingly, it is the case that these types of community publications include a "Theory" section. The majority of earlier publications cannot be considered academically-rigorous, or as Harviainen puts it, are "semi-academic" (Ibid). Ultimately, Harviainen notes that the barrier for gaining enough citational "critical mass" to become a frequently academically-cited text (in 2014) is "not very high when it comes to the study of larps" (Ibid). Because the writing by the community, though not necessarily written to the standard of an academic journal, is the authoritative work that has the greatest impact on actual larping practices, I cite these sources throughout the next section.

Reading through the Nordic Larp literature, there are three main categories of larp-related writing: game documentation, instructional writing, and manifestos. Game documentation refers to writing about the experience of playing a specific game. Instructional writing is intended to help others run or manage an experience, whether that's a workshop, a larp, or how to manage feelings around larping. Manifestos are typically shorter, more declarative provocation pieces, taking strong stances on how larp should or could be. Much of the writing is praxis-focused, written by those with direct, practical larping experience, either as a player or organizer. Direct game accounts and descriptions are common, and, along with photographic documentation, these are some of the only records of what a particular larp was like. Practical and theoretical discussions about larp are useful for those who would like to design their own larps. Both categories of writing are invaluable sources for study.

I have drawn on heavily two areas of knowledge as I have completed my dissertation projects. The first is about integrating debrief and safety literature, and the second is about how to "on-board" or bring players into a novel experience effectively.

Most contemporary Nordic larps start with an introductory phase that includes information about the game's contents and an explanation of the larp's code of conduct and specific rules of play. For example, in preparation for playing "Föreningen Visionära Vetenskapsmäns Årliga Kongress" (The Annual Congress of the Society for Visionary Scientists), "players were required to prepare by reading Keith Johnstone's *Impro*, as well as a book on mental illness" and were also encouraged to watch certain films (Samir Berlabi in Montola & Stenros 2010, emphasis in original).

Sometimes, players have a say in guiding the larp's content, such as when creating their characters. In this introductory phase, some discussion or negotiation regarding the rules of play might occur: players may be familiarized with rules for combat and physical contact, for example, or discuss whether they are comfortable with certain topics being addressed in the game (Stark 2014a, Munthe-Kaas & Nielsen quoted in Svanevik & Brind 2018, Brown 2017). In addition to being held on the day of the game, workshops that help players get into character or build characters may be run ahead of time (Stark 2014a, Woodworth 2014, Brown 2016). Occasionally, other types of workshops also take place, such as acting workshops or costume and prop-making workshops.

After the game is over, the "debriefing" phase is acknowledged in modern Nordic Larp (although this is not the case in North American larp) as a key phase of the game that helps players unpack their experience and transition back into their daily lives, as well as giving players the opportunity to give feedback to the organizers (Brown 2016, Brown quoted in Svanevik & Brind 2018, Stark 2013). After *Ground Zero*, for example, "the players continued to feel anxiety and sadness for a long time afterwards [and] [t]he debrief continued on an email list, which clearly helped to alleviate the artificially created post traumatic stress disorder symptoms" (Virtanen in Montola & Stenros 2009). This is a phenomenon known in larp circles as "bleed."

"Bleed," a term coined by Emily Care Boss, refers to when a player's "real life feelings, thoughts, relationships, and physical states spill over into their characters' and vice versa" (Bowman 2015). Most larpers deem it desirable to have some degree of control over these feelings. Some techniques to manage bleed include "in-game signaling", "de-roleing", "debriefing", "out-of-game socializing", "writing", "telling war stories", and "[immersion] in other experiences" (Bowman 2015). Notably, most of these techniques aim to help one transition back into one's daily existence, rather than addressing the phenomena of one's real-life experiences bleeding into the game. Some of these techniques may also be used for months after the occurrence of the main larp event, thus continuing the experience of the game far beyond that one event.

As Bowman states, bleed is a "neutral" occurrence rather than something inherently positive or negative (2015). As a result, certain kinds of bleed may be desirable if there are behavioural changes or reflective learning goals embedded into the larp, as in edularp, or, as when designing reflective games, as I am (Khaled 2018). Debriefing in order to allow players to process and reflect upon their experiences has become an essential part of my design practice.

EduLarp generally refers to a category of larp designed to teach children in schools, although they may also be used in other contexts. Some schools, such as "the all-larp Danish boarding school Østerskov Efterskole", focus on teaching with larp almost full-time, with supplemental traditional courses (Bowman & Standiford 2015). However, most instances of larp

use in classrooms appear to be limited to shorter experiences, taking place in the same amount of time as a regular lesson might (about an hour or so), as in Bowman and Standiford's experimental work in a Los Angeles charter school (Ibid), or limited to single-subject formats (Mochocki 2013). Through these and other experiments, larp has been shown to increase student engagement, as students enjoy edularp and want to learn through it (Bowman & Standiford 2015).

In Simulation studies, the term "debrief" refers most commonly to a phase where a facilitator helps to confirm and reinforce learning goals from the simulation. Fanning and Gaba point to three historical sources for debriefing practices: post-mission military debriefing intended to improve future strategies, "Critical Incident Stress Debriefing" for emergency first responders, and experimental psychology debriefing for harm reduction following participant deception (2007). In a larp context, organizers may wish to explore specific themes with their design, but ultimately, it is the players and their play that will determine the outcome of the game. Once the larp begins, the experience is collaborative rather than top-down from the designer, and the results can be unpredictable and ambiguous. Even in contexts where the players are provided with all plot and character information ahead of time, the experience will still change greatly depending on the players and the individual play session. This differs from simulations with clear learning goals, like a pilot learning how to fly a specific type of plane, for example. As a result, what a player brings to the larp is a large determining factor in what they will take away.

Throughout both the larp and simulation studies literature, briefing and debriefing are considered core to designing effective edularps and simulations (Mochocki 2013, Bowman & Standiford 2015, Kot 2012, Crookall 2014, Harviainen 2012, Petranek et al. 1992, Lederman 1992, Fanning & Gaba 2007). Lederman calls debriefing a "required part of the process of experience-based learning" (1992). However, in the case of edularps, "integrating the edu-larp method into a traditional curriculum requires streamlining during the briefing and debriefing/reframing process" (Bowman & Standiford 2015). Indeed, streamlining this process would be necessary for any simulation or larp-related experience designed to take place over a short time. Some researchers, such as Crookall, claim that it is in fact "better not to run a simulation/game if you are not going to debrief it properly" and point to thorough debriefing as an ethical obligation (2014). The need for expediency in shorter experiences and this ethical obligation are two concerns that must be balanced against one another.

There is a great deal for game designers and other people interested in live interactive experiences to learn from larp design and larpers, especially when bringing in participants, designing ambiguous, reflective experiences, and managing safety and debriefing. The lessons that I learned through research into larp and the other areas that I have described have been essential to my projects, and in helping me create working definitions and practices for physical-digital hybrid games.¹¹

¹¹ Some of the research above was originally presented at the Canadian Game Studies Association (CGSA) 2018 as part of the Reflective Games Panel.

2.10 Hybrid Games: Human-Assisted Physical-Digital Hybrid Word Salads

As I have developed my gamemaking practice, I have had to wrestle with finding clear terminology that expresses what I make. In trying to describe my work accurately, I have found that existing terms often focus too much on one or another aspect of the assemblage of involved parts. The closest commonly-understood analogues (pun now totally intended) to what I do are alternative controllers and interactive theatre. The term that I have settled on for now is "human-assisted physical-digital hybrid games," or "hybrid games." This section will elaborate on why that is the case.

A simple starting definition of a human-assisted physical-digital hybrid game is that it is a game that combines live human performance with alternative interfaces and digital code into an embodied experience. Working from this definition, I will spend the rest of this section trying to unpack some of the nuances and define what objects I have concerned myself with within the scope of this dissertation.

To start with, this definition requires some further specification. These experiences attempt to combine the computational strengths of digital games with the objects of analog games and the physicality and embodiment of explicitly physical games together with the expertise of facilitators. To be sure, this recombination is about shifting the borders of these categories. Within different projects, each of these categories is in flux and takes on a different importance. In one game, perhaps the focus is largely on visible, physical objects, or perhaps in another, the digital aspect is highlighted. By drawing together these component parts, these games invite players from many backgrounds to participate in something that is frequently outside of their experience due to the normative expectations around those same categories. Their ability to surprise and present unusual opportunities for different kinds of play is one of their major strengths.

Physical-digital hybrid games add layers of complication and delicacy that mean that often, a facilitator or actor is needed to guide or on-board players into the experience, similar to a gamemaster. There is common wisdom in game design, passed down in the introductory game design classes that I have taken, that, if you have to explain to a player what they need to do, and the object can't wholly speak for itself, that there's a failure on the part of the designer. While this may or may not be true for digital games, which go off into the world alone, the humans in my work are not simply human tutorials. Among other things, they are caretakers, mediators, futuristic lab technicians, a tether between imaginary worlds and our reality.

To make my way to this definition of hybrid games, I have passed through theatre and larp, which I have already discussed. From there, I now focus on alternative controllers, or "alt controls", to determine what is missing from this term and why it does not fully suit the projects that I made for my doctoral project. Most people would probably collapse my work under "alternative controls", and I understand the impulse. It is close enough for many contexts, and, certainly, it is a related term, one that I often use as a keyword so that others can find my work.

Definitions of alternative controllers are themselves not entirely settled. As Enric Granzotto Llagostera has noted, common definitions of alternative controllers make use of "oppositional contouring", or, definition by way of all the things that they are not (Granzotto

Llagostera 2020). As an example, the "ShakeThatButton" archive, which is one of the only extant online archives of alternative controller projects, makes use of oppositional contours in their definition of alternative controllers:

Traditional controllers are keyboards, mouses, gamepads, touchscreens as well as wiimotes, kinects, PS moves...In short: every controllers [sic] built by video games manufacturers, those you can buy, and those generally associated to the idea of video game. Alternative controllers are the other ones, every other ones [sic], any other ones.

(Corbinais n.d.).

Under what "can" be considered alternative controllers, there is the following list, with additional descriptions and explanations: "Custom DIY controllers, crafted from scratch by the developers", "Hijacked traditional controllers", "Arcade cabinets", "Installations", "Playful performances", and "Playable at home" with regular controllers used in innovative ways.

However, the term places linguistic emphasis on "controls" as the alternative part, the piece that differs from other video games. The practices around alt controls extend beyond the term and the normative understanding of them. The alternative aspects of these types of games, what I am calling hybrid games, and these kinds of experiences, go far beyond the controller.

The games that I and others make certainly have alternative controls, but they also have alternative rendering interfaces, alternative gameplay, alternative politics, and alternative expectations for what value propositions they bring to the world or even what it means to play or have fun. In many ways, hybrid games can no longer be called "video games" when they often come without the video part, which is partly why I have come to prefer the term digital games. However, these hybrid games are also markedly physical.

There are many familial resemblances (after Wittgenstein 2009 [1953]), kinships, between my work and that of creators who identify their work primarily as alternative controller games. Certainly, my work is in conversation with these games. As I have written elsewhere, "Alternative controllers represent a desire to see, make, and play with something that does not exist within the standard set of interfaces, and there is queer, intersectional feminist, political potential in that speculative possibility space" (Marcotte 2018a). I appreciate the work that falls under the banner of "alt controls", "alt ctrls", and "alternative controllers" (three terms used almost interchangeably for the same area). Still, I do not feel that this term expresses in full the range of experiences that it is meant to contain. My chosen term likely has similar yet different gaps, but I will make a case for its use, though I wish there were a better short form that sounded a little bit catchier and still managed to contain the important aspects that hang in balance for this type of object.

Where mass-produced commercial controllers that facilitate alternative forms of play fit into the landscape is a question that needs to be addressed. There are many examples of these: the Nintendo Wii and its Wiimotes, the Xbox Kinect, the PlayStation Move, the Nintendo Switch, and VR (virtual reality) equipment of many stripes, to name a few. There are also

additional pieces of hardware for these consoles designed primarily for use with one game, such as the *WiiFit* board (2008), the *Ring Fit Adventure* accessory (2019) or the *Nintendo Labo* kits (2018). All demonstrate instances of and possibilities for play that involve more than just hands, eyes, and screens. Adding back in the "human-assisted" part of the definition, there are also still contexts, such as showcase situations or game conferences, where one might encounter facilitators helping players with these game products. When it comes to mass-produced, mass-market controllers and games such as the *Nintendo Labo* and similar controllers, there is no definitional reason to exclude such products from the definition of a physical-digital hybrid game. There are, however, methodological ones, as I will discuss.

These are fundamentally different objects from my projects and from the type of project my work is in conversation with, despite their visual and conceptual familial resemblances (Wittgenstein 2009 [1953], Arjoranta 2014). The scale of production, how these products are commodified, and how they affect the landscape of hybrid games and alternative controllers bears further consideration.

For example, Granzotto Llagostera encourages us to ask the question "alternative to what" regarding alternative controllers (2020). Two of the answers to that question could be "alternative modes of production" and "alternatives to mainstream controllers." Granzotto Llagostera's *gambi_abo* project is an open-source alternative controller project that uses readily-available materials and simple instructions such as (and especially) cardboard to transform standard interfaces like keyboards and mice into alternative controllers (2018). The materials (cardboard, elastic bands, dowels, tape, etc.) involved are all as affordable and readily-available as possible, and alter readily-available, commonly-found interfaces. Compare this to the *Nintendo Labo* do-it-yourself-kits, which are a series of products that commodify cardboard materials and co-opt DIY-culture, coupled with simple mini-games, typically as one game to be played with one kit, on the Switch (2018).

Here are two alternative attitudes to do-it-yourself and to sharing knowledge. *Nintendo Labo* claims to be DIY, but there are very few affordances for modifying or deviating from simply building the accessories according to their plan and playing with them as intended. In contact, *gambi_abo* specifically responds to and counters this "closing" of platforms and co-opting of DIY as a "brand":

When large corporations turn such practices (such as, let's say, do-it-yourself controllers) into products, their financial and discursive power comes into action. They create and grow closed platforms, they enforce patents and copyright, and limit access to creation. Companies also try to center their own products at the expense of what was once common and shared, associating their brands with idealized and profit-optimized versions of creativity, shaping and influencing what will be created next.

gambi_abo is a project created against this enclosing process. It does not rely on one company or system. It fosters the free and

accessible sharing of designs and tries to bring the political aspect of it to the foreground.

(Granzotto Llagostera 2018).

This closing-off, this patenting and copyrighting of innovations, is antithetical to the project of this dissertation and to many of the works that it bears a close familial resemblance to, including *gambi_abo* (Ibid). Openly sharing information and resources has proved crucial to learning about design processes in this dissertation. On a practical level, for the purpose of answering my research questions, comparing my prototypes to these has largely enabled oppositional contouring. The ways that my work is in conversation with these mass-produced, big-budget, large-team, highly polished controllers and consoles at anything beyond the level of ideas and inspiration is indeed largely oppositional beyond the basic definition of hybrid games.

Where I aim to provide access to my process openly, the designers working on these projects are largely cut off from doing so by non-disclosure agreements (unless their employer agrees to allow them to do otherwise in service of promoting the product). Where I have created small-scope prototypes with the explicit goal of studying my design practice, these objects are more rarely seen or shown before they reach a high level of polish and are ready for mass-production and distribution. Whereas my pieces were created over the course of six-to-eight months, largely alone, the teams involved in these projects are massive, and refining the prototypes often takes years. Whereas my documentation is freely available, these products involve a lot of patenting of materials and safeguarding.

These are indeed highly-refined and high-budget commercial *products*. It is unfortunate that the developmental practices of the designers who create them are only occasionally accessible in interviews or the rare photograph or video of a prototype. From the few available interviews and data, it would seem that, in many senses, the early prototype process somewhat resembles my own or that of my peers (see, for example: "Iwata Asks: WiiU" in Nintendo n.d.). I would be interested in learning more about such processes, especially if there were more work-in-progress data available. Regretfully, these are ultimately not the specific kind of physical-digital hybrid game that I have been able to be in close conversation with, and in the general discussion of the term throughout this dissertation, these are not the types of hybrid games to which I will be referring.

Just as it is commonly understood that there is a significant difference between a small, independent game with almost no budget and the latest AAA game (games made by large studios with teams of people numbering in the hundreds and large budgets) in mainstream videogames, there is a difference between these commercial alternative controllers and the ones made by artists and independent designers. While there are ways in which they can be in dialogue, making certain kinds of comparisons is not always possible due to lack of publicly-available data, or is not meaningful due to the extent of the differences.

From here, there are fundamental discussions that need to be had around the component parts of the definition of "human-assisted physical-digital hybrid games", from the concept of "hybridity", to the (ever-contentious) definition of a "game", both digital and physical, and finally on to a discussion of human-assistance and facilitation. I expand on each term and

its accompanying qualities below, as they apply to the concept of human-assisted physical-digital hybrid games.

In *Critical Play*, Flanagan proposes the term “hybrid play” for work that “blend[s] spaces such as public urban space and online game space” (2009). The term “playful hybrids” has been used to refer to projects that “[play] between material and digital”, that combine digital technologies (such as phone apps) with analog games (such as board games or tabletop games), augmented reality games, interactive children's toys, as well as other kinds of interactive experiences that combine physical and material play with technology (Tyni et al. 2016). The usage of hybrid in this sense is similar to what is meant in the term “physical-digital hybrid games,” though what we might consider “hybrid” and “hybridity” to be is a moving target.

Regarding the definition of the word “game”, Arjoranta argues that “[g]ames have been defined and redefined many times over, and there seems to be no end to this continual process or any agreement about the definitions” but that “such an agreement is not necessary” (2014). Working and provisional definitions that enable thought and theory-building rather than being the last word on the subject are far more useful. Without wandering too far into the morass of game definitions, it's worth noting that the term “digital game” requires some interrogation. As Arjoranta notes: “At first glance, it seems like there is a clear distinction between digital and non-digital games. However, simply evoking the term ‘digital’ does not do much to clarify the situation” (2014). As digital games have become increasingly prevalent, Stenros and Waern note the way that definitions of the term “game” itself have changed, with researchers increasingly prioritizing “the systemic nature of games, something that the older definitions of games rarely do” (2011). The existence and prevalence of digital games have thus affected general definitions of games.

Like Arjoranta, Stenros and Waern emphasize common characteristics over a set definition: “Digital games are a special case of games. Though they are a diverse group, they share tendencies towards certain features, features that are not as characteristic of games in general as they are of digital games.” Although a great deal of energy is expended on defining what a game is, and although these definitions have, as Stenros and Waern point out, changed with the emergence of digital games (2011), there are few traditional definitions of what a *digital game* might be from game studies scholars.

Other terms, such as “computer game” or “video game”/“videogame”, yield similar results. For example, in an editorial for the very first issue of game studies, Aarseth underscores the importance of computer game studies emerging as a viable academic field, and though the cultural importance of computer games is discussed at length, along with the importance of distinguishing them from other media, but nowhere is a definition of these same offered (Aarseth 2001). In a more common strategy, Crawford defines several characteristics of computer games in the very early days of game studies, starting with how they are played:

These games are played on five types of computers: expensive dedicated machines for the arcades ('coin-op' machines), inexpensive dedicated machines ('hand-helds'), multi-program home game machines such as the ATARI 2600 and the ATARI 5200, personal computers, and large mainframe computers. The

computer acts as opponent and referee in most of these games; in many of them it also provides animated graphics.

(1997)

Juul, in *Half-Real*, defines videogames (here, "video games") as "games played using computer power, where the computer upholds the rules of the game and where the game is played using a video display. I will be using video games as an umbrella term to describe all such PC, console, arcade, and other digital games," also noting that "a video game is a set of rules as well as a fictional world" (2005). The commonalities here are the digital display, the electronic device, and the computer as the enforcer of the game rules.

Returning specifically to the term "digital game," it is in use in a great deal of game research writing despite the lack of definitions for the term. Perhaps this word is not well-defined in the discipline dedicated to its study because researchers feel that its meaning is self-evident, and there is no contestation of it, but as noted before, adding the term "digital" in front of the word "game" does little to clarify the distinction between games more generally and their digital relatives (Arjoranta 2014). From my research, I have created a working definition to address my needs. Digital games, then, are those that are played through an electronic interface, on a computational system, usually with a screen, that are made up of code which can generally be transmitted to other interfaces and systems through digital signals.

As Kirschenbaum tells us, "new media cannot be studied apart from individual instances of inscription [...] through specific storage devices, operating systems, software environments and network protocols", which is to say the hardware and its accompanying context (2008). So, the digital, though conceptualized in the popular imagination as immaterial and invisible, exists as physical phenomena around us, though it might be unseen (travelling through invisible waves and electric signals to appear on our screens). It is, in fact, physical.

However, the physical aspect of "physical-digital" in this case refers to the hypervisible interfaces being used to interact with the game, as well as the materiality of the games and the human bodies playing them. These physical devices are not the self-effacing, low-profile interfaces that are common to game consoles and computer inputs. The digital software and screen-based aspects of the project are not automatically given primacy in hybrid games. However, this is often the case for projects identified as alternative control games in mainstream venues such as *alt.ctrl.GDC* (Polson 2020). Alternative controllers are often relegated to simply being interfaces through which players interact with a screen. This is especially true when the focus is on either their role as quirky input devices or as mass-produced objects such as those purchasable for use with major consoles.

In the field of game studies, "physical game" is often not the preferred term. Some researchers refer to what I would consider "physical games" (i.e. board games, tabletop games, toys, folk games, etc.) as "non-digital games" instead, a term which is largely defined by negation as everything that is not digital (cf. Stenros & Waern 2011, Arjoranta 2014, Wilson et al. 2010). When the term "physical game" is used, it usually means something closer to alternative controller games or games that combine alternative physical interfaces with digital technology (cf. Abe & Isbister 2016, Dekel et al. 2007, Khoo, Lee & Cheok 2005). I find this

usage misleading since digital technology is involved. Further, if I chose to use these words and definitions, the result would be "non-digital-digital hybrid games", which is not a particularly useful term. Instead of describing physical games by what they are not (i.e. non-digital), I continue to use the concept of family resemblances (Wittgenstein 2009 [1953], Arjoranta 2014).

Physical games come in a wide variety of categories (such as larps, tabletop games, board games, folk games), make use of analog objects (whether those objects are dice, books, clothing, kitchen implements, toys, or any number of others), and engage the human body. We can easily subdivide physical games further into analog games which do not make much more use of physicality than the average digital game (such as most board games and tabletop games) and those explicitly physical games that engage the human body and focus on the experience of embodiment and bodily movement, including many folk games, theatre games, and children's games.

Together, these discussions of the different aspects of a human-assisted physical-digital hybrid game provide context for my earlier definition and what is at stake. What follows are some games that provide particular examples fitting the definition of hybrid games within this dissertation's scope of concern. I discuss Kaho Abe's *Hit Me* (2011), Expressive Intelligence Studio's *Bad News* (2016a), BeAnotherLab's *The Machine To Be Another* project (ca. 2014a), and Paolo Pedercini and Tenley Schmida's *GlitchScarf* (2019). I have chosen these examples for the most part based on having had direct experience with them or clear, thorough documentation available to me about them, which allows me to comment on them more accurately.

In Kaho Abe's *Hit Me* (2011), players are bound to a square field of play and wear hard hats with Bluetooth-enabled doorbells and web cameras connected to an arcade button (Abe 2011). Players are judged on the pictures that they take by hitting the button on the other player's hardhat. Players get one point for managing to hit the button, and then the pictures are scored based on whether or not their body is in the frame, with extra points if their face is present. A human moderator performs this subjective judging. As another important note, this is a game that breaks often! Players often grow very enthusiastic throughout play, and treat the play equipment quite roughly in their energetic maneuvers. This is a common characteristic of these types of alternative controller games. It is common to see designers armed with a soldering iron, a hot glue gun, and various other tools at festivals and showcases, repairing their interfaces.

Although *Hit Me* is not about a particular social issue, it is a game that does not allow the players to forget their bodies. When I played this game in 2013, it was with a friend who stands at around 6'4". I stand at about 5'11". My friend's reach far exceeded my own, and I could not reach his button, perched high atop the helmet, especially when he was in motion and actively avoiding me. As a result, my playthrough quickly became a lesson in unbalanced play. This was a humorous outcome, but unbalanced play can be used to further underscore and explore a wide variety of themes related to, for example, power dynamics, as well as other advantages and privileges.

One of the most involved uses of human facilitation in a hybrid game that I am aware of is in the Expressive Intelligence Studio's *Bad News* (2016a).

In the summer of 1979, a resident in a procedurally generated American small town has died alone at home, and a mortician's assistant—the player—is tasked with tracking down and notifying the next of kin.

To do this, the player navigates the richly simulated town to interact with its residents, who are each played live by a professional actor with extensive improvisational experience. Throughout gameplay, an unseen wizard listens in remotely to manage the unfolding experience via live coding and discreet communication with the actor.

(Expressive Intelligence Studio ca. 2016b)

From conversations with members of the Expressive Intelligence Studio, I know that this game was originally developed at UC Santa Cruz and that the team was inspired by *Coffee: A Misunderstanding*, discussed in **section 2.2**, to add a live theatrical dimension to the experience. Their first prototype was a procedurally-generated simulation based on census data. Adding an actor, and the parts of the game that developed from that, proved to be the missing element for these designers.

This experience usually travels with a theatre curtain and frame. When I played it at the TAG Lab at Concordia University in Montreal, they had shipped their frame and curtains from California, only to find that the package had not arrived in time for the playtest. They had to buy curtains and build a solution for the show to go on. Portability can be a challenge with unforeseen consequences.

This curtain did indeed prove to be an essential part of the experience. Whenever the curtain closed and reopened, I genuinely felt as though I was speaking to a different person. The ability of the actor involved in the experience, Ben Samuel, to take the information being provided to him by the “wizard”, James Ryan, and build a character around that information in what felt like no time at all was astounding. What’s more, to have these two working in concert to create this experience “just for me” made me feel thoroughly involved and committed. It is a beautiful, labour-intensive game.

Although Samuel and Ryan may have seen many of the common variations of play strategies after enough playthroughs, the game relies on their ability to improvise, as all conversations were unrehearsed. As the messenger who had to deliver news of a person’s death, I had to withhold information and deceive members of this town until I reached the correct person, ascertained that they were the correct person, and told them news of their relative’s death. The grief that I witnessed was shocking in its feel of authenticity and sincerity. This speaks to what is possible when working with human moderators with particular talents, which is a key affordance of this form.

In terms of technology, Samuel and Ryan’s ability to communicate instantly and soundlessly through the use of computers was an important aspect of the game. What is particular about the use of technology in this instance is the procedurally-generated information involved. Each playthrough of this game is unique, although the curtain, literally and figuratively,

must be pulled back to make players aware of that fact. There is also the (likely) possibility that with the potential for seemingly infinite variation, the results do not vary all that much in their different instantiations. Nevertheless, this program was able to generate a large amount of unique data (information for every person living in a small town) for each playthrough with a level of detail that would have otherwise easily taken days. This game uses the affordances of both human moderators and computation to great advantage.

Similarly, *The Machine To Be Another* uses a team of no less than three facilitators to one player in the version that I played (ca. 2014). It is not a game but rather a series of conceptually-related experiments involving technological illusions around body-swapping and empathy. As with *Bad News* (Expressing Intelligence Studio 2016a), this is quite labour-intensive, though the results were quite amazing.

WHAT WOULD THE WORLD BE LIKE IF ONE COULD SEE
THROUGH THE EYES OF ANOTHER? WOULD IT HELP US TO
UNDERSTAND EACH OTHER? WOULD IT HELP US TO
UNDERSTAND OURSELVES?

(BeAnotherLab n.d., Capitalization in original.)

Multiple iterations of this project have been showcased all over the world, involving, for example, swaps between people of different genders, different abilities, different races, and other life experiences (such as being in prison). As a marginalized designer, I am resistant to the idea that a short interactive experience can “teach” someone “what it is like” to be another person of marginalized identity. Reading about, playing, or being shown someone's sustained experience in and of the world based on their positionality is not the same as living it.¹² However, such works can be viewed as an exercise in “social sense-making” -- helping to “make sense” of another person's experience even if we do not know what it is like to live as them (Wilcox 2019). All of this being said, my experience with *The Machine To Be Another* was uncanny, and despite knowing exactly how it operates, felt akin to magic.

The version which I experienced was a demonstration of the technology, not themed around a particular social issue. Sitting in the TAG research lab, I “switched bodies” with my friend and collaborator, Tony Higuchi, who is someone with whom I interacted practically every day at the time. The facilitators engaged my senses of sight, touch, and proprioception to fool my brain into thinking that the hands I saw through a virtual reality headset were my own. By carefully coordinating their timing, facilitators simultaneously touched the hands I saw through the headset (Tony's) and my own. After giving me some time to adjust, they helped me rise to my feet, turn towards myself, and shake my own hand. This was an eerie and powerful sensation.

As I mentioned earlier, this experience requires at least three people to make each playthrough possible. These facilitators must be well-versed in how the experience operates

¹² For more on the problems with empathy games and moving beyond empathy, see Pozo 2018.

and have to work in concert with one another, coordinating timing quite carefully at different moments.

These experiments combine a deeply embodied experience with virtual reality technology. The physicality and virtual reality components are both essential, especially the sense of touch coupled with what the participant sees through the headset. It provides a strong case for the combination of human moderation with physicality and digital technology.

Some games make use of the physical traces left behind by play sessions or try to make the digital traces into physical ones. In some cases, the play is (or is encouraged to be) physically-inscribed upon the body. This is the case with *Tatyou* (ca. 2017), a project where the game map's final state, which is designed to be aesthetically-pleasing, is printed out, with the suggestion that players then tattoo it on their bodies. This is similar to how symbols are used in *Enthymema* (Cole 2016), a web-based installation game where players write symbols that they invent themselves on their body with a pen or marker as part of play and carry these with them throughout their day afterwards to use for reflection. Sometimes, this takes the form of a physical object, like a card or drawing.¹³ Another common pattern in hybrid games is the use of other forms of making and maker culture as part of the design process, including, for example, skills such as sewing, sculpting, costuming and prop-making.

In an example of both, Paolo Pedercini and Tenley Schmida's *GlitchScarf* "is a playful performance and a system to mess with knitting patterns in real time" (2018). The game is framed as a "race" between the operator of a hacked knitting machine and the player actively altering or "glitching" the pattern on the screen. This is a simultaneous act of collaboration and competition. The play results in a physical scarf which provides a record of the play session and the glitches, intentional and otherwise, created through that play. This type of project also points to the way that many acts and activities can be reframed as playful, and be recombined in new, hybrid ways. There is a long history of interactive experimentation and playful performance in the fine arts and many other areas of human activity to take inspiration from outside of mainstream videogames.

As a last definitional comment, it is noteworthy that there is relatively little academic writing about alternative controllers under that keyword, despite the fact that this is how many designers and the industry refer to this category of controllers and related experiences (Corbinais n.d., Polson 2017, Vilela dos Santos 2018). Those papers that do exist are often written by the designers of the controllers and games (cf. Wilson 2010, Wilson 2012, Abe & Isbister 2016, Isbister, Abe & Karlesky 2017). Some of the keywords related to these papers are "game controllers", "game interfaces", "DIY", "wearables", "costumes", "embodied interaction", "digitally-mediated play", "physical interfaces," and, just to complicate things definitionally, "physical games" (ibid). In the field of Human-Computer Interaction (HCI), alternative controllers are sometimes known as "tangible user interfaces" (Holmquist 2019). There are many possible terms in use.

I recognize that by introducing "physical-digital hybrid game" as a category, I am contributing to this lack of harmony within this area's terminology. However, given that hybridity

¹³ There are many more interesting entries in this line in the ShakeThatButton archive (Corbinais n.d.).

is a core concept for the interdisciplinary design of these games, that this type of game design goes beyond interfaces and controllers, and that terminology such as "physical games" does not acknowledge the use of digital technologies, I must throw my definitional hat into the ring, and feel that the term "human-assisted physical-digital hybrid game" is most descriptive for the kind of work that I have made and am exploring than many of these others.¹⁴

2.11 Personal Archival Practices

There was once a legend that somewhere in the Americas lay the buried hoard of the fallen giant Atari. It was said that, when the giant crashed down, along with the rest of the games market in 1983, they buried millions of copies of unsold and returned games in New Mexico (Reinhard 2014). In 2013, Reinhard was a part of the team that excavated thousands of artefacts from the dig site for further investigation. The activity of unearthing videogame history and preserving games is not usually quite so literal. Nevertheless, there are artifacts buried in all sorts of unexpected places and with many unusual provenances, allies and methods. One hears tell of people having to risk destruction in their attempts at preservation, such as baking old computer cassettes in ovens to temporarily resolve something called "sticky shed syndrome" and make them usable enough to extract information from (Ciletti 2011 [1998], Ross & Gow 1999). Copyright laws for game preservation are also a long-standing issue, as preservation often requires copying media and updating file formats (Hirtle 2003).

Game projects are often a combination of audiovisual and text elements, tied together through code. They often have interdependencies with other programs and files, relying on libraries, assets, drivers, and proprietary interfaces such as consoles to work correctly. Guttenbrunner et al. map out this problem space for console games in terms of both console hardware and the games themselves, noting that many digital archival best practices fall short when it comes to games, with migration through porting being noted as one key approach which nevertheless relies on the availability of the source code (2010).

They also note that preserving the consoles and hardware, even those which were at some point mass-distributed, presents a challenge if the hardware is no longer in production and breaks down or if companies close down (Ibid). Changing the hardware or the emulator changes the experience of playing the game in question. This is easy to demonstrate: plug in an older console to a modern, high-definition television instead of a cathode ray tube monitor and the visual experience is immediately put into (fuzzy) relief. Frame rates may be altered by the hardware being used. The visual encoding may not work the same way as in the original, and much more. This can lead to visual glitches and other problems (though these problems can also be opportunities for further play and artistry).

Archiving problems are only compounded in the case of art games, which may not be as well-publicized and often rely on either free hosting or their creator's ability to pay for hosting. More specifically still, the case of physical-digital hybrid games differs further, since these bring

¹⁴ I am grateful for discussions with Enric Granzotto Llagostera for much of how I have come to my understanding of alternative controllers and my own practice with hybrid games. Portions of this research were also included in my dissertation proposal.

together handcrafted, custom controllers, and other hardware such as Arduino boards mapped and programmed for the project. Additionally, hybrid games bring in live performance from facilitators and players. Archiving these projects as a unified whole may be impossible. I have certainly found it difficult to transmit these experiences fully.

The difficulty of archiving liveness and embodied experiences is well-known in performance studies. Taylor notes that "the writing = memory/knowledge equation is central to Western epistemology" (2003). Importantly, Taylor also explores the idea that there is some inherent colonialism to the idea that what cannot be captured by the archive is lost, noting how "when the friars arrived in the New World in the fifteenth and sixteenth centuries [...] they claimed that the indigenous peoples' past-and the 'lives they lived'-had disappeared because they had no writing" (Ibid). Taylor raises questions about how knowledge is "stored" and about the operation of cultural memory and embodied knowledge, aiming to explore the "methodological implications of revalorizing expressive, embodied culture" (Ibid).

It is common in academia for the written word to be given prime importance for creating and preserving knowledge. And yet, some things cannot be recorded by the archive:

The live performance can never be captured or transmitted through the archive. A video of a performance is not a performance, though it often comes to replace the performance as a thing in itself (the video is part of the archive; what it represents is part of the repertoire). Embodied memory, because it is live, exceeds the archive's ability to capture it.

(Taylor 2003)

This is true for many types of performance, and it is also true of this dissertation. There is some knowledge that lives within the objects and games that I have created, in the performances and playthroughs thereof that cannot be adequately captured on the page. My dissertation, taken as a whole, is an example of what Taylor calls "the repertoire" and the archive "working in tandem":

The archive and the repertoire have always been important sources of information, both exceeding the limitations of the other, in literate and semiliterate societies. They usually work in tandem and they work alongside other systems of transmission – the digital and the visual, to name two. Innumerable practices in the most literate societies require both an archival and an embodied dimension: weddings need both the performative utterance of "I do" and the signed contract; the legality of a court decision lies in the combination of the live trial and the recorded outcome; the performance of a claim contributes to its legality.

Taylor (2003)

Indeed, the formality of traditional archives also lends significance to the knowledge that they contain, and one could say that the performance of archiving something shores up the power of the archive itself. In their respective histories of the Archive, Taylor (2003), De Kosnik (2016), and Giannachi (2016) point to the archive as a place that typically reinforces and shores up hierarchy (note the shared "arch", from *arkhe*, in archive and hierarchy) and traditional power structures.¹⁵

However, whereas "archive" once meant something quite official and specific, there are many practices that have evolved in the past thirty years that have led to what Eichhorn calls the "archival turn" and what De Kosnik explores under the form of "rogue archives" (Eichhorn 2013, De Kosnik 2016). Eichhorn discusses the term's "semantic drift" by pointing out just how varied its usage has become in academia and beyond:

Throughout the past decade, I have published articles and presented papers that apply the term archive to collections as varied as recipe boxes and databases. As someone who is also frequently called upon to review articles on the subject of archives, I have assessed articles that apply the concept of the archive to even more varied subjects—the most absurd of which was recycled laundromat water.

(Eichhorn 2013)

In contrast to the "emptying of meaning" of terms like "decolonizing" and "sustainable" as discussed in **Section 2.3**, this transformation of the use of the term archive can in fact serve as an act of demarginalization and empowerment for many marginalized groups. Speaking about an interview with "jinjurly", a fandom archivist without formal training, De Kosnik explains that, with access to digital tools and the Internet, many informal practices are taking shape, and that this may have broad-reaching repercussions and power to create disruption:

jinjurly's words may have been scandalous in an earlier era, but as digital culture develops, her idea that "anyone can do these things"—meaning that anyone can build a digital archive if she cultivates the necessary technical skills, dedicates sufficient time and resources, and commits to serving a public over a long time period of time through an enduring online resource—is becoming more and more common. Indeed, the "scandal" caused by rogue archivists consists precisely of their transforming "archives" and "archiving" from terms that signify exclusivity into terms that signify commonness, so that instead of locked rooms, the word "archives" connotes websites that operate as information commons, and

¹⁵ For a detailed history of archives, see Chapter 1 of Giannachi 2016.

instead of the concealed workings of a rarified circle of experts, “archiving” refers to acts of database design and maintenance that “anyone can do,” that are commonplace. And scandals such as these, caused by roués, Derrida claims, can beget serious social and cultural transformations.

(2016)

This idea that the act of archiving what does not belong to the dominant narrative of history, what is “consistently excluded or ignored by traditional memory institutions” (De Kosnik 2016), has transformative power in the present is one that Eichhorn also takes up:

For a younger generation of feminists, the archive is not necessarily either a destination or an impenetrable barrier to be breached, but rather a site and practice integral to knowledge making, cultural production, and activism. The archive is where academic and activist work frequently converge. Indeed, the creation of archives has become integral to how knowledges are produced and legitimized and how feminist activists, artists, and scholars make their voices audible. Rather than a destination for knowledges already produced or a place to recover histories and ideas placed under erasure, the making of archives is frequently where knowledge production begins.

(Eichhorn 2013)

This has indeed been the case for my work, which was made possible by creating a personal archive of design process-related materials and the labour of others creating archives such as “ShakeThatButton” (Corbinais n.d.).

The process of creating an archive that goes beyond personal maintenance of my work is out of scope for this project. However, throughout this research, I became increasingly interested in thoughts about curation, ephemerality, and archival best practices for data preservation, some of which have already been discussed in this section. Some of which will be elaborated upon below. As a result, I began to use words like “archiving” frequently in my personal writing as a shorthand for capturing the traces of the design process and for thoughts around the lifespan of the projects themselves.

In this area, my primary practical interests were safeguards for protecting and “future-proofing” my digital records, given possible changes in technology and format as well as physical decay of the storage method, both of which might result in data loss. However, I am not making new or specific contributions to archival studies.

I speak more about extant archives that document hybrid and alternative control games in the previous section (2.10), as well as my methodology for preserving traces of the in-situ process of design in the **Methodology** chapter.

METHODOLOGY

3.1 Introduction

In this chapter, I elaborate on what concrete methods I used for data production and how I analyze that data, address critiques of the chosen methods where necessary, and clarify how my use of a particular method might differ from other researchers and why that is the case. The methods discussed in this section were used to help develop and document answers to my research questions:¹

What are the affordances that physical-digital hybrid game experiences offer as a form for creating opportunities for critical, reflective play about nuanced subjects and what possibility spaces does this form open up for designers?

What methods can creators of physical-digital hybrid games use to create robust traces and records of their in-situ praxis and creative output for future examination, and what impact might such records of praxis have on their work, their ability to reflect on their craft, and their growth as designers?

My methodology has been refined and altered by the process and practical restrictions of doing almost two years of praxis-focused research. From project to project, certain data collection methods took primacy over others, and there is context to explain and support why that was the case. Further, certain goals regarding how frequently or how much data was collected were restricted by real-world conditions. This will be reflected in the chapters discussing each project.

3.2 Autoethnography

3.2.1 Process-Focused Autoethnography

Autoethnography is a practice with strong ties to feminist and intersectional research, especially as a form of resistance to dominant cultural modes and ways of knowing (Boylorn & Orbe 2016, Ettore 2016). As a queer person, questioning hegemonic modes of knowledge production has personal, and philosophical and political stakes for me. My interest in autoethnography developed from two major sources.

First, from the time that I was a young teen, I was enrolled in a consciously self-reflective high school program that asked me to write reflections after completing projects to analyze my

¹ These questions are further unpacked and discussed in the **Introduction** chapter as well as further on in this chapter, under **section 3.2.3**. I respond to my research questions in the **Conclusion** chapter.

own work. When I began to study game design and write postmortems, writing about my experiences making games was a natural extension of this old habit. I have maintained a praxis-focused blog since January 2013 (JEKA GAMES n.d.).

Second, having read Schön's *The Reflective Practitioner* as part of a directed reading course about critical making under the supervision of Dr. Rilla Khaled, I endeavoured to design a small number of short-term experiments with other game designers, focusing on examining their game design practices. In *The Reflective Practitioner*, Schön engages with how designers pass on the tacit knowledge of design — knowledge that may be so deeply tied to years of experience that it can appear to have become instinctual (1983). The experiments aimed to access, from the first engagement with a project, the approaches of several designers from different levels of experience and with different kinds of practices. Dr. Khaled and I have written about these experiments in our chapter in *Game Design Research*, entitled "Critical Practices in Game Design" (Marcotte and Khaled 2018).

One of our main findings was, perhaps unsurprisingly, that the design of one of these experiments, which asked participants to all design from a shared prompt and document their design process and experience for a week, interfered with that very process (Ibid). Setting up these artificial experimental conditions meant that our participants did not share their habitual processes with us. Further, for those who did not already document their process in writing for sharing with others, this activity also obstructed their usual way of working, and, therefore, did not allow them to engage in their usual process.

When designing my doctoral project, I did not have adequate funding to pay anyone for the level of work involved with the ongoing documentation that a project of similar scope to my current one would have required. Given that creating records of process and posting them publicly was already a part of my game design practice, and given the duration of the project and the in-depth study I was hoping to make, offering up my own data and practice for study seemed like the fairest and most responsible solution. So, I decided to use autoethnography and related documentation practices to record as much of my own in-situ design process as possible. Whether one calls them alternative controls, interactive installations, or physical-digital hybrid games (and I have already endeavoured to explain why I have chosen hybrid games), there is relatively little documentation around the creation of these unusual game forms.² So, I found myself with what seemed like a good match between my creative practice and the opportunity to create and share knowledge about a topic that I care a great deal about for the purpose of my doctoral project.

Autoethnography is more of a category of method than a clear, distinct method in and of itself. Approaches vary widely. The gestures towards defining autoethnography that are most characteristic of the field allow for a great deal of flexibility and acknowledge that others may have different meanings for the term. It seems that there is a hesitancy towards being overly prescriptive about what autoethnography can be or may yet be, which feels true to the traditions that this type of research stems from and is in reaction to.

Adams, Holman Jones and Ellis tell the reader about

² See **section 2.11 Personal Archival Practices** and **section 3.3 Records of Practice** for more on the subject of archives and documentation for hybrid games.

three interrelated concerns and considerations about social scientific and qualitative research [that] contributed to the formation of autoethnography: (1) new and changing ideas about and ideals for research, a recognition of the limits of scientific knowledge, and an emerging appreciation for personal narrative, story, the literary and the aesthetic, emotions, and the body; (2) a heightened concern about the ethics and politics of research practices and representations; and (3) the increased importance of social identities and identity politics.

(2015)

This points to the importance of acknowledging that the knowledge discovered and shared through autoethnography is necessarily different from that of other quantitative and qualitative methods. Ellis describes this as different researchers (who critique autoethnography) simply "having different goals", often specific to their disciplines, and therefore using different methods to achieve those objectives (2009). Autoethnography includes many methodological tools, such as memory reconstruction through writing prompts, non-structured interviews, field observations, storytelling, delving into personal documents, and others. They do not replace all other tools. There are areas of research that are more appropriately studied using other methods. Conversely, autoethnography addresses the need for tools to expand and address concerns and considerations such as those that Adams, Holman Jones and Ellis point toward.

For Boylorn and Orbe, autoethnography "largely refers to both the method and product of researching and writing about personal lived experiences and their relationship to culture" and "is predicated on the ability to invite readers into the lived experience of the presumed 'Other' and to experience it viscerally" (2016). They define autoethnography "as cultural analysis through personal narrative," and they "encourage a critical lens, alongside an introspective and outward one, to make sense of who we are in the context of our cultural communities" (Ibid). Their definition is about connecting the personal to the cultural, and learning about the cultural through the personal.

For Chang, although there are many potential kinds of autoethnography, she ascribes to a version that "combines cultural analysis and interpretation with narrative details. It follows the anthropological and social scientific inquiry approach rather than descriptive or performative storytelling. That is, I expect the stories of autoethnographers to be reflected upon, analyzed, and interpreted within their broader sociocultural context."

So, what, then does autoethnography as a method look like? In practice, most autoethnographic accounts contain a mixture of storytelling and theoretical writing and engagement, and each autoethnographer has a different style. Some include their citations in-line, while others preface their work, or write a reflective statement afterwards. Even if it is not a moment-to-moment account of an occurrence, the immediacy of the narrative form helps to transmit the experience for the purposes of performing research and "social sense-making" (after Wilcox 2019).

3.2.2 Critiques of Autoethnography

Autoethnography is a methodological category used to gain access and develop areas of knowledge that are difficult to measure empirically with a scale and a microscope. It examines areas of knowledge that usually resist having numbers ascribed to them or that it is impractical to use quantitative methods with (although autoethnography is not necessarily incompatible with numbers and quantification). Autoethnography is also incompatible with the illusion of the objective (usually white, usually male and cisgender) perspective that had gone largely unexamined in academia for many centuries. Perhaps this is why autoethnographers have struggled with legitimacy in the past and why autoethnography continues to be critiqued for lack of objectivity or distance from the subject (Ellis 2009, Mendez 2013).

Mendez notes that "[a]nother limitation [of autoethnography] is the exposure it implies of the researcher's inner feelings and thoughts, which require honesty and willingness to self-disclose" (2013). While it is true that vulnerability is required with these methods, the possibility of *academic* dishonesty is present no matter the methodology. Any data set can be manipulated, and self-disclosure (from research participants at the very least) is required to varying degrees for all research involving human subjects. So, while the autoethnography may be dealing with more intimate details, this does not seem to be an actual limitation that is characteristic of the methodological toolkit.

Further, accepting subjectivity as an inescapable aspect of human experience and therefore of this research raises the question of what it means to be honest about one's own experiences and subjectivity. The insights gained through autoethnography do not aim for objectivity, but rather for other kinds of knowledge that come precisely from proximity and access to the subject – one's self. The goals of autoethnography involve analysis, reflection, and interpretation. Changing the person performing the analysis necessarily changes the result of it. So, a binary view of honesty where one can simply be honest or dishonest about subjective experience does not reflect the reality of this kind of research.³

Another critique of autoethnography is that all ethnography is autoethnography: "the ethnographic enterprise is always, in some degree, autoethnographic in that the ethnographer's self is always implicated in the research process" (Atkinson 2006). Autoethnography differs from ethnography in that it not only requires a conscious move toward acknowledging the subjectivity of the researcher (which, it seems, is best-practice in all matters of ethnography, these days) but that it also views the subjective experiences of the researcher as being worthy of study in their own right. One's positionality, one's self, always shapes one's work, regardless of method. Autoethnography, however, goes beyond acknowledging the researcher's role and identity in *shaping* the research topic. Instead, the researcher and their experiences form a *central part* of the research topic.

Ellis identifies three categories of common critique, falling along the following lines (2009). First, "autoethnography isn't sufficiently realist or scientific; it's too aesthetic and

³ The discussion of honesty in this section reflects conversations with Ida Toft, who provided insights about the binary divide between honesty and dishonesty and how this interacts with subjectivity.

literary", and autoethnographers "are naval-gazing [sic], self-absorbed narcissists who don't fulfill your scholarly obligation to hypothesize, analyze, contextualize, and theorize" (Ibid). Ellis notes that this type of critique is most common from a social science perspective. Second, "autoethnography is too realist and linear" and "autoethnographers are naïve realists who think [they] can reveal the secret self" (Ibid). According to Ellis, this previous critique is common from a post-structuralist perspective. Third, "autoethnography isn't sufficiently aesthetic and literary and it is too concerned with being science" and "as long as [autoethnographers] are concerned about achieving legitimacy as social scientists, [they] won't ever be able to write aesthetically, even if [they] have writing talent, and most of [them] don't" (Ibid). This type of critique comes from, unsurprisingly, an aesthetic/literary perspective.

In addressing these critiques, Ellis divides them into two camps: those who do not share the goals of researchers who do autoethnography and do not engage in its practice themselves, and those who have engaged with the problem-space of "interpretive social science" and are indeed trying to improve practices. To the first category, Ellis ultimately says:

How much is to be gained by speaking to critiques that are contradictory and cancel out each other, that speak primarily to what autoethnographers do not do rather than assessing what we do, or that seem to ask us to work from the same perspective and toward the same goal as that of the critic? Given the number, variety, and contradictory nature of some of the critiques, I have a sense that we must be doing something right and that we should continue doing what we are doing.

(Ibid)

In the second case, when the goal is to improve autoethnography methods, Ellis says that "their critical responses should serve to make autoethnography more nuanced, evocative, and complex" (Ibid).

It is true that many critiques contradict each other and may not come from a place that recognizes the goals of autoethnography or share them. It is also the case that researchers should always look to improve their methods. These critiques may be about different types of autoethnography, which may be why they seem so contradictory. Many versions and practices fall into this methodological category. Chang categorizes, broadly writ, the over three dozen related approaches that have been called autoethnography, noting, therefore, the importance of correctly defining one's specific methodology (2016). With that in mind, I turn to describe the specific methods and processes that I have employed over the course of the past two years in my efforts to document my in-situ design process and learn from it, and discuss why the method suits the capture of the design process.

3.2.3 For the Purpose of this Dissertation

As mentioned in the introduction to this dissertation and at the beginning of this chapter, there are two primary research questions that I aim to begin to answer through the written portion of my dissertation. I say "begin to answer" because, indeed, my work stands as one data set, one version, of what an answer to this question can look like, and my methodology is not suited to drawing broad, sweeping conclusions. One of the questions is as follows:

What methods can creators of physical-digital hybrid games use to create robust traces and records of their in-situ praxis and creative output for future examination, and what impact might such records of praxis have on their work, their ability to reflect on their craft, and their growth as designers?

In describing my methodology and later reflecting upon its effect and what I have learned from this process, I start to answer this question. My other primary research question is:

What are the affordances that physical-digital hybrid game experiences offer as a form for creating opportunities for critical, reflective play about nuanced subjects and what possibility spaces does this form open up for designers?

This question was answered through the making of the three creative projects that I undertook and is embodied in the works themselves and in the process of making. My answer to this question resides in my tacit knowledge of design, which I hope to make as visible as possible in the project chapters of this dissertation. In order to share this knowledge, I have included reflections that make use of the analysis of the documentation and records of process created as part of my other primary research question.

What I have undertaken is a kind of autoethnography in that it is "self-observational" (Chang 2016), and that I am studying my own creative practice, situated within a particular cultural milieu. I work at a Canadian university in an interdisciplinary graduate games research lab that neither belongs to a single faculty or department nor an individual faculty member. My colleagues and peers are people from a variety of disciplines. While these three large-scale projects are mostly "solo", this work has allowed me to recognize the essential importance of the social connections, support and feedback that I receive from my peers.

While there are narrative portions in this dissertation, as in other forms of autoethnography, my interest lies in analyzing and contextualizing the wide variety of traces of my practice that I have created and documented for myself. This means that the balance of narration versus analysis and explanation differs in my work compared to common examples of autoethnography. I aimed to avoid "justification after the fact" (Marcotte and Khaled 2018) by creating traces of the design work as it occurred in the moment. Of course, there is some level of analysis and interpretation of those traces that is unavoidable. This work is less impressionistic and less focused on transmitting an affective account of a lived experience than

in many of the autoethnographies I have read. It was certainly appealing to have the opportunity to do some creative writing work as someone with a background in this type of writing.

As I mentioned in the **Background** chapter, my work is perhaps most closely linked to researchers such as Chris Salter and R. Lyle Skains. A number of the questions that Salter poses in *Alien Agency* are present concerns of my own that I had already begun to explore in preliminary stages and publications prior to concluding the bulk of my research:

Is it possible that other methods might emerge from practice rather than be applied from a priori frameworks from outside that are not indigenous to that particular practice? Is it possible to be rigorous using experimental techniques to capture making in action, particularly in writing and after the event?

(Salter 2015)

I hope to further contribute to this kind of discussion through this doctoral project. My work differs in scope in that I am studying my own solo practice, whereas Salter focuses on collaborative processes. Our academic areas of concern, though related, also differ significantly. I come to this project as a queer, intersectional feminist game designer with an interest in larp, theatre, and all of those many areas that I have delineated previously.⁴

Skains' research proposes a "Practitioner Model of Creative Cognition sample methodology." This approach relates directly to my own — at least, when it comes to the digital and creative writing aspects. My methodology differs from both Skains' work and from most traditional autoethnography examples in terms of my documentation process and the kinds of objects I preserved.

Because my work deals with physical objects and because my process involves other people, it was necessary for me to find documentation methods that captured as close to a totality of the process and the resulting creative piece as possible. I aimed to find as complete a way of sharing and preserving the works as possible, especially for those who might never see them. The next section addresses the type of data collection and documentation that forms these records and archives, explaining the importance of each, and where allowances had to be made for shifting priorities of concern.

3.3 Records of Practice

3.3.1 Documentation Practices and Procedures: Physicality, Digital Code, and Live Performance

Archival best practices for digital preservation dictate that it is crucial to update out-of-date, or soon-to-be-outdated, file formats once a year, and replace the physical drive that the media is stored on once every four to five years (Smith & Venlet 2015). Additionally, the Smithsonian Institute Archives recommend the following file formats for preservation purposes: PDF for text,

⁴ See the Background chapter for a reminder of these areas.

spreadsheets and presentations, uncompressed TIFF for images, Motion JPEG 2000, MOV, AVI for video, and WAV for audio. Certain secondary file formats are acceptable, but not preferred (Smithsonian Institute Archives n.d.).

For my preservation work, I have used lossless (inasmuch as possible), open-source, accessible formats, and creative commons licensing to create a personal digital archive, and have made a (perhaps overly-optimistic) plan for helping these records to survive. Additional recommendations for personal files that I have followed include keeping a physical copy in a geographical area that is not one's own (in case of natural disasters, for example), and using cloud storage as a backup rather than as primary storage (Smith & Venlet 2015).

In order to document my in-situ design process and the projects created through that process, I have collected data in a number of media. These include commented code repositories, videos, photos, brainstorm, paper, comments, materials, invoices, voice recordings of design conversations, journal entries, and social media posts. The following provides a brief overview of the exact procedures and rules that I followed for data collection and preservation. It is not necessarily possible to sort each type of data into a discrete category, and I have tried to note where there is overlap. All materials were collected with the consent of participants who have signed consent forms approved by Concordia University's Office of Research.

3.3.1.1 Journal Entries and Notes

Journal entries served two primary purposes across this project: the first was to take the time to think about where I was at in a project and what progress I had made. The second was to record the context around me: what was preoccupying me, what else was going on in my life, what helped my progress and what was taking up my attention or getting in the way. This is a context that would otherwise be lost, or, at best, be at the mercy of my fallible human memory. My procedure for writing journal entries was quite freeform, but it was important to me that I limit "justification after the fact", as described above. As a result, I wrote largely about recent events, those as close to the current moment as possible, or wrote using handwritten notes from notebooks, which I kept with me as close to at all times as possible.

3.3.1.2 Progress "Reports"

Signs of progress on a project can be found as nonverbal series of photographs or videos, in the comments of the code repositories that I made for projects, and in the journal entries described above. At times, photography and video were the most appropriate ways to record progress on physical objects, while at others, writing was the easiest way to communicate. Code repositories also served to mark progress when programming was my primary activity.

3.3.1.3 Code Repositories

Detailed "commit" messages (messages that a programmer is required to include when saving a version of code in a code repository) and commented code are the two primary ways that I

made use of code repositories as a record of practice. Code repositories, in addition to containing progress reports about the projects, included task lists of features left to implement, as well as details about frustrating problems being encountered, and record attempts to solve bugs and problems. My code repositories also contain instructions for installing software and hardware and how to set up the technological aspects of the project (but rarely instructions for reproducing the other physical and aesthetic layers).

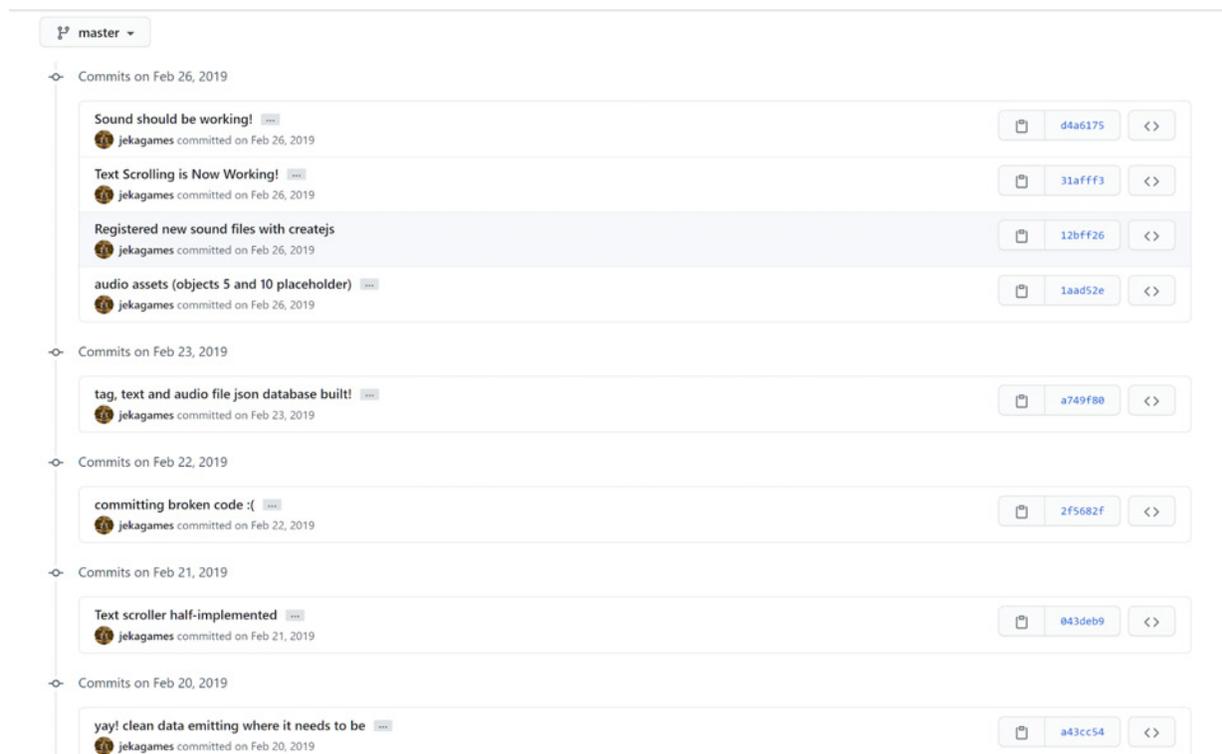


Figure 3.3.1 A part of the GitHub commit history for *TRACES*.

3.3.1.4 Photography

Photographs and their metadata, as previously mentioned, could serve as a kind of visual "progress report", especially when a milestone was met with respect to physical making. My photographic record includes works-in-progress, early prototypes and subsequent versions, myself in the act of physically making, and the final versions of projects.

3.3.1.5 Video

Most of the videos in this project were taken to demonstrate works-in-progress or the finished results of physical crafting aspects of the project. There are a lot of blinking LEDs (light-emitting diodes) and wires. In the case of *TRACES* (Project 02), many playtest sessions were, with the participants' permission, filmed by filmmaker Vjosana Shkurti, and then cut into a trailer by yours truly. This was an experiment in how to share a version of the experience of playing the game,

though it does not contain the full narrative. Simultaneously, this type of trailer can serve as a way of gaining access to more showcasing opportunities, since it communicates something about the game that is easily shareable.

I did not do so for the first project, *Flip the Script!*, because playtest sessions were quite personal, and participants had to build up a kind of circle of trust amongst each other in which they were willing to disclose. So, no video of these playtest sessions exist, with the exception of a video taken by Gina Hara in the TAG research lab of an early playtest session with the Reflective Games group.⁵ In the case of the third project, *UNLOCK. UNPACK.*, sharing video documentation of the playthrough sessions would spoil the puzzles, so I largely took video introducing the unsolved suitcase and its mysterious-looking components. In the future, it may be useful to explore the use of "let's play" or "video walkthroughs" for such projects.

3.3.1.6 Audio Recordings

Audio recordings took five forms in terms of praxis-focused data collection in this project. The first category is design sessions during which I am actively working on a project, either alone or alongside another designer. This includes brainstorming, working on code, or actively asking for help with a specific problem. The second is design conversations — more high-level conversations with designers where I describe a project or talk about something theoretical with another designer. The third is recordings of playtest sessions (this is solely in the case of Project 01) while players are engaged in the act of playing. The fourth is the audio recorded for the game project itself (this is solely in the case of Project 02). The last is debrief sessions and feedback sessions with players, where we talk about their experience with the game and reflect upon it together.

3.3.1.7 Physical Materials and Miscellaneous Traces

Wherever possible, I have kept either a small physical sample of the materials that I used for each project (such as fabric samples and patterns from the puppets of *Flip the Script!* [Project 01]) or kept invoices and receipts detailing where a particular material was purchased. This seems especially important for more unusual materials.

I have also kept the original paper copies of all hand-drawn or handwritten materials, such as brainstorms and mindmaps, paper prototypes and rulesets. While a digital facsimile can often suffice, it is best practice to keep the original wherever possible.

In terms of miscellanea, although it was not as common a part of my practice, I have saved comments from social media and other public sources (such as blogs), both from myself and others, about the projects. For creating a record of how a project was received, this seems like an especially important practice to continue to experiment with.

⁵ A small research group at the TAG lab led by Rilla Khaled, with members including myself, Rebecca Goodine, Enric Granzotto Llagostera, and Dietrich Squinkifer.

3.3.2 Reflections on Ephemerality and Archival Practices

This wide variety of materials have been collected in an attempt to access the tacit in-the-moment knowledge of design and of my process, and to document the physical interfaces, digital code, and performances that make up the experiences I created. As it turns out, each of these different aspects has its own challenges when it comes to preserving and archiving them. In the long term, it is inevitable that, on a long enough timeline, despite my best efforts, all of these materials and traces will be lost.

Even without considering the degradation of the materials, the prevailing wisdom in performance studies is that nothing can replace the experience of "being there", or being the one playing (Taylor 2003). I have been told that I should ultimately embrace this ephemerality. I do not doubt that this is the case and have made my peace with both the fact that my documentation cannot replace the actual experience of being in the room and playing one of my projects and that eventually, my work will be lost. This shifts my intent from trying to reproduce these experiences in their entirety to trying to capture as many useful details as possible so that others can understand the projects, how they were built, what the intentions were, and how they were received by players.⁶

The goal of preserving as much as possible for as long as possible is essential to human-assisted physical-digital hybrid games and those who design them. The form suffers from a notable ahistoricity, owing to the often hand-crafted interfaces that also frequently require a certain level of expertise and a good many hours to create.⁷ Without easy access to documentation about projects made more than a few years ago, creators cannot build upon what came before them in a meaningful way, and there is a lack of continuity, a lack of history, that is damaging to the form. To be in dialogue with the creators and work that came before our own is a wonderful gift, but it is one to which creators of human-assisted physical-digital hybrid experiences have limited access.

It often falls to the designers of such games to preserve them as best they can for as long as they can. Speaking to such designers, it is common to hear that the custom controllers for a certain game are stored in a box in their closet, or in their basement. Video footage can be difficult to track down, and diagrams about the construction of controllers, or instructions for moderators, are even rarer. As maintaining code repositories becomes a more common practice, it is sometimes possible to find the assets or Arduino code that a designer has written, but unless designers publicize the existence of said repositories, the scale of the problem and the data to sort through is overwhelming. Additionally, these experiences may require the oversight and vigilance of a person with a particular skill set, such as a moderator or actor, who facilitates the experience. Without knowing who that person was or what their role entailed, crucial details about the experience are lost. As a result, many gaps exist in the history of the

⁶ For further discussion about scholarship on archival practices, performance studies, and how these relate to my doctoral project, see **section 2.11** of the Background chapter.

⁷ Granzotto-Llagostera's *gambi_abo* is a notable exception here, though the initial development of each prototype nevertheless takes a good deal of time (2018).

form, especially when it comes to academic study. It is difficult to find game examples from beyond the past two decades.

To my knowledge, the most complete records and archives of alternative controllers (as previously discussed, these share many familial resemblances with hybrid games) still have a frighteningly short memory, largely focusing on recent projects with occasional exceptions. It is frequently easier to search for a specific designer's work whom one knows is engaged in this type of design than it is to search for a specific type of project. Designer, writer and journalist Pierre Corbinais and a team of volunteers maintain a web archive called *Shake That Button* which collects examples of alternative controllers and has records going as far back as 2001. However, most entries are dated only by when their video documentation was posted online (Corbinais n.d.). I am not aware of the existence of any other archives like it. Similarly, the "alt.ctrl.GDC" lineups (a showcase of alternative controllers at the Game Developers Conference) from previous years are hosted on the Game Developers Conference website (Polson 2020). Unfortunately, this showcase has only existed since 2013. It is of course worth noting that, although they are not specifically games-focused or interface-focused, there are definitely archives of interactive art, performances, installations, and arcade machines, and certainly it is important to include these traditions in any survey of the field, though this dissertation is not a survey.⁸

I dream of an archive like the *Musée Mécanique* in San Francisco, a museum of arcade cabinets — not just games, but all sorts of curios, from many, many fortune-telling machines to mechanical theatre performances with tiny automatons and morality plays (Musée Mécanique n.d.). It was initially one person's labour of love, much like *ShakeThatButton*, but grew into an iconic part of the city's cultural landscape. I dream of a toy museum for alternative controllers and hybrid games. I dream of university research collections, media depots, and labs dedicated to these same objects, such as Lori Emerson's Media Archaeology Lab, with its publicly-available catalogue and hands-on activities where "researchers, students, teachers, artists, and members of the public are encouraged to turn on, open up, play and create with items from the collection" (The Media Archaeology Lab n.d.). These do not exist for the moment, but museums are just beginning to acquire a limited number of alternative controller games, interactive experiences, and related large-scale installations, such as through the Victoria & Albert Museum's *Videogames: Design/Play/Disrupt* exhibition (Foulston and Volsing 2018). However, I am not aware of whether the materials of the exhibition are permanently archived at the V&A. I hope so.

However, many of these archival practices and dreams are largely well out-of-scope for this dissertation project, though I am moved by them. Instead, I have focused on the personal archive and what it means for me to preserve traces of my practice and the resulting games as well as I can while still continuing the work of making them in a reasonable way.

⁸ One interesting record of process related to hybrid games that has come to my attention recently is the *BookNIAROF* project, a publication which documents years of technological "fête foraine" (a carnival-like activity) installations and projects, along with a practical section of schematics and instructions for building some of the projects in the book, visual design by Sophie Blum (2017).



Figure 3.3.2 Fortunes from a variety of machines at the Musée Mécanique. Photo by Jess Rowan Marcotte.

3.4 Playtesting and Iterative Design

Iterative design is a play-based design process. Emphasizing playtesting and prototyping, iterative design is a method in which design decisions are made based on the experience of playing a game while it is in development. In an iterative methodology, a rough version of the game is rapidly prototyped as early in the design process as possible.

[...] Iterative design is a cyclic process that alternates between prototyping, playtesting, evaluation, and refinement.

Why is iterative design so important for game designers? Because it is not possible to fully anticipate play in advance. It is never possible to completely predict the experience of a game. Is the game accomplishing its design goals? Do the players understand what they are supposed to be doing? Are they having fun? Do they want to play again? These questions can never be answered

by writing a design document or crafting a set of game rules and materials. They can only be answered by way of play. Through the iterative design process, the game designer becomes a game player and the act of play becomes an act of design.

(Salen & Zimmerman 2004)

Rapid, iterative prototyping is acknowledged as a key game design technique (cf. Salen & Zimmerman 2004, Fullerton et al. 2008, Grace et al. 2015, Macklin & Sharp 2016). Early prototyping and playtesting saves designers from polishing aspects of a game that simply are not working, and can be highly generative in terms of working with experimental ideas that would not otherwise be explored in a more extended development cycle. In fact, this process has proved so successful for game design that designers and researchers in other fields, such as Human-Computer Interaction, are beginning to adopt and adapt this approach, and more specifically, the concept of a game jam, for their work (Chatham et al. 2013, Musil et al. 2010).

At the start of the doctoral project, my intent was to engage in more rapid and iterative prototyping than proved possible. From the initial prototyping to the final version of each of my projects, I had originally allocated six months per game. In practice, the average time per project was around seven to eight months. This is a short development timeline, given that I was ultimately only able to work part-time on all but one of the projects (the first one) and was working with handcrafted physical interfaces. This means that the projects were in a more advanced stage of completion than originally anticipated before I was able to playtest them and iterate upon them. Nevertheless, each project went through multiple iterations due to playtesting, with some changes being more significant than others. These changes and iterations are discussed in the chapters addressing the individual projects.

In most cases, a single playtest does not garner enough data to say with certainty that something should be changed, unless there's a game-breaking bug or a typographical error. On average, I observed between five and ten playtesters (although this does not necessarily equate to the same number of distinct playtest sessions, as two out of three of the projects were multiplayer) before changing any one thing about a project. This is a relatively small number of playtesters. However, as previously explained, playtesting for these projects is already limited in scope due to time constraints and the requirement that players be physically present with the materials necessary to play, and that playthroughs of projects (including subsequent debriefing) took from anywhere between forty minutes to three hours.

3.5 Analysing the Data

Grounded theory is a common qualitative method involving asking questions of qualitative information and data through the iterative processes of coding interviews according to a common set of tags to see what patterns and possible interpretations emerge. Strauss and Corbin's grounded theory methods are frequently applied to multiple interviews with different participants around a particular, focused subject (2008). These methods move between macro and micro views of the data under analysis, from "general analysis" to "microanalysis," at times

focusing closely on minute sections of data, and then at other times stepping back to view the overall picture (Ibid).

The primary functions of the analytical approaches proposed by Strauss and Corbin are to help the researcher interrogate the data from new perspectives and through new lenses, to draw connections that might otherwise be obfuscated by the researcher's received ideas about the topic or their personal relationship with the topic. This is of particular concern for my research, given my closeness to the topic, which is my own creative practice and work.

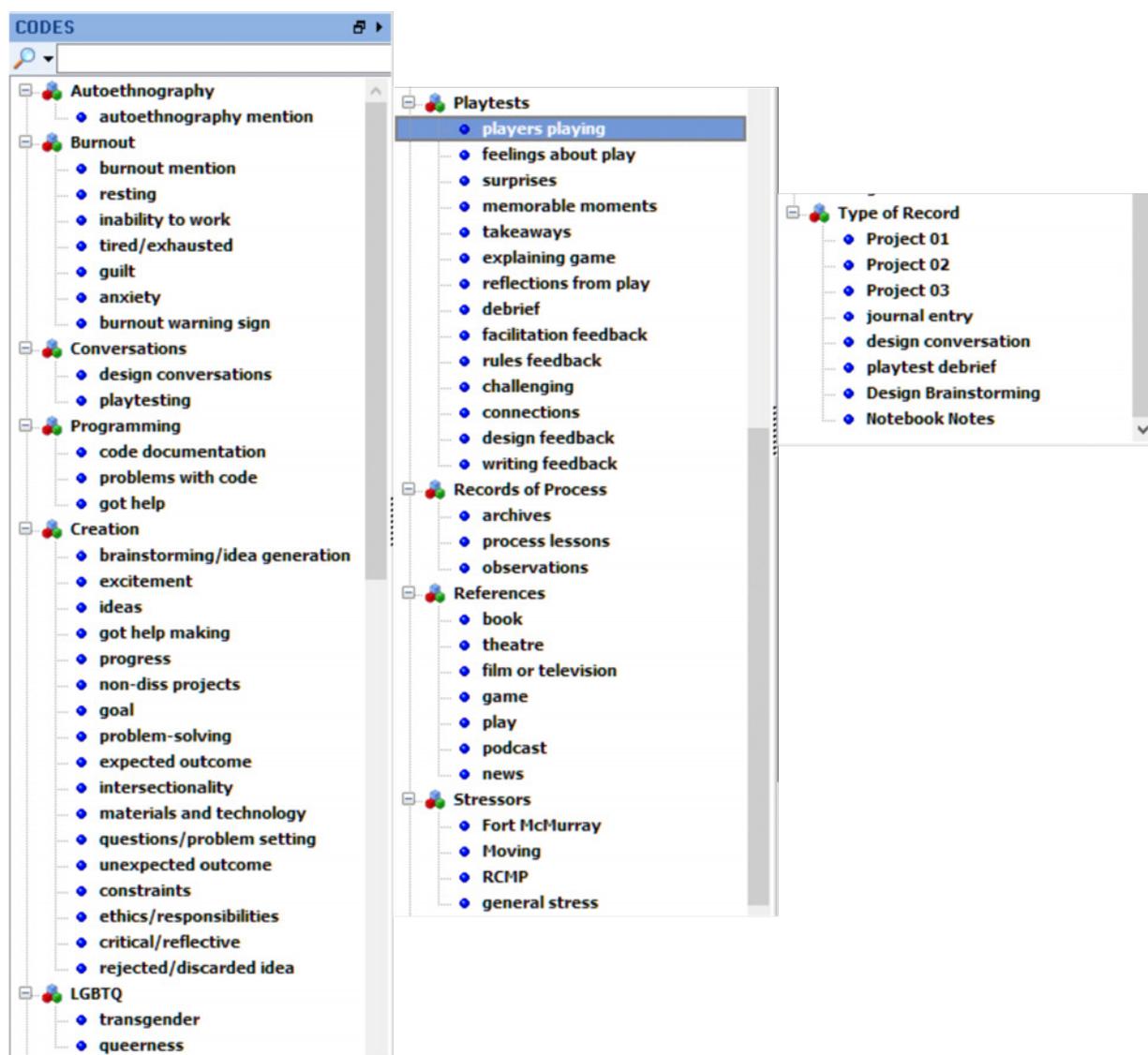
It is important to note that objectivity is not the ultimate end-goal of grounded theory, nor is it even considered as a possibility — multiple narratives can be drawn from the same data and "analysis is an interpretive act" (Strauss & Corbin 2008). The iterative process of achieving a nuanced understanding of the data from careful consideration and handling is an iterative one, and analysis can go on indefinitely.⁹ Throughout these processes, contextualizing "the context or the conditions under which something happens, is said, done, and/or felt is just as important as coming up with the 'right' concept" (ibid). This approach allowed me to draw out recurring, relevant themes related to my process and its outcomes. These recurring ideas and themes formed the basis of my analysis of how players receive my games and the impact of the autoethnographic process on my design practice.

I performed qualitative analysis, using grounded theory methods (Strauss & Corbin 2008), on the written and transcribed data sets that I collected. These include discussions between myself and other designers, brainstorming sessions, playtests, playtest debriefs, journal entries (blog posts), and my handwritten notes. To add codes and memos related to the themes and ideas present in the data, I used a qualitative analysis software called "QDA Miner Lite." This free software allowed me to import each of my text-based files and tag individual strings of text with one or multiple codes. As I was dealing with a great deal of data, I had to set limits on how many passes I performed on the data.

As I began the coding, my codes evolved and my initial tagging list changed. When the idea that a particular section of text brought to me differed substantially from what was written/spoken, I added a descriptive note. My process went something like this: I re-read the material once through, without coding, then did an initial coding pass, followed by a subsequent pass where I was more likely to add notes. Next, I re-read to draw out connections and themes that I wanted to take up in my written analysis of the process, taking notes of overarching or common themes within a project. Then, I wrote those sections and subsequently revisited the data to pull relevant quotes and references. Given my prior training in analyzing literature, I have also made use of close reading to gain further insight into the data. Close-reading refers to the careful, detail-oriented analysis of a short portion of text. Alongside these close readings, I have done larger overviews and synthesis of the many documents involved in this process using grounded theory techniques as described in this chapter. This allows me to engage with the data from a variety of perspectives — the forest and the tree. In terms of the visual, material and other types of traces of practice that resist being written down, I have done my utmost to

⁹ As it turns out, most processes involved with design, dissertation writing, and data analysis can go on indefinitely. *Caveat emptor.*

analyze the constraints and concerns that led to particular decisions, using the written materials and transcriptions as context.¹⁰



[Figure 3.5.1: The List of Codes for Qualitative Data Analysis]

As Khaled, Lessard and Barr note, reproducibility is a difficult standard for scientific rigour for designers to achieve, because each design problem that each of us comes to has its own unique parameters (2018). Instead, they choose to focus on recoverability (Ibid). I find this way of conceiving design research to be methodologically and philosophically-useful in framing this research and my personal design practices. In collecting my autoethnographic data, I have made the experience of creation in some way recoverable. In analyzing it through a design research lens using grounded theory, I recover it and can discuss it. Much of the data (though

¹⁰ Several sample analyses that I performed on the dataset are provided in **Appendix A**.

not all, for reasons of ethics) is already publicly available on my personal website and in code repositories. What data I cannot share fully, I have attempted to recover, translate and share in this writing and through grounded theory analysis.

PROJECT 01: *FLIP THE SCRIPT*

4.1 Overview

Flip the Script! is a game that makes use of puppetry, sociodrama, and alternative controllers to aid players in exploring systemic issues through roleplay. Inspired by Brechtian and Boalian theatre, and informed by readings on sociodrama and psychodrama, the game asks players to first break the ice through the use of puppets, then to find common ground with each other, and finally, to decide together on an intersectional social issue to explore. *Flip the Script!* invites players to think about how their personal experiences might be a part of larger interacting systems of privilege and oppression.

(from a 2018 festival application form)

What's something negative in society (in the world) that you experience personally, based on your identity, that you think other people might also experience, that you'd like to see change?

This is the central question of *Flip the Script!*, an improvisational game for three people and a facilitator that attempts to explore intersectional social issues through play (Marcotte 2018b). It was created, refined, and playtested over the course of around seven months, from January to August 2018, with a few subsequent playtests of heavily abridged versions in October at Different Games 2018 and in November 2018 at the Montreal Maker Faire.

The above question is not, however, the design question that I started with. If I had to describe the question that started me off on creating this project now, with all of its materials spread out before me, I would say that it might have looked something like this:

Given that I have seen alternative controllers using puppets¹ that have felt like they lacked more than a surface-level consideration of what a puppet controller could mean, and that these have felt quite 'gimmicky', what meaningful interactions and controls that feel well-considered can I create with puppets?

This chapter explains the project in detail, before then exploring the process of making it. This discussion includes the immediately traceable influences² that impacted its design, the

¹ See *Puppet Pandemonium* (2018).

² As opposed to those unremembered or difficult to trace influences that one sees in passing and that do not register as influencing one's thoughts or design.

particular context in which it was made, the modes of documentation used, the process of playtesting, the different design strategies employed, the challenges that came up throughout, as well as the knowledge that can be drawn from the process about the process.

4.2 Detailed Project Description

4.2.1 What is *Flip the Script!*?

In *Flip the Script!* (Marcotte 2018b), players are asked to find common ground with each other about systemic issues that affect them and come up with a statement about how they would like the world to be instead of how it is.

The game tries to accomplish a fair bit in a short amount of time. A typical playthrough without debriefing or collecting feedback runs between an optimistic ninety minutes and two hours, but this heavily depends on player-related factors and whether the facilitator (me, or someone trained to provide players support through difficult conversations) believes that everyone is comfortable with moving to the next phase of play. Play is arranged to try and give players some common language and knowledge for discussing topics related to intersectional matters.



Figure 4.2.1 Harle, Avi and Drake, the three puppets of *Flip the Script!*

First, the players are asked to choose between Avi, Harle and Drake, the three "puppet assistants" for the game. Avi's colours are reminiscent of an avocado, with a green body, green limbs, and primary green head, a yellow stomach, yellow diamond-shaped patch on their head, and yellow accents surrounding their eyes. Their eyes are set wide apart, with no eyelids. Harle is a puppet with a two-toned face (darker and lighter blue), named for this Harlequin pattern. Their eyes are set high near the top of their head, with heavy bags under them, a severe expression and a forked tongue. Drake is a red puppet with eyes that have yellow sclera and black irises, slit vertically, a yellow underbelly, yellow horns, and a large spiky crest on both sides of their head, axolotl-like. They are named for, as the game rules note, "popular *Degrassi: The Next Generation* star and Toronto rapper, Aubrey Drake Graham", rather than because they look like a dragon (Marcotte 2018b).



Figure 4.2.2 Drake the Puppet and Jess the Designer.

Next, through a demonstration by the facilitator, players are introduced to some of the basics of puppeteering: attention, breathing, and synchronization. The following is the script of the basic tips that should be covered in this explanation:

So the first element is ATTENTION. When you're actively puppeteering, look at your puppet. This will draw attention away from you and to the puppet. When you are not speaking or performing, look at the PUPPET who is.

The second element is BREATHING. If you want your puppet to look alive, take the time to incorporate some subtle breathing movements and other motions into your performance. You can use head motions, the idea of breathing, you can move their arms, hands and bodies. Experiment and have fun with it!

The third element is SYNCHRONIZED MOVEMENTS. For us, this is especially important for speech. Try to match when the mouth is open and closed to the words that you are saying. As another example, if our puppet had feet, we would want to make sure that it moved in ways that feel realistic to the eye. In a walking cycle, this would mean never having both feet off the ground at the same time.

(Marcotte 2018b)

They are then asked to introduce themselves and their assistant as a way of practicing those skills and building group cohesion and comfort. This moment allows them to play around with the puppets in a low-stakes way before play proceeds to more "serious" topics.

Afterwards, the players are introduced to the technology involved in the game: each puppet wears a vest that has a ring of LEDs (light-emitting diodes) sewn to it, called "neopixels", and a small battery pack and a microprocessing board called a "micro:bit" attached with velcro. The micro:bits can send signals to each other through wireless communication, including one that activates the LEDs. The activation of the LED is used for communication in the game — it signals when certain events are supposed to happen, depending on the scene. It is also intended to provide a way of communicating without having to identify oneself in a context where difficult topics may be broached, and it might be difficult to speak up.

Next, a lay definition of "intersectionality" (Crenshaw 1989), with examples related to the puppets. This is how I explain intersectionality in the game rules, trying to balance accessibility of language with accuracy:

Intersectionality is a term from Kimberlé Crenshaw that refers to how people from different backgrounds and histories experience the world, and how that changes depending on those backgrounds. Some of those different identities might be things like gender, race, sexual orientation, class, ability, citizenship, and there are plenty of others. The intersection part means that these different aspects of our identity mix together in ways that are

sometimes very complicated and tangled. Each person stands at the intersection where their different identities cross. Sometimes, our identities stand at an intersection to other people's identities too. Not only that, this isn't just about individual, one-on-one experiences, but about whole systems that we are all a part of. Those systems are part of our society and culture, and sometimes they hurt us [or help us] because of who we are.

(Marcotte 2018b)

This provides a basis for a discussion about players' personal experiences with marginalization, and they are asked to try and find common ground through their discussion to form the basis of several scenes around that particular topic and experience. Specifically, they are asked to reflect on this question: "What's something negative in society that you experience personally, based on your identity, that you think other people might also experience, that you'd like to see change?" (Marcotte 2018b).

Following this discussion, players are asked to propose, veto (by way of the LEDs), and vote on a topic they want to explore together. Next, players propose roles of characters that one would find in a scene related to said topic. These can include people and archetypes, but also abstract concepts. For example, in one playtest, one of the roles was the Embodiment of ADHD (Attention Deficit Hyperactive Disorder). After choosing some "beats" or key moments that they would like to explore, players are now ready to play through scenes with their puppet assistants. Throughout, players are free to switch roles, puppets, change the scenes, and more.

What follows are the types of "games" that can be played in each playthrough of the scene. The game types are used to explore different angles of the situation and can be used in any combination. Depending on how long a particular game takes, all game types can be played, but in a shorter game or one that is starting to run long, it is up to the facilitator to determine what they feel will best help explore the topic at hand.

Should Have Said

In this round, lighting up the LEDs will mean that you want the player who said the last line of dialogue to say something other than what they have said and that they should try a different line of dialogue. This is the **Should Have Said** round. You can do this as many times as you like, even with a line of dialogue that has just been changed. You'll have to be quick on the button!

Switch Roles

In the second playthrough, when the LEDs are activated, it will mean that it is time to **Switch Roles**. Each role will move one player to the left (or, clockwise). You can do this as many times as you like, but try to give a bit of time between switches.

Introduce a New Role

In the third playthrough, when the LEDs are activated, it will mean that it is time to **Introduce a New Role**. Anyone can propose what this new role ought to be. You can also take this opportunity to refine or rethink a current role, highlighting specific aspects if you choose. You cannot force another role on a player, though — it is up to them whether they accept a proposed role or not. Players can each have multiple roles within one scene, as long as they can keep track of them!

(Marcotte 2018b)

After players have had the chance to explore their topic thoroughly, the next phase of play is "formulating a statement about how we'd like the world to be." Together with the facilitator, players are asked to come up with a statement that they would like to send out to the world that encapsulates this experience, or that gives some advice for how they would like this type of scenario to play out, compared to how it typically might.

Given the emotional energy required to run this game, and also to play it, as well as the time commitment involved, this game has been playtested in its entirety just five times, with a total of 15 players (although there have also been playtests of earlier versions and, subsequently, of drastically abridged versions, which will be discussed in section **4.6 Playtesting Contexts and Lessons**). Here are the statements that resulted:

"Use what privilege you have to act in concrete, actionable solidarity."

"Please be attuned to the subtle signs of our inner experiences and invisible struggles (and thank you for your patience)."

"Each 'small' drop in the bucket still eventually fills it and can make it overflow."

"Be critical of the information you consume; be a good observer, be a good listener, and go deeper than the surface."

"In recognizing each other's humanity within rigid systems, there may be potential for unusual alliances and creative solutions."

Each statement comes out of a shared exploration of a complex topic decided upon by the players, followed by a facilitator-led process to formulate a single statement. Players suggest ideas that they wanted to represent in this statement, all of which are written down on a whiteboard. Together, the groups revisit ideas that seem to be of particular importance to them and continue to come up with ideas until someone is ready to suggest a formulation that

encapsulates those ideas. This process of refinement continues until all players have said that they are satisfied with the statement.

Subsequently, players have the opportunity to debrief both as a group and separately, talking through ideas, feelings and experiences from the game. These are the debrief questions that were asked and how the context was set:

Debriefing is a way of processing in-game experiences and of learning from them. We're going to do a short debrief together to end the game. First, please take off your assistants and place them carefully aside over here.

Next, let's start with some questions, and then we can move on to more general discussion of the experience. Be sure to contribute your ideas and to leave room for the other players to contribute as well.

1. Was there a challenging moment in the game? How did you feel about that moment?
2. What does this game suggest about what to do when you encounter this kind of situation in the real world? Was there an approach that the group took in-game that you thought was helpful?
3. Did your perspective on the topic that we discussed change throughout play?
4. What was something memorable from this play session?
5. What is something that you will take with you from this game?
What is something that you'll leave behind?
6. What topics do you all want to discuss before we say goodbye?

(Marcotte 2018b)

They are asked the same set of questions as a group and separately, and are also given a chance to provide any additional feedback and address any additional topics that they may wish.

4.2.2 Rhetoric and Meaning in *Flip the Script!*

In this section, I address, such as I am able to without the full experience being available to the reader, what *Flip the Script!* is trying to communicate to its players and how it does so through

various ways of communicating meaning, including, as in **section 2.6** of the **Background** chapter, a variety of aspects of its design, including its words, its procedural rhetoric (rules and mechanics), its interfaces, and its aesthetics.

Through the puppets, *Flip the Script!* invites play and gives a visual sense of friendliness and approachableness. The rhetoric of the micro:bit interface and LEDs, installed on a vest worn by the puppet, is intended, in conjunction with the rules, to recognize the value in being able to communicate without words and that communicating boundaries in the face of perceived peer pressure can be difficult. Part of how this technological addition valorizes these things is through their prominent addition to the analog puppets. There is an importance lent to the interface and its intended use as communicated in the rules through its existence. If the game did not place value on these concepts, this interface would serve only as an attractor, like carnival lights.

Through the written rules and mechanics, the game aims to communicate the following: that play can be a safe place to explore difficult topics, that safety is a priority, and it is okay to leave or prioritize safety in ways that interrupt play at any time, that it is worthwhile to speculative about what we might want to change in our world, that it is worthwhile to consider our commonalities and differences to other people, and lastly, it is worthwhile to take the time to reflect on what we would like others to know about our lived experience. This is also reinforced in my facilitation of the game.

Beyond this, each session of the game has the potential to go to very different places and broach different topics, depending on who is playing and what they wish to bring forward. So, the individual sessions may have their own rhetoric beyond this.

4.3 Genesis

Because this was the first game of this new period in my doctoral work, I still was following threads and ideas from before the autoethnography and creation period had started.

Having worked with textiles and embroidery for *The Truly Terrific Traveling Troubleshooter* (2017b), Dietrich Squinkifer and I had talked about the potential of making further soft textile projects, and more specifically, something that would use flappy-mouthed puppets as the main controller of the game. Following that conversation, *Puppet Pandemonium* was announced as one of the selections for a popular alternative controller festival (Tolman et al. 2018). Combining puppet controllers with fast-paced screen-based mini-games, *Puppet Pandemonium's* puppets have large, circular buttons on their heads that players use to navigate on-screen action.

I found myself disappointed that the affordances of the puppets themselves were not put to use more completely, and that the game relied on a large screen rather than focusing on the puppets themselves, and that these mini-games seemed thematically-unrelated to the use of puppets as a controller. At the same time, making another alternative controller game involving puppets, particularly when this one already existed, had somewhat lost its appeal.

Discussions over a 2018 holiday brunch with Rilla Khaled, Pippin Barr and Thomas Deliva brought renewed interest in the idea. They reminded me that, surely, a puppet game "Jess-style" would probably look fairly different from *Puppet Pandemonium*. With renewed

confidence, I decided to use the puppet ideas as a starting point, even if ultimately something else took its place. Thinking through puppet-focused game ideas provided some much-needed constraints for the project.

What is noteworthy about this is that the material constraints that I wanted to work with were my starting point for this project, rather than something more conceptual or a particular mechanic that I wanted to explore. I wanted to explore puppets.

4.4 Traceable Influences

As mentioned in my methodology, part of the autoethnography process involved trying (as much as was practicable!) to trace the influences of what I read, watched, played and otherwise was inspired by. One of the challenges involved in tracing these kinds of influences is trying to recall earlier points of contact with a particular subject.

As I discussed the project in conversation or wrote about it during the data collection period, I made an effort to recall all that I had been building on. My interest in puppetry goes back to childhood — to, as one might imagine, *Sesame Street* and theatrical performances that I was brought to in grade school, but was renewed by three more recent occurrences that I remember clearly, and that I discuss in some detail in the autoethnography data from March 12th, 2018.

The first was a 2015 Christmas gift purchased for my young niece at a local winter market: two fuzzy monster puppets made by Diabolo Puppets, designed and crafted by Steven Barkley (Barkley n.d.). To preface this gift, I enlisted a performer friend (Jordan McRae) to help create a video with simple, clear language (and one of my niece's favourite songs at the time, *Frère Jacques*) that introduced "Blue" and "Green", her new puppet friends. When she opened her gifts, the puppets she had just seen in the video were in her lap in a box. When developing *Flip the Script!*, I recounted stories of playing with Blue with my niece during design conversations, including moments where she would hug them by hugging my whole arm, and how her relationship to them evolved as she aged — from watching them and interacting with them to puppeteering herself.

The second is a seminar class in research-creation methodologies taught by Dr. Mark Sussman, entitled "Objects, Agency, and Material Performance" that I attended in Winter 2016. This course allowed me to develop my interest in theatre and performance. As part of this course, I attended a performance of *The Table* (Blind Summit Theatre 2013-2018). In *The Table*, "Moses is a cantankerous 3 man operated puppet with a cardboard head... who lives on a table. Tonight he wants to tell you an epic story about God and Moses, life and death, and puppetry... on a table. But he gets easily distracted" (Blind Summit Theatre n.d.). Moses is very, very aware that he is a puppet, and that he lives on a table. As part of the performance, the puppeteers draw attention to the elements that make Moses feel "alive," teaching a well-crafted lesson in puppeteering to the audience. In a similar vein, I note, in that March 2018 conversation and others, performances such as SNAFU Dance Theatre's *Snack Music* (2015) and *Little Orange Man* (2010-2016) and their creative use of everyday objects and foodstuffs for puppetry.

In Spring 2017, Jordan McRae, the performer friend I have just previously mentioned, took a puppet performance course, and, as part of the course, he made his own puppet, a red

bat-type monster puppet named Rodney. I was immediately interested in making my own, and ultimately purchased the same puppet-making pattern for my own creations. Attending the "grad show" for this puppeteering class brought back this interest once more. Essentially, I was already puppeteering for an audience of one, my niece, with the techniques so helpfully introduced in *The Table*. I wanted to play with puppets some more! I was also inspired by witnessing performances in the local improvisational theatre community for some of the scene mechanics for *Flip the Script!* This is a community that I am connected to through Jordan, having watched many of his performances.

At the time of creating the project, my past self was kind enough to include citations in the ruleset as well as mentions of my influences in design conversations. My academic inspirations for the project were Boal's *Theatre of the Oppressed* (1979), Moreno's work on sociodrama, Brecht's *Organum for the Theatre* (in translation, 1964), Crenshaw's work on intersectionality (1989), and Khaled's Reflective Games framework (2018).

From Boal and Moreno, I take the idea of repeating scenes with variations as players try to work out solutions and discuss a topic they have set for themselves. Both take a community-oriented approach, although Moreno grounds his work in therapeutic practice, while Boal's goals can be said to be closer to grass-roots community empowerment (Boal 1979, Moreno and Fox 1987).

From Brecht's *Organum* (1964) and Khaled's Reflective Games framework (2018), I drew lessons on how to ensure that players did not settle into a passive role. These works also informed the way that I aimed to challenge player expectations to create opportunities for reflection. For Brecht, creating opportunities not for catharsis and emotional involvement, but instead for noticing alternate possibility spaces and the fictional seams of the work is part of the "*Verfremdungseffekt*" (the distancing or alienation effect) (1964).

Although I do expect players to become emotionally-involved in my work — that opportunity for intimacy and emotional vulnerability is quite important to me — I want them to connect the fictional experience to their own. For *Flip the Script!*, that meant creating gaps in the experience that prioritize connection to the self and to knowledge about how the surrounding world works. This is perhaps why the design patterns and goals from the Reflective Games framework have become a core part of my practice since I first encountered them (Khaled 2018). Specifically, prioritizing "reflection over immersion" and "clarity over stealth" guided many of the decisions around how I framed my explanations for players in this project (Ibid).

Coming back to this idea of the world surrounding players and how it works, core to this experience is an exploration of "intersectionality" (Crenshaw 1989, see **section 4.2** for the definition provided in the game). Exploring commonalities, differences, and how people can improve each other's experiences of systems that can seem quite monolithic is truly the core of *Flip the Script!* This might seem like a large, daunting prospect for a game played with puppets in less than three hours, but, then, so too do these systems. As part of its procedural rhetoric, the game ultimately argues that talking about them and trying to break down some parts of those experiences into something more manageable is worthwhile.

4.5 Particularities of Context

While making this project, I was living between two cities: Tiohtià:ke (Montreal), in Quebec, and Fort McMurray, in Alberta. The impact of this is visible in the resulting work as well as the process. I had been living between the two cities since the very end of 2016 when my spouse and I moved our primary domicile there for his work. Since then, I had been flying back and forth between Montreal and Fort Mac (as it is known locally).

When I was in Fort McMurray, I had access to my crafting supplies and tools, but could not spend in-person time with my colleagues, instead making the occasional video call to sit in on meetings or talk with friends. In Montreal, I had access to my preferred workspace and my peers, but not the materials that I had purchased for the project, which could not easily be transported back and forth via airplane. This made the process of creating the game unique and somewhat challenging compared to my usual, as I would frequently work on ideas and rules separately from the physical making process.

It is also clear from the many transcriptions of various conversations that I had that I spoke about this project more with my spouse, Tom, than anybody else. Out of the verbal records of process for this project, fully one in five are recorded conversations with him. Conversations that I would normally have had throughout a day at the lab (and did, for subsequent projects) would take place with Tom instead, whenever he was available.

Present in this project is a kind of yearning for in-person intimacy and play that came out of the feelings of isolation that were such a large part of my experience living in Fort McMurray. The challenges of bringing technology back and forth on airplanes also mark the project. In Montreal, without access to all the physical resources I had acquired to build the project, I focused heavily on writing the rule set for the interactions that I was hoping to explore and on other, non-dissertation work that needed my in-person attention. While in Fort McMurray, I focused heavily on crafting the game's physical components and putting together technological aspects and making sure that they worked. Because of this context, there were also far fewer natural opportunities to playtest than might have been the case had I been working in one location and in my usual atmosphere. There are other impacts related to the particularities of these contexts that I will discuss further in section **4.9 Further Challenges and Learning**.



Figures 4.5.1, 4.5.2, 4.5.3, and 4.5.4 Materials, materials, materials. Neopixel LEDs and Adafruit Flora boards, a partially-finished puppet head, fleece fabrics, and a puppet-making pattern. Photos by Jess Rowan Marcotte.

4.6 Playtesting Contexts and Lessons

Flip the Script! was playtested in four main contexts and versions. Early playtesting took place amongst the Reflective Games research group at the TAG (Technoculture, Art and Games) Lab at Concordia University. Following that, I hosted a playtest run at the Milieux Institute at Concordia. Subsequently, a limited version of the game was playtested at the Different Games 2018 conference and the Montreal Maker Faire 2018.

4.6.1 Playtesting Data

The sampling of available data related to complete whole-game playtests for *Flip the Script!* is limited. Only seven complete games took place, but, including the debriefing process afterward, each playtest took approximately three hours (with some taking an extra hour or more). Five groups played through the entire game. This amounts to approximately eighteen hours of fully-engaged playtesting on my part, as the facilitator for such a game must be alert for potential frictions and problems.

In **section 4.2**, I listed the questions that I asked players. In this section, I provide a sampling of answers from the debriefs with groups as well as individual players that aim to provide some insight into the playtesting process and what the experience of play was like. The composition of each group was different, with some people signing up as a group and others being placed together by chance. As a result, there were a wide variety of dynamics, comfort levels, and configurations, including some unexpected power dynamics (a program coordinator and a participant in said program, for example). Similarly, participants had a wide variety of levels of experience with concepts such as intersectional feminism, gender pronouns, and, of course, roleplaying experience and general play experience. I have tried to present data samples that are representative of the player's different experiences while also touching upon common themes that arose through discussion.

I have attempted to provide some context while allowing the reader to draw their own conclusions from these responses before I next unpack the lessons and impressions that I took away from the playtesting experience. I am unable to release the data in its entirety due to ethical constraints, and this is therefore the only access that readers will have to the playtesters' responses. Adding to this that *Flip the Script!* is itself difficult to access, I would like to give the reader as much access to the players' impressions as possible. Because of this, the excerpts in the sections that follow are far more complete than would be considered typical in academic writing. My analysis of the player feedback and the lessons that I took from the playtests follows in **section 4.6.2** and throughout the rest of the chapter.

4.6.1.1 Challenging Moments and Feelings about Challenges

This section collects interview quotes about what players viewed as challenging moments from the play session and what they felt about those moments. This covers topics that include challenging aspects of the play mechanics, emotionally-challenging topics of discussion, and the challenges of live performance.

Some groups felt most challenged by the potential intimacy of the discussions that they were being asked to have. In the group discussion, one player mentioned the following:

For me, it was [...] when you asked for the experiences that bother us and we wanted to change. I mean, I felt at this point very guarded because I've never met this person before and I'm kind of like...

(From an August 8th, 2018 playtest debrief)

For others, the action of playing and performing with the puppets in front of strangers was potentially embarrassing:

One thing I had a hard time with was, like, making my assistant, um, come alive where we were mandated to. Like, I am used to play[ing] with plushies [...] I have plushies at home and sometimes I play a bit with them to comfort myself. And it's something I do with my partner too so it's like, something I'm used to doing, but I [was] trying to do [so] in front of people...

(From an August 8th, 2018 playtest debrief)

Players also came across topics that felt fraught or challenging, and that they were unsure that they wanted to broach. In this example, the player felt supported and able to continue, but the topic was still very emotionally fraught:

There was one point [where] I almost left. Because [...] I suddenly found it had touched an emotional core that was very upsetting to me. But I suppressed it, as all good men do. Crushed it down real deep, so it will never get out, you know. [...] Suddenly, I thought "Oh geez, am I feeling up for this?" And then I decided "No, I'll push on through." It was good. I'm glad I did. [...] I realized that the subject matter is such that that will be the point where this game could become very challenging for people.

(From an August 8th, 2018 playtest debrief)

The game places some emphasis on the fact that difficult topics may arise, and it seems that this message was received. Some players consciously chose what level of vulnerability they wanted to bring to the experience:

I guess I felt a general challenge of feeling like this would be a safe place for me to share my pains on the subject matter. So I

sort of withheld a bit, it seems to [touch on] really challenging subjects that are really hard to talk about.

(From an August 16th, 2018 playtest debrief)

This was consistent amongst players who did not know each other. It was difficult for players to gauge at the start what level of vulnerability to bring to the experience. They demonstrated a sensitivity to what kinds of topics might come up:

I think possibly the most [...] challenging moment for me in the game was figuring out what our starting point would be. And I think that was challenging both in a 'what do I disclose' and in a 'what are other people going to disclose' [way], and what is going to come up in this space, and how much of it is going to be safe, and how much of it is like — there's always this potential for things to get messy, and that's great, but it's like [...] 'where are we going to stand?'

(From an August 16th, 2018 playtest debrief)

Even though the players appeared to feel supported and able to continue, some wondered what the experience might be like for other imagined players:

This is going to places which can be very difficult [...] For me personally, it doesn't bother me to be uncomfortable... being emotionally uncomfortable because it's... it becomes cathartic. It's a useful way for me to deal and to think through things.

(From an August 8th, 2018 playtest debrief)

One of the improvisational exercises in the game involves is commonly known as "Should Have Said", and it seems that this game was commonly considered challenging by players in many of the playtest groups, as it requires a high level of awareness of other people and judging their intentions, as well as on-the-fly thinking about how to respond:

The "should've said" game was — I think I struggled a bit with that [...] There was a double struggle of like, "am I waiting for the person to kind of repeat their last line so I can respond to it?" And at the same time thinking like, "first of all, [...] what's the timing of this like?", and second, like, "what am I actually going to say to replace this? What does this person actually [...] what did they want me to change?"

(From an August 8th, 2018 playtest debrief)

You really need to change your emotion, or you would say something opposite about what you think. [...It] was really challenging because it kinda gives me that kind of feeling that, at the same time, I could be agreeing and disagreeing. [...] [It helped me] understand different kinds of people with different kinds of points of view. It kinda brings me this kind of... feeling that understanding if someone [disagrees] with something. Because, at the same time, being in that kind of position, in that short period of time [...] that is really, at the same time, very tough but very interesting. It's a really nice challenge.

(From an August 14th, 2018 playtest debrief)

Player: [Changing] emotions or thoughts to the opposite side. [...] I talk about my feeling when I was in the role of the [...] person from Iran who wants to assimilate, I was feeling [the] opposite. Not honest. But it was the role that I was playing so... [I could play the role] because I have heard these.

Jess: So you repeated things you heard from other people?

Player: Yeah.

(From an August 14th, 2018 playtest debrief)

Many of the aspects of the game that players mentioned as challenging are focused on them being attuned and sensitive to the experience that they are creating for themselves and others. Overall, players wanted to play safely, and match the level of engagement and vulnerability that other players brought to the experience. Other aspects of the play experience that were challenging seem to be related to common anxieties around performance, as well as, once again, the feeling that one might be presenting a vulnerable side and that one could be accidentally hurt.

4.6.1.2 Lessons and Approaches Applicable Outside the Game

These are the responses that players gave when prompted to discuss whether they thought that some approaches or lessons could be taken from within the play experience and applied elsewhere in their lives. For many, rather than something entirely new, the game seems to have brought up strategies and information that they might have already known but that they were glad to be reminded about.

One player emphasized that the game called upon them to truly listen:

I think listening is a huge part of it. The pace... at which the game is run is really calming and safe. I think that you could also be more explicit about like concepts of listening, to even drive that home even further. I didn't — to be clear, I found no fault with that aspect of the game. I'm just like, that's something that if I were in your position, I would want to punch up.

(From an August 8th, 2018 playtest debrief)

For another player, the game provided an approach and way of starting critical discussions that they could potentially see themselves adapting for discussions with friends or colleagues:

You can really, easily, apply it to your social life, and you can see it in any kind of [setting]... you know, among your friends, among your colleagues. [...] I would like to have this kind of conversation [...] when we are sitting to have lunch or something, I would like to bring some kind of subject or something critical... something challenging, to see [the] point of views of the different people, with the different nationalities, and the different cultures. That actually is really similar to those kinds of [real-life] situations that may happen with you, with your friends, with your colleagues [...] with your girlfriends, boyfriends, whoever. And especially in this kind of society. We are in a multicultural [...] country. It gives you even more information on any kind of subject, not just political or cultural. All kinds of subjects.

(From an August 14th, 2018 playtest debrief)

Some players appreciated the idea of explicitly doing the work of trying to think from another person's point of view in a deliberate, intentional way, instead of just in theory or in passing:

Player 1: Yeah. I think that the things that I learned from here [that] would help me in the real life is the taking [of] different positions — roles, changing the roles. So, I already knew that if you want to understand other people, you need to put yourself in their role, in their position, and then look at the world from their point of view. So, in theory, you know these things, but when you do it practically, when you [really] do it, you are changing it — or [...] when you are talking about one thing and you need to talk about the opposite side... it gives... it's more...

Player 2: Training?

Player 1: Yeah, it's good — it comes from the theory, it comes to the action or the reality that you experience something in practice. It's more [...] effective?

(From an August 14th, 2018 playtest debrief)

Players also discussed the framing of this activity as "play", and how that changed the stakes for them, both in terms of what it was possible to discuss, and what it meant to disagree with someone on a topic. At the same time, this group wondered what other configurations of players might look like, and whether more heated disagreements might arise in a group where players were not known to each other:

Player 3: Yeah, one of the things that I understand — this kind of thing [is maybe] easy for someone like me, with my personality. But I figure [...] talking about different kinds of subjects or ideas, it's not easy for everyone. And actually, as [another player] mentioned, it's really actually good even [for] different ages. [This is] a game and no judgment is gonna happen and you're gonna get even more information, and so on. And I think many people [don't] have this kind of confidence, or never build in themselves in different kinds of levels of their life.

[...]

Player 2: But [...] if we were not, like, friends, and we were not in the same environment [and way of] thinking, [would it be] easy like this to play together and laugh [at these] things? Maybe, for example, one Canadian... other people that are not in our environment. [It might affect] our relationship, maybe. I don't know, I'm doubtful about this.

(From an August 14th, 2018 playtest debrief)

For another group, the reminder that our bureaucratic systems are constructed and can be altered or pushed back against was a welcome reminder. These next two quotes are from players who played together in the same group, but are taken from individual discussions with me after the game:

I think a lot of that is reflected in the statement that we ended up producing in the end, like what I found useful from it [was] some kind of memory jog that these systems are more flexible or that we can make them flexible, and that came from the game.

(From an August 16th, 2018 playtest debrief)

Pay more attention to the people who are sort of invisible or stuck in the middle of things. I think that would be the main thing. Or being more active in situations where there's pressure to be passive.

(From an August 16th, 2018 playtest debrief)

Overall, one of the throughlines in these experiences seems to be the idea that we have more control over how we approach the world than might be readily apparent: we can choose to listen, we can choose to change the stakes or our approach to a discussion, and we can choose to both recognize the humanity of others caught up in these systems and also push back against them. Although there may be unwritten rules of behaviour, these can be exposed and negotiated.

4.6.1.3 Changes in Perspective

This question asked players to specifically identify how they thought their perspective on the topics discussed in the game had changed. This proved to generally be a complex question to answer, especially as some players mentioned that they would still like to do some further reflection on what the experience had brought up for them.

This was especially true for one group, who had been thrown together by chance scheduling, who discovered through their discussion that they all had ADHD (attention-deficit hyperactivity disorder). This was not something that I knew before the game.

Each player brought different perspectives and experiences to the table. While two of the players had been diagnosed in childhood, the third had only been diagnosed well into adulthood. One player reflected on the diversity of experiences that even people with similar intersections of experience (white, male, diagnosed with ADHD) brought to the game:

It was interesting to hear other people's experiences with ADD. And what some of those are like. There [were] some...some aspects of it that were revealed. There were things that I hadn't realized were common experiences that were, and things that, that I hadn't experienced [...] or heard about.

(From an August 8th, 2018 playtest debrief)

Another player, who had only been diagnosed more recently in adulthood, discussed that the game allowed him to reflect more directly on the impact that he might have on others. He also highlighted the power of being able to discuss the topic with others who shared a diagnosis, as this was not something that he had experienced before:

It really brought home... the impact [...] of my behaviour towards other people. So that was very — that was, I think, very useful because it gives me a lot more patience. [...] I enjoyed talking because I've never talked about anything, because [...] I don't actually have a lot of friends who I know that have ADD. And also this was... this is probably the most, personal, intimate conversation I've had about it with other people who've had that also know where it's coming from, so it's familiar.

(From an August 8th, 2018 playtest debrief)

The game also brought about some uncomfortable reflections for one player in particular, who felt that he had internalized prejudices about people with ADHD, and how he had the impulse to distance himself from those stereotypes while simultaneously worrying that he fit them. He further felt that the scenarios reinforced stereotypes that he did not want to be associated with, but that, for himself and others, it seemed necessary to continue this line of play.

Player 1: [This information is] more relevant to like, my prejudices towards other people who are like... [...] one of the reasons that ADD is not something that gets [...] talked about a lot [...] is because it is like, super stigmatized for the person who has it too. And not only is it stigmatized, but it's super alienating [...] because their experiences and their ways of dealing are not mine.

And so, I look at the way that... [another player] behaves, for example, and I'm just like, "Ugh, I don't want to be associated with that." In the context of like, ADD. And I look at the way they depict the responses in the — in the scene and I'm like, "Oh, that is not what I want to be associated with." [...] And then at the same time... it gives me pause to go like, "Well, am I... am I like that too?" Right? I don't want to be associated with it because I worry that maybe I'm easily identified as associated.

[...]

And then I just got [...] super self-conscious. Going like "Wait, what pathway did this conversation take? Was it super fucking annoying and rambling? Like, Oh my God, I talk too much. I'm so annoyed. And, [another player] talks like double the amount that I do and together we're..." And you start getting like, self-conscious about like, [a different player] doesn't have room to talk. Jess doesn't have room to have this game reigned in. And I start thinking not

about the game, but about my own personal experiences and stuff. [...]

Jess: That sounds [...] potentially pretty anxiety-inducing.

Player 1: Yeah. But I kind of think that regardless of whether it's anxiety-inducing or difficult or traumatic, it's what you want out of the game, right? It's for people to have like, a real emotional experience. And I definitely had a real emotional experience. All of that hav[ing] been said, you... caveated the game at the very top, by saying [...] multiple times, the very top, people could have opted out whenever they wanted, right? And there were so many times where I was just like [...] there was a part of me that wanted to just tell — like, interrupt [another player] and tell him to shut up. And — and stop myself mid sentence because I realized that I was rambling, and wanted to make space for someone else to speak. [...] I didn't want to disrupt the game. I wanted the — like I said in the group, Part of it, not just for everyone else, but for myself too, I want the game to proceed. And I want to see where it goes. Finding — finding some way to constantly reinforce for people that they can end it whenever they want — I don't know how you do that without still disrupting things.

[...]

I didn't like how the scenes went for us. I didn't like either of the scenes that we created. They both really frustrated me, for different reasons, but none of those had to do with the mechanics of the game. They all had to do with who was playing and how they were playing, and how personal it felt to me, and how much I wanted to control what I view as a representation of myself.

Because for all the places that those scenes went — [...] I became [...] complicit [...] I was just like — I wanted to be a good collaborator, and so I let that drive what I did, but most of the time I wasn't happy with what we were producing. Which I think is a critique of a game, if the point of the game is to have fun, but a compliment to the game, if the point of the game is to feel different emotions that you didn't expect. And provoke thought, as it was extremely thought-provoking.

(From an August 8th, 2018 playtest debrief)

This last comment especially calls to mind the Reflective Game Design pattern of "disruption over comfort" (Khaled 2018). Playing the game caused difficult feelings, but these felt worthwhile in the context of provoking thought. Similarly, other players reflected on the use of the play space as a place to test out ideas and help others to understand experiences that they might not otherwise have encountered. This was not always comfortable, but it felt worthwhile.

In the game, you should talk about the things that you disagree with, but [...] there is a good purpose. The good goal of this, that you want to help others to... to make this situation that they can experience. It is not... it is not comfortable to talk about the thing that you disagree with, but when you think "OK, I do it because I want to... make [an] experience for all of us," it's good. It's a good feeling for me.

(From an August 14th, 2018 playtest debrief)

In another group, the reflective phrase that formed at the end had to do with going deeper than a surface level of understanding and being a good listener. In the debrief, they discussed the importance of trying to truly listen rather than waiting for one's turn to speak.

[The game encouraged me to] listen, be a good listener [more] than before. Being more [of an] observer. And actually, this kind of group game [...] actually help[s] me to understand how it's important [to] be a good listener and not [try] to answer as quickly as possible. And [...] when the other person [is] trying to answer or react, we're not just thinking about what is the next step you want to say or you know, trying to prepare yourself for the answer. To just let the other person go with whatever [they want] to say, and after that... conclude and say something. Yeah.

(From an August 14th, 2018 playtest debrief)

The last group, quoted below, reflected on how our experience of bureaucracy and social systems can feel very fixed, but that both our response to them and the systems themselves might be more flexible than they might appear, and this was an important reframing of perspective for them:

Yeah I think we all have experiences with rigid systems and that narrative has become kind of calcified I guess and something that these exercises allow for is an experience of the ways that these narratives can be changed, that we don't have to be caught in these bad scripts, but that there are dozens of ways that they can

be played out from multiple different perspectives, and I find these types of games can be useful to even remind oneself of the multiplicity of different pathways that any interaction can take, and the— I think it restores a sense of choice or agency when playing them out or rehearsing them.

(From an August 16th, 2018 playtest debrief)

I think that the biggest change was seeing the different kinds of workarounds and being like oh, there are more options than you think. That was kind of cool.

(From an August 16th, 2018 playtest debrief)

Generally speaking, there were many personal insights and changes in perspective around the particular topics broached in each game. There were also thoughts about how to approach future discussions more broadly. Many players seemed to feel equipped to use skills and perspectives that they had learned through play to facilitate future interactions. By providing opportunities after the game explicitly designated for reflection, I hope that players can better use this experience and its opportunities for learning and growth in whatever way is most valuable to them.

4.6.1.4 Memorable Moments

The memorable moments question asks players what they think they will remember later from playing the game. The question is general and can be used to talk about any aspect that they feel might be memorable to them later. In some ways, this asks some of the previous questions differently, but allows players to bring themselves and their subjective experience more into the question in a way that does not involve particular outcomes or goals.

Some players discussed humorous moments and serendipity in the game, as well as the opportunity to talk openly about a topic that did not, for them, get broached very often:

Player 1: For some reason, I'm really going to remember [Player 2] trying to walk out as the puppet and falling.

Player 2: *laughs* And discovering he had no legs.

Player 3: That was, that was good.

[...]

Player 2: Yeah, it was just... the general experience. Again, I'm having this — this coincidence of us all three, you know, dealing with this thing and sort of — kind of for the first time being in a

place where this is just, you know, getting together with two other people and with this... similar experience and having this space to sort of — just to talk about it.

(From an August 8th, 2018 playtest debrief)

For another player, making use of abstract concepts as characters in the scene was a useful reminder that one's (sometimes intrusive) thoughts and self-critique are not facts:

I thought it was very interesting how we — the scenario, where we decided to set it up with the characters, was to have one character representing the inner monologue or sort of the — you know, one of the inner voices of — of the protagonist. I thought that gave rise to a... very interesting kind of portrayal of the dynamics there. [In] separating, you know, the kind of the... the self from the mind in that way, you know. And... cause I feel like that's a [...] it's a real and an important thing, you know, to not to identify too much [...] with one's mind and with one's self-talk.

(From an August 8th, 2018 playtest debrief)

The emotional experience of the game was also something that came up in a variety of discussions, both in terms of the difficulty of negative emotions and the pleasure of positive ones:

I think it will be hard for someone to pay attention to this game as they play it and not walk away having had an emotional experience. I certainly went on like an emotional roller coaster in the [time] that we were in here.

(From an August 8th, 2018 playtest debrief)

This question often seems to lead to a lot of discussion and reflection about the game, but not necessarily a neat, easy-to-pull-out single moment that people believe they will remember. It seems to prompt a lot of reflection, leading to the next question where players are asked to deliberately choose something that they would like to take away from the experience, and something that they would like to discard.

4.6.1.5 Something To Take With, Something To Leave Behind

Making a deliberate choice around what parts of an experience one wants to be conscientious about preserving and which parts one would rather leave in the moment or in the play experience is a debriefing approach inspired by larp. In larp, one identifies what part of the

experience of playing a specific fictional character in a specific context one wants to carry away, and which parts would be better left in the moment of play. It is a difficult question to answer in the context of *Flip the Script!*, and players generally seem to have an easier time with what they would like to take with them than what they would leave behind.

Being able to embrace the practice of finding other ways to think about oneself and others' perspectives came up in almost every group. This player talks about self-compassion:

I think I've probably gained a degree of self-compassion out of this. Sort of seeing other people with similar experience is — I think it not only helps you have empathy for others but also for yourself, you know.

(From an August 8th, 2018 playtest debrief)

Another player talked about how the game had raised difficult questions for them about their perception of themselves and others that were not yet settled that they hoped to examine more closely.

I think what I'm going to take with me is... I think this has opened up a thought, like a self-reflective thought process for me about my own perceptions. Not... not only of myself, but of communities with which I have traditionally tried not to be associated. And so I need to [...] rethink some things. And then as for what I'm going to leave behind... I don't know. We'll see what happens at the end of that self-reflection process.

(From an August 8th, 2018 playtest debrief)

One group had a larger discussion about the rhetorical meaning of a game like "Should Have Said", which asks players to retake a line and change it, and whether this allowed for exploration of perspectives or felt like more of a potential shutdown of perspectives:

Player 2: And I don't know [if I should] leave it or I keep it. The way that we... everyone could change — could press the button and turn on the light, and everyone could ask other people to change their mind. I don't know if that's a good thing or not. Maybe when you want people to — to see the problem from another aspect, other viewpoints, it's good. But it's not when you want to change people, you know. And yeah, I don't know if I should leave it or keep it. * laughs *

Player 3: I [don't] understand why you think that by doing that, we want to change people.

Player 2: Because when we're talking, I can ask you, by turning on the lights, to change your mind and say another thing. Or change your emotion. Or change your anything.

[...]

Player 3: But actually, for me, it's kind of really interesting, because it's kind of pushing your some kind of button, that in reality, we don't like it because we are kind of taking us from our comfort zone. [...] I think it's very challenging because... because put[ting] me in that kind of situation, that makes me really uncomfortable because usually, I [talk] about things that I'm comfortable about.

And by someone pressing the — changing the light, it means that I should do something totally different, and it's maybe not my comfort zone, and by doing that I'm acting about that kind of thing. I see my feeling, observing myself, and my... my reaction to that. And that's actually new to myself. And kind of I listen to myself to see that how this... how this uncomfortable situation changing my mood, my feelings or that kind of thing, is not necessarily that... you know, I didn't feel that the other person wants me to be a different person, but I was just thinking how this uncomfortable situation changing my... you know, heartbeat, all these kinds of things inside me.

(From an August 14th, 2018 playtest debrief)

In that moment, that group landed on the idea that drawing attention to the different possibilities allowed them to be self-reflexive about their thought processes and feelings, while also considering other perspectives. When discussing this individually, one player from that group felt struck by the idea that they had a part to play in different systems that surrounded them, and that they have the opportunity to act and behave differently if they so choose, rather than following their first reaction or their generalized understanding of that type of situation:

Player 3: Hm... I think even when I — When we were talking about those different kinds of problems [...] We're kind of part of that kind of — ironically, we're kinda part of those kinds of things as well, and we need to be careful about that too. [...] So, during this game I kind of [told] myself, "Oh, you see, you're kind of in danger of being part of that generalizing of these kinds of things. Not talking accurately because you're kinda radical in one side,

and not, you know, thinking about the other side as well. So be careful about that."

(From an August 14th, 2018 playtest debrief)

Some players wanted to take away their memory of the experience to discuss it with the friends that they had played with:

[The people that this player played with] are my friends, but I think after this game, we have a new subject to talk about. It is not just about the moments that we had here, it is about the concept of the game. This memory — I mean...created in our mind, and we can... we can have many good discussions about this. This memory — I think it's a good memory for us.

(From an August 14th, 2018 playtest debrief)

Another player wanted to take away a reminder to slow down and consider what might be unseen in any particular situation involving systems and bureaucracy. They wanted to leave behind the academic framing and jargon of the play experience that emerged in the group in favour of more accessible terminology:

I think I'll take with me this renewal of emphasis on slowing down. I think I do it a bit now, I try to do it, but this new way of slowing down and looking at people who are less visible, perhaps people that I'm not aware of, I think that what I'll leave behind is some of the academic vocabulary, even words like agency, and I can't think of other— maybe even words like harm-reduction, which I think is a way of saying something that has become — your word was calcified — that [...] feels a bit like jargon and wooden.

(From an August 16th, 2018 playtest debrief)

Another player wanted to take away the thoughts about how technologies can mediate or alter our sense of an experience and be a positive intervention tool:

I'm interested right now in ways that rad communities heal themselves and are learning to be together in gentle ways, and I think that there are technologies that allow for that to happen with greater ease, and I think that— I've been thinking a lot about for a while about these different kinds of structures. I think that one of the things I want to take with me is also thinking about how something like the puppet or something like a circuit, or something

like just a foot in the door, or a cozy blanket, like those things can be really useful.

(From an August 16th, 2018 playtest debrief)

Thankfully, the players all understood that they could not take away Avi, Drake, or Harle, as I needed them for further playtesting. The general trends seem to be that players wanted to take away potential changes in how they consider other people's perspectives and how they saw their roles and possibilities within the systems they inhabit or take part in.

4.6.1.6 Other Topics

This question is the last one that I ask players. It is intended to allow players to voice things that do not fit easily into other questions or that they might have forgotten to mention earlier. As a result, there is quite a variety of types of information that came up.

One player expressed that there was the potential to come away with some harmful impressions from the game, especially given the pressure to perform good collaboration with the other players. Because players first converse to find common ground and then later explore the topic of that common ground in a way that will reveal their different perspectives and experiences with it, the player appeared to feel ambivalent about the play structure:

But this to me is a potential benefit and a potential danger of the game. That people who have lived with something their entire lives and find themselves intersecting with each other and don't [necessarily know each other], [...] you hit upon the subject and you say "Oh my gosh, we're all the same." And then through the process of doing this activity, you're like, you reify that you are still different, right?

[...]

Maybe, [another player's name] does something where I'm like — where I'm like "That's not — no, that's not what it is to be me. And I hate that this, I feel in some way that I consented to this being like, representative of me." I'm not saying that that did happen, I'm just thinking about... the things that could happen.

(From an August 8th, 2018 playtest debrief)

This player felt that this ambiguity around similarities and differences was overall positive because it did not treat the meaning of the intersections and experiences that people brought to the table as settled, but instead, variable and shifting:

Well, I was thinking of the differences. [...] There's a sense that within this group that there are differences. [...] The problem with these intersectionalities is that it doesn't mean everybody gets their neat little box. It flows and changes over. Which I guess, speaks to the [...] inner experiences. Not experience, but experiences. Because [...] there's a variety.

(From an August 8th, 2018 playtest debrief)

One player felt that the particular group that they played with did not ask enough of themselves when it came to privilege and oppression, and wanted to see what the experience would be like in a different group:

I'd love to play it again with a different set of people because I feel like the part of this game that's useful for the player and the new knowledge that is created is so entirely contingent upon the intersection that you find. And one of the ways in which I was disappointed [was] early on in the game, it felt to me like we were really gonna discuss things in terms of privilege. And I do not feel like we talked about privilege in the way I wanted us to. I wanted to draw the conversation back in that direction.

(From an August 8th, 2018 playtest debrief)

Another player felt like they wanted other ways to process and engage with the ideas that were coming up for them, such as writing:

I would have loved having an opportunity occasionally to write. I find both like after doing movement exercises or healing exercises, or like even in a more social justice context, being made to reflect on my own position at various intersections, I've always found it very nice to have 2-3 minutes to jot down my thoughts before sharing them with the group. I think it helps partially with processing, thinking, and not having to feel like the immediate pressure to perform off the cuff. [...] I guess it's difficult with the puppet and all that kind of stuff, but something that yeah, was coming up for me was that desire that emerged throughout the exercise, was like more space to turn inwards and reflect.

(From an August 16th, 2018 playtest debrief)

So, this question really provides a space for general comments and suggestions, as well as overall reflections. Generally, players took this time to reflect on both their overall experience with play and what could be altered to improve the experience.

I will end this section with a very important comment about the game's assistants, which were well-received by most players (though, admittedly, a little warm since they were made of polar fleece):

I'll miss my puppets. I'll miss them.

(From an August 14th, 2018 playtest debrief)

4.6.2 Impression From Playtesting

Returning to this project after completing two others has been a bittersweet but grounding experience. Reviewing the playtesting data reminds me of successes that, at the time of the project's and playtests' completions, were overshadowed by exhaustion and negative feelings about the aspects that I perceived as failures. This is another place where records of process, autoethnography methods and attention to in-situ design process prove their value once again.

I had forgotten that the game was quite successful at creating opportunities for players to be sincere and vulnerable together about intersectional issues. It enabled exactly the conversations that it was aiming for. However, given that players mentioned vulnerability and the concern that the discussion might become *too* difficult, perhaps I overemphasized danger and negative affect in how I framed safety. Having designed many games involving safety mechanics since then, I do feel that I could have made the potential for danger and harm less scary had I used different language and approached the subject of risk differently. I believe that my awareness and anxiety about designing a game based on psychological research into sociodrama and psychodrama made me painfully aware that, importantly, I am not a trained professional when it comes to mental health.

Nevertheless, that does not mean that certain topics that are part of the human experience, which may involve painful or difficult emotions, cannot be a part of the experiences that I design. It just means having safety resources on hand (which I did at the time). With *Flip the Script!*, my language seems to have overemphasized danger and risk. I have since rethought how I manage the introduction of safety mechanics and difficult topics in games to reflect the opportunity for depth of experience that exists there, acknowledging that difficult emotions may happen and can be addressed, but without transmitting my anxieties and fears about doing harm.³

In our one-on-one conversations, some players also admitted that it did feel didactic — that, with the whiteboard and the many forms of guidance and explanations used to carry people through the game, it felt like I was in the role of a teacher. Further, my framing and the

³ See **section 4.10** for further reflections as to why I think I may have overemphasized these topics in this particular game, in addition to my anxieties around sociodrama and psychodrama approaches.

language that I used revealed that I had subjective, fairly guessable views about intersectionality and feminism.⁴

However, the general consensus was that in reframing these conversations and allowing space for reflection throughout the play, we had managed together to come to new territory, not the expected rereading of canned answers. Similarly, creating a sort of "insulating" layer through the puppets had worked well in giving people a way into those conversations. As a first-time puppet maker, it was encouraging to be reminded that I have yet to meet a single person (child or adult) that did not immediately want to pick up and play with Harle, Avi and Drake, my puppet assistants. Most players had visibly warm feelings toward them and wanted to interact with them.

The lesson from the alternate venues where I showed the game (Different Games 2018 and Montreal Maker Faire 2018) is that a shorter version of this game is possible. My original ruleset tries to accommodate players with little to no experience in each area of the game: no experience with the idea of intersectionality, no experience with puppeteering or roleplay, no experience with improvisation or playing pretend, no experience with having sensitive, vulnerable conversations. However, people self-select into playtesting this game.

While I cannot know their levels of experience with each of these areas, a future version of this game could rely on the players to tell me. In this way, I could further tailor the experience to the players and fewer explanations might be needed. Similarly, I could ask players to choose what type of game they would like to play, out of the three types of scenes. This would significantly cut down on playtime. However, it does take time to build vulnerability and trust to have these conversations, so rushing through the game is not a solution. There are certainly trade-offs to an expedited experience that I believe would run counter to the game's goals.

At the Different Games conference, play took the form of a casual conversation amidst puppets, with no rules beyond that. My Maker Faire playtests primarily attracted young children who wanted to play with puppets. I still asked them the same question that I asked when explaining the game's theme to adults, which is to say, some version of, "What's something negative that happens out in the world that you have experience with that you would like to see change?"

The responses of young playtesters to this question varied a great deal, from furtive whispers to each other about "Donald Trump", to having the puppets bite each other ferociously.

4.7 Design Strategies

In this section, I point to the design strategies that I used to make *Flip the Script!* By design strategies, I mean the approaches that I used to carry me through the project and to address challenges and frictions as they arose in the process. In contrast, I consider a "technique" to be a specific skill used in carrying out a larger strategy to accomplish a goal. For example, in the fine arts, "dry-brushing" would be considered a technique within painting, whereas painting would be a strategy, made up of techniques, that one uses in order to accomplish the goal of creating an image. This is less of a how-to guide, and more of a description of how I debugged

⁴ For further reflections on the didacticism of the game, see **section 4.9**.

distinct aspects and phases of the design process. Alongside these trouble-shooting descriptions are thoughts about the problem spaces.

This project's unique (compared to the other two projects) context of creation, as I flew between Montreal and Fort McMurray, marked how I worked. With each of the projects, the modes of documentation match, in most cases, my design strategies and what medium I worked in most commonly. For example, while I carefully documented each puppet's creation through photos, the most common records for this project are written blog posts and verbal design conversations. The process, except for creating the physical puppets, really was quite verbal. Words are very portable.

4.7.1 Design Strategy: Thinking With Words

I stayed in the verbal stage of this project for longer than I would have liked. With limited access to materials, I did not experiment with the physical creation of objects very much at all. Once I settled on the idea of a sociodrama and *Theatre of the Oppressed*-inspired game that explored the common ground between players about their experiences of systemic oppression (Boal 1979), I scaffolded the rules before making any actual prototypes, guided by the question of what kind of meaningful game I could make using puppets as the controller.

I was stuck there for far longer than would be the norm for me. In my early design conversations for this project, I talk often about two things: puppets that I have known (as described above — Moses from *The Table*, Rodney the Bat puppet, Blue and Green) and materials that I have purchased with my dissertation projects in mind. I list these materials in a fair amount of detail in conversations and my journal writing, almost as if they are puzzle pieces that I must fit together. It is clear from these conversations that I am ascribing a lot of weight and importance to the project — perhaps in a way that is blocking my usual approaches to design. Nevertheless, when not used in quite so isolated a way, words are usually a tool that I can rely on to develop my ideas in concert with other strategies.

4.7.2 Design Strategy: Avoid Burnout!

Importantly, another topic that I mention in my journal is burnout and skirting the edge of burnout — both in the past and during the project work. This is a throughline that is present throughout all three projects. For now, I will say that my design strategies included building in rest periods so that I would not burn out, but that such rest periods were not without their challenges. Burnout and mental health challenges were further exacerbated by stressful contexts and events happening around me and to my loved ones. Oftentimes, the journal entries themselves were a tool that I could use to check in with myself and reflect on my workload so that I would not burn out. This seems to bear mentioning as it impacts many game designers.

4.7.3 Design Strategy: Thematic, Judgment-Free Idea Generation

Almost two months into the project, I was still struggling to find the idea that I wanted to work with beyond being excited about puppets, and although I had played with sketching puppet

ideas or modelling faces with plasticine, I had yet to start making anything physical. So, to unblock myself, I sat down over the course of two days to come up with a list of 100 game ideas about puppets. I stopped at 50 and struggled to get to even that many, but the exercise served its purpose. By doing this basic design exercise where I did not judge the ideas too harshly as I came up with them, I moved past this initial block.

Here are some highlights of my favourite ideas generated from this exercise, in all their silly glory:

4. a game where you have to convince a small child that the puppet is a living and breathing entity

[...]

9. A game about the uncanny valley but from the puppets' point-of-view

[...]

16. A game where puppets representing the able-bodied, ridiculously-athletic characters from video games talk about their invisible chronic pain and how they still can't stop performing if the players won't stop playing.

[...]

18. A game where some puppets are ocean creatures and some puppets are plastic from the Great Pacific Garbage Patch, and the plastic has to kill off the ocean creatures by convincing them to eat them (i.e. a plastic bag pretending it is a jellyfish).

[...]

33. a game about negotiating consent between a puppeteer and the puppet— "you're going to put your hand WHERE?"

[...]

43. Human Dressage for the Distinguished Puppet — Players play puppets leading the human puppeteer through an obstacle course.

[...]

45. Puppet Hair Salon where the puppets cut hair in the same way that Cookie Monster eats cookies. The hair in question is wigs, probably.

[...]

48. A puppeteer-off where the humans have to puppeteer increasingly abstracted puppets, until they are puppeteering things like sponges and spatulas. Three judges.

(Marcotte 2018c)

Ultimately, it was the influence of my participation in the Reflective Games research group, which ran out of the TAG research lab at the time, and my resulting studies in larp, debriefing best practices, psychodrama and sociodrama, as well as a personal interest in intersectional feminist theory that brought me to the idea for *Flip the Script!* An update posted

ten days after I published these 50 game ideas shows that I more or less had a fully-formed idea of the game by then. This brainstorming technique allowed me to explore what I did not want to do alongside what I might actually like to do. In the interim, I discussed some of these ideas with the Reflective Games Group and with friends, and these discussions helped provide direction.

4.7.4 Hybrid-Specific Strategies

From here, I name strategies that touch on the specifics of designing a hybrid game under these particular conditions, in ways that differ from a traditional video game or tabletop game, for example.

4.7.4.1 Design Strategy: Work With What You've Got (Access To)

As previously mentioned, the process of designing the rules was largely verbal. Given that I was stationed in Fort McMurray during the months that I was most actively working on this game idea (beginning of April through the beginning of June), there were not many opportunities to engage in iterative design and playtesting. As a result, a primary design strategy was talking and writing through the rules and my expected outcomes for the game, independent of the puppets. I would say this is not typical for my design process. Although I would expect there to be plenty of talking and writing in a typical version of my process, I would expect more sketching, making, and trying things out alongside this. However, without continued access to the materials that I would normally have while in Montreal, and with the understanding that I had to make the best use of in-person time that I could while present in the city, this makes sense. This calls back to what Kultima points to as the "opportunistic" nature of game design (2018). One does what one can within the circumstances that one is faced with.

I mentioned earlier that the puppets provide an "insulating" layer between the players and the topic. This was true to various degrees for different players. It is possible to play a version of this game without the puppets. This is likely because I developed the game without their presence rather than working through their affordances.

4.7.4.2 Design Strategy: Setting Tone Through Aesthetics

When it came to making the puppets, I allowed myself to be guided largely by an "aesthetics of friendliness", which is to say, I wanted the puppets to be appealing and friendly-looking rather than intimidating or sleek. Having chosen a simple, common puppet pattern (the pin-head pattern), I used basic colour wheel knowledge to choose colours. These are choices that I had to commit to early on in the crafting process.

This is a strategy that I consider specific (though not exclusive) to hybrid game design because of the physical crafting involved, as compared to a digital game, and the materials, as compared to an analog (i.e. board, tabletop) game. Whereas in a digital game, I could more easily "palette-swap" or change out the colours of any characters that I made, this is not the case with a physical, fabric creation. Had I been working with typical analog game materials,

such as cardboard or plastic, I could have repainted them. To change the puppets' colours, I would have had to bleach and dye them or remake them using different fabrics. Fabric paint also exists, but it flattens and alters the texture of the fibres that it is painted over. So, while not a unique problem, it is certainly a problem that arose due to the characteristics of hybrid games.

4.8 Reflecting on Reflection-in-Action and In Situ Design

[It] is hard to keep a record of the hundreds of things that one might encounter in one's day to day life. In this case, I'm making a concerted effort, so I can say that I've consumed Korean boyband videos (BTS, specifically), I finished co-playing Wild Arms with Tom and have started Final Fantasy VIII, I had my tarot read by a friend and fellow academic, I have read a fair number of sad news articles related to a missing boy in Montreal, and to police brutality and abuses of the Canadian Justice system, I've played with my cat, listened to Welcome To Night Vale, pulled out my own Tarot deck for inspiration, as well as Rilla Khaled and Christopher Moore's Onkalo/deep time-related "We Should Just" card project, as well as Padgett Powell's Interrogative Mood, and I've done a heck of a lot of sketching.

Nevertheless, there are loads of blank spots here, and tiny tasks here and there, like grocery shopping, or answering emails, that are no doubt influencing my thinking. I guess even if I can't unearth the whole of this...I dunno, creative artefact... that I'm trying to preserve, I have to settle for doing my best, and not worry too much about the gaps. There will always be gaps, right? Like the gaps between un verbalized thoughts and impressions and language, for starters, or all the processes going on inside my head that are outside of the scope of even a dedicated autoethnographic dissertation, and what I might have dreamt and forgotten about during the night.

(Marcotte 2018c)

The above is excerpted from the journal entry that I wrote about the 50 puppet game ideas design exercise that I completed in March 2018.

It is clear in the data that the process of consciously recording and reflecting upon my design process was instructive in this project. I was able to observe and reflect upon not only the design process for *Flip the Script!* but also warning signs that I might be pushing myself too hard, into burnout, as well as potential issues with my autoethnographic methodology, as above. These reflections allowed me to loosen up a process that had been quite rigid at the start, perhaps to the point of interfering with the design process. It was important to gather my

autoethnography data accurately and rigorously, where possible. However, being able to engage in the design process in a practicable way was equally important.

In naming and verbalizing processes related to the creative obstacles I was facing, I was able to strategize how to fix or change those conditions and obstacles, where possible, or how to work around them. This self-reflexive process was invaluable to my well-being and to my ability to complete the project.

Here is an excerpt from a blog post entitled "Dissertation: Autoethnography and Anxiety":

The next feeling is the feeling of time pressure: if you know me, you may know that I occasionally call myself a reverse procrastinator — that I like to get things done long before they are due so that I don't have to worry about them. In planning my dissertation timeline, I wrote off January entirely and gave myself an additional two months for my first dissertation game project because I had a feeling that, with everything going on in my personal life, and with this being the first OFFICIAL PROJECT of my dissertation, that there might be some fumbling and stumbling blocks.

This brings us to what seems like a very important source of anxiety: designing the game itself. Generally speaking, when I make a project, I have the freedom to let the project be what it will be, take the time that it will take, and I don't have to worry that much about making an "amazing" game. I am feeling a lot of pressure, somehow, to make this first dissertation project the best game ever, and feel like somehow the scope has to be bigger than my usual work. But that's entirely not the point of these projects: I'm not studying whether the game that I make is any good, I am studying the process of making it and archiving it. I'm collecting data about the project and what people think about it. I'm studying my own game-making practice. I know that I will likely make better games, and I will likely make worse ones. I know that I also generally do my best work in small teams with other folks, and that for the most part, I intend these games to be solo. I know that I will be pushing against the limits of my skills, bettering myself, and learning entirely new skills.

Honestly, that's a lot of pressure to put on six months of work that will include so much of the other necessary parts of grad school, even if they aren't officially mandated: the reading, the writing, the preparing for conferences, the meetings, the interacting with the rest of my community. And yes, this all feeds into making this game, but at some point, I have to start making it.

(Marcotte 2018d)

Writing at once allowed me to identify the problem and to work through it, to argue and advocate for myself with myself. Creating opportunities to change course through in-situ reflection was crucial in sustaining my ability to do the creative work by sustaining myself during the difficult period during which this project was made. That alone has made formalizing this process for my solo design work worthwhile. Having a record of this work additionally allows me to reconstruct what I was thinking throughout different periods during the development process, and draw observations about my process with greater certainty.

4.9 Further Challenges and Learning

In this section, I expand upon some of the topics that have arisen throughout this chapter regarding challenges, failures and lessons learned from this first project. Prior to reviewing the data, I remembered three primary thoughts from the design and play experience that I filed away under "lessons learned" for the next two projects. I had to change focus to design the other games and trust that I had gathered sufficient data to recapture as much as possible about the project.

Those three lessons were, melodramatically, that: 1) facilitating this game was exhausting to the point that I did not wish to do so again in the future, 2) I had failed to adequately balance the physical and digital/technological aspects of the hybridity I was aiming for, and the use of technology was shallow at best, and 3) this game was overly didactic and trying to do too much in too little time. Revisiting the playtesting data as above, as well as my process documentation, tells a more complete and oftentimes different story.

Regarding this first "lesson learned", it is still the case that I remember that facilitating this game was exhausting. It felt worthwhile and meaningful, but that did not outweigh the exhaustion of playing it. It requires hypervigilance and sustained attention that is difficult to maintain. This was especially true when coupled with the anxiety that I experienced around wanting it to be as safe as possible to play.⁵ I maintain that it is difficult to see myself playing this version of the game again.

Regarding the second "lesson learned", throughout the process documentation, I mention time and time again in my writing and conversations that I have concerns about the digital technology "pulling its weight" and being well-integrated. This feels especially important since failing to integrate the digital technology and to make use of the digital-tech-enhanced puppets was one of my critiques of *Puppet Pandemonium* (2018). My writings highlight the feeling that I had failed to take full advantage of the micro:bit and LED technology integrated into it. In that respect, it feels closer to the kinds of hybrid board game projects — board games with apps to keep track of turns, timing, or rules — that are growing more common. Such projects often digitize aspects of play that are not greatly enhanced or made easier by this digital mediation.

⁵ See **section 4.10** for further discussion of anxieties around safety.

In personal correspondence with my supervisor, Dr. Khaled, it has been suggested that technology itself can serve as an attraction or a means of persuasion by its very presence — like a lit-up marquis or carnival lights, as compared to a purely analogue game. This is certainly true, and that type of involvement has value. Enric Granzotto Llagostera has argued, also in personal correspondence, that the game creates meaningful hybridity, regardless of whether the digital is underused. He notes that, importantly, puppetry is itself an accumulation of techniques and transformations, and the puppets themselves are a kind of technology that is crucial to the game. Analog technologies are, after all, still technologies, even if colloquially we often see "tech" used to refer to digital technologies. I agree with these counterarguments.

This project relies heavily on the facilitator and on players' willingness to disclose and be vulnerable with each other. It relies on the puppets to create a playful, distancing layer through which players can reveal as much of themselves as they wish. My aim with the digitally-assisted interventions using the micro:bits was also to enhance player safety and comfort so that they could then explore difficult topics. The goal was to make it easier for them to perform actions that can be difficult in these kinds of social situations: opting out, vetoing and disagreeing, interrupting, moving the game along, and similar. I was very concerned about player safety when broaching potentially difficult subjects, and these are certainly worthwhile goals for the technology to support.

Ultimately, however, the micro:bits and LEDs were, on the whole, underused in the sessions. Players relied on the human facilitator rather than taking charge of those aspects themselves. It is possible that players felt comfortable with being vulnerable with each other in this context after the onboarding process, and did not feel the need to opt out or veto, but it is also possible that they felt some amount of peer pressure to continue and ignore their discomfort. There is an extent to which the social contract can make it feel difficult to veto what other people are bringing to the table given the potential intimacy of the disclosures. However, players did not report experiencing this type of discomfort in our one-on-one debriefs and generally seemed to have positive feelings about the experience.

Regarding the third "lesson learned", that the game was "overly didactic and trying to do too much in too little time", this is a difficult sense to shake. On the one hand, the time passes very quickly, and there is indeed a lot packed into that time. On the other hand, each moment is used in service of establishing the connections between players that are needed to have these vulnerable conversations. The time is needed to facilitate those connections.

As to whether the game is overly didactic, there is certainly some amount of teaching involved, such as around the definition of intersectionality. I am also directing and shaping the play experience to keep the play moving. I try to help the players find common ground to explore, but am not trying to dictate what that common ground should be. It is difficult for me to judge, and my sense of whether or not it was overly-didactic varied widely based on the individual play sessions. I can recall at least one play session where the session's language was specifically called out as "academic." The stakes of its perceived didacticism matter in relation to whether it achieves its other goals, such as providing opportunities for reflection on intersectional matters. Reading playtester accounts, this is one area where the game seems to have succeeded.

In previous sections of this chapter, I speculate around early playtesting and iterative design. I discuss how limited access to playtesters while in Fort McMurray, versus limited access to physical materials in Montreal, affected my ability to do iterative design, playtesting, and crafting. An additional factor was my affective relationship with the puppets themselves. While it is true that it would have been inconvenient to have to change or remake aspects of the puppets while travelling between these two cities, I also had in mind three particular thoughts that were ultimately not helpful for a prototyping mindset.

First, I thought that I had to have fully functioning/aesthetically-appealing puppets to playtest what the game would "really" be like. Secondly, once I made and finished the puppets, I was reluctant to do anything to them that I might have to undo, or that might damage them, in terms of embroidering, attaching wires, or similarly embedding digital technology. They were too appealing, and I felt an emotional connection to them, having spent many hours creating them and their adorable little faces. This is why I instead designed little vests for them to wear the microprocessors and lights. This limited my ability to integrate digitally-assisted interactions directly into their bodies. The finished versions of the puppets were, to be frank, too polished for prototyping work, in my mind.



Figure 4.9.1 Some adorable little faces taking a selfie together. Photo by Jess Rowan Marcotte.

Third, I was concerned that, if I integrated electronic connections into the puppets' bodies, it would then become difficult to repair if a connection was pulled loose or something

broke. Although I had considered using velcro, zippers, or buttons, these are not the easiest to add or modify a pattern to accommodate (I should note that I am a hobbyist sempster), and do not perform the same function as a seam. Given that I had limited access to my materials, I understand the mindset, but would certainly do things differently if I were to make another puppet game.

4.10 Revisiting the Game's Seed

At the beginning of this chapter, I formulated the question that I was trying to explore through designing *Flip the Script!* thus:

Given that I have seen alternative controllers using puppets that have felt like they lacked more than a surface-level consideration of what a puppet controller could mean, and that these have felt quite 'gimmicky', what meaningful interactions and controls that feel well-considered can I create with puppets?

In revisiting this question, I recognize that I've already expressed some dissatisfaction with how I handled the digital aspects of this project. The interactions that I have created are potentially meaningful, but they do not fully use the affordances of the puppets anymore than sticking a button on their heads does.⁶

It would be disingenuous of me as an autoethnographer not to mention some of the conditions that led to the game being developed in the way it was. In addition to moving between Fort McMurray and Montreal, which caused limitations on my access to materials, as previously discussed, there were other factors that I have not mentioned that contributed to the game's particular use of digital technology. Looking back at the timeline, one of the major undercurrents of the project is anxiety around safety and treating players with care and respect.

I say "anxiety", because this went beyond a typical level of concern. When I started this project, my family was experiencing (and continued to experience) difficult moments with systemic violence and harassment due to my spouse's employment situation. So, across this project, with its short development cycle of six months, I focused on safety to the detriment of other areas that might have been more deeply developed. My anxieties and concerns around emotional safety due to this personal situation came out in the design work. This was not a conscious decision on my part, but in retrospect, it makes some sense given the personal situation that I was facing. So, in addition to the other conditions that have already been discussed with moving across two cities, with different access to materials and people in each situation, this proved to be a major influence in the game.

I take up the question of what it might look like to design meaningful, well-considered actions and controls using puppets once again. My answer would be that in the time that I allotted to the work, I was not able to fully explore the affordances of the puppets that I created because my chosen subject matter and the experiences that I brought to the project required

⁶ See **section 4.9** for further discussion about the use of digital technology in this game.

me, in that moment, to prioritize safety and respect. Also, as previously mentioned, the puppets' first iterations turned out to be so appealing, and I formed such an attachment to them that I was reluctant to do anything that might damage them.

This means that there are still many affordances to explore for puppets as alternative controllers or hybrid game objects. I have only been able to begin to answer this question. It certainly feels like an important reminder that, much like players bring themselves to the game, the designer brings themselves to the design, and we do not leave the contexts that we exist within at the proverbial door.

PROJECT 02: *TRACES*

5.1 Overview

[It's just a jump to the left! Time Re-Adjustment Complete!]
 [Stand By.]
 [Running System Diagnostics ...]
 [... Scanning Environment ...]
 [... Calculating Pressure Differentials ...]
 [... Analyzing Ambient Air for Breathability ...]
 [What Excellent News! You can safely exist in this physical environment.]
 [... Downloading Known Cultural Archives ...]
 [... Adjusting Expected Vector Paths ...]
 [... Analysis is Ongoing ...]
 [... Cannot fully determine risk from cultural exposure.]
 [Sorry About That! Be cautious when interacting with locals.]
 [Please wait for information about your current assigned task.]

(from the *TRACES* script, Marcotte 2019b)

TRACES is an interactive experience that asks players to take on the role of a transgender time traveller from another time and place who has come back to 2019 to collect the "traces" of other travellers who have come before them. This project uses a wide variety of design and storytelling techniques, influences, and technologies to invite players to reflect on the experience of transgender people in a Western, North American context.

The central theme of the game is the experience of North American transgender people in 2019, but the project lends itself less easily to a single, core question. As I reflect upon the project now, with all of its materials laid out before me, both physically and digitally, two questions come to mind. For the players, many of whom were not transgender in playtests, the question might be:

What do we do when we have been entrusted with the stories (sometimes heavy, sometimes hopeful) of other people's personal experiences?

For me, as the project's designer, a core question that shows its throughlines in many parts of the design process might be:

What do I do with these feelings of alienation and fear, these feelings of love and hope, these experiences of trans beauty, as

the world around me once again grows scarier and darker for people like me?

Work on this project began, in a limited fashion, on September 1st, 2018, and the first playtests for the final version took place in mid-May 2019, with a subsequent public showcase in July 2019. This project's process, from initial conception to final (for now) version, took around eight and a half months.

As in **Chapter 4**, which explores *Flip the Script!*, this chapter aims to give a detailed account of the project's creation and explore the making process. This includes discussions of the technologies used in the project, the stories that it tells, the people who helped me make it, the context of its creation, how it was documented, the playtesting process, and the many challenges, worries and failures that came up throughout. The chapter also explores what can be learned from reflecting on the materials and traces that remain from the creative process.

5.2 Detailed Project Description

5.2.1 What is *TRACES*?

TRACES is a game that combines physically traversing a space as sneakily as possible to scan different artefacts. Each artefact gives the player access to a different five-part short story, in addition to the narrative onboarding at the start of the game and an epilogue at the end. Through the use of near-field communication, players scan embedded RFID (radio frequency identification) tags that are hidden on thematic objects (moulded-pulp and cardboard sculptures, finished with black acrylic paint) spread throughout the play space.



Figures 5.2.1 and 5.2.2 Moulded pulp and cardboard sculptures embedded with RFID tags. Photos by Vjosana Shkurti.

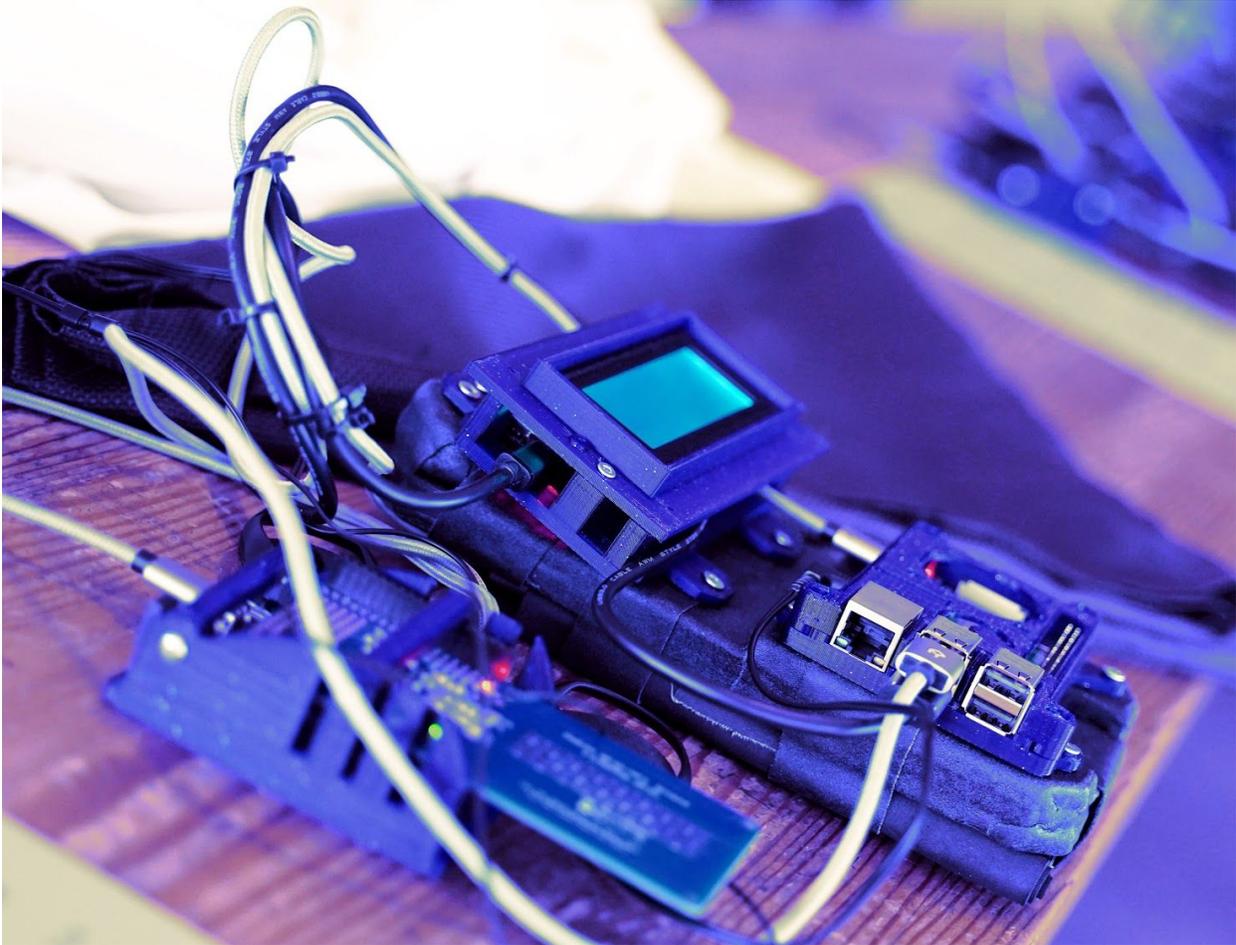


Figure 5.2.3 The Near-Field Communication Scanner and the "Field Computer and Data Decoder/Recorder", with a folded "standard-issue infinity scarf" in the background from *TRACES*. Photo by Vjosana Shkurti.

Their instructions entreat them to be cautious when interacting with "the locals" and not to be seen using their scanner. In addition to their handheld scanner, players are equipped with a "standard-issue infinity scarf", "designed to be versatile, stealthy, and fit many forms" and told that they can wear it "in order to enhance [their] stealth abilities [, ...] to conceal [their] equipment, hide [their] face, keep [them]self warm and dry, or to charm Earthlings with [their] fashionable appearance" (Marcotte 2019b). Additionally, this uniform, along with the game's onboarding process, serves to help players "get into character" for the play experience.



Figure 5.2.4 The Designer playing the role of the Technician/Handler, wearing a spare standard-issue infinity scarf as a cowl. Photo by Vjosana Shkurti.

As the time travellers explore the space, there is usually another game taking place simultaneously, though not wholly integrated into the play of *TRACES*. This is *ACT 'NORMAL'*, a companion larp (live-action roleplay) designed to activate and animate the space when *TRACES* is being played in a quieter environment (Marcotte 2019c). I consider *ACT 'NORMAL'* and *TRACES* to be distinct (though related) projects because it is possible to play a version of both separately from the other, because they are so tonally distinct, and because *ACT 'NORMAL'* was developed after design work on *TRACES* was largely complete, in response to the problem of playtesting in a quiet space.

Under the typically-expected playtest circumstances (in festivals or showcases where space is at a premium and there are many attendees), *ACT 'NORMAL'* is not necessary, as players are likely to already feel observed under these conditions. Further, I can encourage previous *TRACES* players to be inquisitive when they see time travellers navigating the space. In *ACT 'NORMAL'*, players are asked to embody what it means to be a human from 2019 — the spirit of the age, so to speak. While they are playing, they are invited to speak to anyone who may be behaving oddly in the space. This specifically includes players of *TRACES*. Here is an excerpt from the rules for *ACT 'NORMAL'*:

RULES FOR ENGAGING WITH TIME traveller PLAYERS

You will recognize Time travellers by their **brown infinity scarf uniform** (worn in many fashions) or by **their scanner (large, purple and black)**. You can think of yourself like an actor or a non-playable character ("NPC") in a video game, or as someone attending a costume party in-character, in that your performance should not send any TRACES playthroughs totally off the rails in terms of its volume or disruptiveness. **NOTE:** As a regular person from 2019, you can see the time travellers and their equipment, but you cannot see the traces/objects they are trying to scan.

1. Never touch any other player without consent. Try to make yourself visible as you approach other players.
2. While chatting with other locals, keep a surreptitious eye on Time traveller players who approach the object that you are "guarding." Try to keep your conversation with other inhabitants of the era quiet enough that the time travellers can hear the audio of the game.
3. If they are not attempting to be stealthy or cautious, give them a few chances. You decide how many. Even if they're bad at being stealthy or cautious, the point is for them to be trying.
4. If you notice that they are continually very obvious about what they are doing, approach them and engage in conversation. If someone else is already talking to them, look at them intently and somewhat suspiciously instead of approaching.

Depending on what character you are playing, you could ask them if they are lost or need assistance, inform them that this is a no-loitering area, or ask them if they saw Game of Phones last week.

5. Always let them leave (and encourage them to continue on their way) after a nosy minute or so.

(Emphases in original, Marcotte 2019c)



Figure 5.2.5 The CEO of *Pooper* ("Uber for toilets"), played by Dietrich Squinkifer, deep in conversation another denizen of 2019, Rebecca Goodine, as a nervous time traveller, Sarah Ganzon, hides behind a pillar. Photo by Vjosana Shkurti.

While *ACT 'NORMAL'* is somewhat lighthearted in tone, the stories in *TRACES* generally share a kind of melancholy, emphasizing the challenges and euphoria of being transgender in a North American context in 2018/2019 (as many of the objects were initially written in 2018).¹ Most of the stories take the form of monologues by time travellers who came before the players. Faced with the suffering and pain that they witness in this era, but bound by the rules of time travel, which prioritize a kind of "Prime Directive"² of non-interference, they often struggle with their inability to act in solidarity (unless they are willing to break the rules). The decision of whether and how to act in response to the world of 2019 seems to preoccupy many of these characters.

[As painful as it is, you aren't here to interfere. Remember: all of this has already happened. Collecting those traces, making sure that they survive to our time, that's your responsibility to those who

¹ Although the project idea emerged from a visit to Austria, as I expand on further later.

² For more unpacking of this idea, see **section 5.4**.

will suffer here. Maybe we can avoid repeating their past ourselves. Maybe we can't. But let's ensure that the traces and memories of the people here are a boon to our present. Those born to this time who suffer are also our siblings, I figure, though our times may be out of sync, and though we may be from a distant star.]

(excerpt from the *TRACES* introductory script, 2019)

["Are we doing more harm than good in visiting this era? Harm to the culture here? Harm to ourselves? I hear so many stories about one of us being harmed, emotionally, physically, or feeling the need to become a 'time savior' when we need to empower these people to help themselves."]

["There are things that we take for granted in our own era that would seem, no doubt, strange or wrong to people from other times and other cultures. We're inured to our own context — like frogs in a pot of water, heated slowly."]

["One becomes habituated to the way things are in one's own time. It can be difficult to see any possibility of things being different from the way that they are."]

["Absolutisms and ideological purity do not help us. The systems that we build constrain us, and sometimes we make moral and ethical compromises."]

["We so easily recognize the compromises and contradictions in others, but not in ourselves. Hearing stories about our experiences in this era, I wonder if we ever should have come at all."]

(*TRACES* Object 09 script, 2019)

The experience of playing *TRACES* from event to event is always somewhat unique. This is because, in addition to the changing NPCs who may be playing *ACT 'NORMAL'* with what they consider to be the spirit of 2019, the project is intended to travel, and the conditions under which it is played can vary widely. There is a certain amount of in-the-moment "level" and spatial design required to set up the game. The sculptures must be placed in a manner that eventually leads the players back towards their starting point (in a shape that I came to playfully call a "time loop" in play sessions), that feels somewhat natural but not overly obvious. The rules for placement are that the next sculpture should always be visible (even if only just) from the previous position and that the placement should vary in height and in how it encourages players

to approach it. In a space with a moving crowd with varying density, this certainly presents some challenges, but players are told how many stations there are as a part of the onboarding process, so they should know approximately when they have finished.

For a copy of the written instructions that players are given in *TRACES* as well as the rules for ACT 'NORMAL', see **Appendices C and D**.

5.2.2 Rhetoric and Meaning in *TRACES*

In this section, I address what *TRACES* aims to say to its players and how it does so through various ways of communicating meaning, including its words, its procedural rhetoric (rules and mechanics), its interfaces, and its aesthetics.³

Through its visual aesthetics, *TRACES* aims to communicate a speculative, futuristic mood that is familiar in its resemblance to popular media depictions of science fiction. This is intended to create an immediate sense of involvement in the experience's fictional layer and help players get into their role as a time traveller.

The audio aesthetics for *TRACES* were largely developed through both my intuition as the person directing the voice acting and that of the voice actors. Together, we seemed to have agreed upon a largely calming and companionable aesthetic, inviting players into the short monologues being delivered. The rhetoric of this aesthetic auditory choice is that "this is meant for you to listen to and care about", and this is reinforced by the stated goal of the game, which is to collect and safeguard the "traces", which are represented by the audio logs and written passages.

Inherent in the design of the interfaces and the form that content in the game takes is the idea that presenting data in multiple modes is something to be valued (for example, in written and audio form) because accessibility is to be valued.

The narrative of the game's rhetoric places value on own-voices (in the sense that the monologues were written by a transgender person, though some of the voice actors are cisgender) stories about trans experience in the present, while also saying that we can and should speculate about a better future. At the same time, the stories caution against viewing the past as some unimaginable time whose beliefs "modern" people are unable to replicate or sympathize with and demonstrate suspicion about the idea of the future being portrayed as a progressive utopia. Further, the narrative communicates about the experiences and struggles of transgender people in the present and tries to create space for understanding and commiseration. It also communicates frustration and concern about the way that the future may be headed in 2018/2019.

The rules of play and gameplay, as these interact with ACT 'NORMAL', communicate that the need for stealth to avoid disruptions to one's activities is a part of both being a time traveller and, to some extent, the experience of being transgender (though, as I will discuss, this was not a conscious thought on my part when designing the stealth mechanics). Once again, as with *Flip the Script!*, the individual places that conversations between the players of these games may go and the tone they may take varies widely. However, crosstalk between players

³ This is limited by the fact that a more full understanding would require playing the game.

of the games is often a site of disruption and humour. It is both the source of tension because the time traveller may experience stress at being caught and the relief of tension as the interaction often quickly turns ridiculous.⁴

TRACES consciously involves a sort of doubling of identity — the player takes on the role of a time traveller character from another time and place, but the player is visiting their own time. They are unlikely to forget their knowledge about this era, but there is also a degree of defamiliarization of the context because they are asked to think of themselves as a stranger to the era. The present day is reframed through the onboarding at the beginning of the game, through the lens of the stories being told, and the player's personal associations with time travellers and whatever time travel literature they might have encountered. They are expected to become engrossed in the stories that they discover, but there are also people from 2019 coming up and engaging with them in a way that is often tonally much different from these more grim and serious stories. These factors affect the level of involvement throughout the experience and help to prioritize reflection over immersion.

The narrative of *TRACES* provides ten vignettes with different perspectives on transgender experiences in a North American context in 2019. These vignettes do not propose solutions, but, through contact with this unknown utopia(?) of the future, players are invited to imagine solutions and actions. This aligns with the idea that reflective experiences may better encourage reflection through "questions over answers."

These vignettes also deal with uncomfortable topics like harassment and violence, which are signposted with content warnings in the game's onboarding process. Similarly, the topic at hand, the experience of transgender people in 2019, is discussed as part of the beginning of the game. Players were explicitly asked during the debrief following the playtesting to reflect on the topic of transgender experiences in a "Western" context.⁵ These design decisions take into account the reflective design patterns of "disruption over comfort" and "clarity over stealth" (Khaled 2018).

Indeed, the decision to always include some form of debriefing as part of these experiences goes beyond the need to playtest. As I discussed in **2.9 Live-Action Role Play: Designing for Safety and Processing Feelings**, the literature on simulated experiences and games as a form of learning shows that debriefing, and the reflective process that accompanies it, is a very effective way to encourage learning from and processing experiences.

The rhetorics at play in the game are discussed further throughout this chapter.

⁴ Players in *ACT 'NORMAL'* can talk freely amongst each other as well as to the time travellers, but the time travellers in *TRACES* do not typically interact with each other.

⁵ This might be more properly called a North American context.

5.3 Genesis

This is the first place I've felt truly out of place as a trans person. I'm not on on [sic] any sort of supplement to alter my hormones, but I guess with a binder and short hair, I "tip the scale" into an uncomfortable place for these people. I felt stared at, and was worried when someone approached me on the train platform to ask how I felt about gay and trans people. It wound up being a friendly conversation, but the whole place feels fraught. So. Discomfort and alienation, even from the people we're supposed to be here with, is definitely a huge, present concern for me.

(Project Notes from Steyr, Austria, Marcotte 2018e)

A pocket companion, guiding you through an almost familiar, alien civilization...

(Project Notes from Steyr, Austria, Marcotte 2018e)

I officially began work on *TRACES* in September 2018 while exhibiting a project at the *Ars Electronica* festival in Austria. As some of these notes from my journal demonstrate, there were some uncomfortable aspects to being visibly transgender in that context, particularly when travelling between the festival and nearby Steyr. The genesis of *TRACES* is deeply personal, coming out of feelings and experiences that span most of my life, but especially the period after I found the words for my experience as a non-binary transgender person and subsequently came out. When I began work on *TRACES*, my initial thoughts were focused on some of the lessons and failures of *Flip the Script!* — particularly when it came to the use of technology, and the cognitive and emotional load for the facilitator:

This time, I want to push both the technological/programming side of things and possibly a firmer narrative [...] The truth is, running *Flip the Script!* requires a tremendous amount of work for me, because the playthrough can go so many places. Even if it means making a shorter game, I think that I need to have more pre-determination.

(Marcotte 2018f)

I wanted to create something that would be a little more "hands-off" while it was being played. But, beyond that, all that I was initially thinking about was some kind of "narrative Bop-It game" (Marcotte 2018f). Knowing that I would be travelling throughout September, in addition to running an international conference, I thought that these experiences might inspire me.

I'm tired. Exhausted, in fact.

But I'm also energized, renewed, re-invigorated [sic]. For all of the ways that Ars Electronica was alienating, the Queerness and Games conference, which I co-organized [...] made me feel like a part of a community.

One of our keynotes, Mattie Brice, talked about finding inspiration in performance arts, in the Happenings of the sixties, and, in its own way, I think QGCon is a Happening. It's a temporary space where the usual rules are in some way suspended. It's a space of caring, softness, kindness and vulnerability.

I'm not too sure exactly what I expected from the event, but it wasn't exactly this. I had a great time at the last QGCon in 2017, but this time, maybe because I was closer to the event, it felt like there was a real, tangible presence of...I don't even know what to call it... Hopefulness? Goodwill? permeating the space.

(Marcotte 2018g)

These two experiences provided a stark contrast. On the one hand, as the project notes that I wrote during my travels note, my experience in Austria felt alienating, both as an artist who had been invited to showcase and as a transgender person. The Queerness and Games Conference (colloquially known as QGCon), on the other hand, felt like a temporary little pocket dimension of queer utopia and positive feeling. The contrast when the outside world (which was, of course, not wholly inescapable) "intruded" on that space was also indeed stark.

Creatively, I wanted to wrestle with these feelings and had wanted to make a game about my experiences with transness for some time. In fact, at QGCon 2018, I showed a game that Dietrich Squinkifer and I collaborated on together called *transgalactica: A Tune Your Own Adventure* (2018). *transgalactica* is about trans people forming a cynical but hopeful community in space together, which invited the player to find them by tuning into radio signals with hidden codes in their transmissions (Marcotte & Squinkifer 2018). *TRACES* extends these themes of "cautious, maybe temporary utopia" and contrasts them with the idea that, through the lens of fiction, what is typical and normal in our culture may in fact be quite dystopic and unkind.

As the backdrop to all of this, as I began to wrestle with the technology and stories of *TRACES*, many of the people that I had just spent time with at QGCon were worried for their safety as laws negatively affecting their health and basic human rights were being discussed and passed in the United States and elsewhere.

5.4 Traceable Influences

In addition to these early influences and thoughts from the project's genesis, several clear threads link *TRACES* to other creative work and scholarship. The first is Ursula K. Le Guin's *The Left Hand of Darkness*, the book that I chose to bring with me to Europe (1969). In it, an Ambassador visits a planet where a subset of humans has evolved to alter their physiology and have created a genderless society. It is easy to trace the time traveller role in my game back to this "ambassador" whose goal is not to interfere with local custom but to work within it to achieve a goal, even if he, too, eventually decides that he must act counter to those principles.

Star Trek: The Next Generation shares this idea of a "Prime Directive" when it comes to the Federation's involvement with species who have not yet achieved certain markers of technological sophistication (1987-1994). The Prime Directive is alluded to throughout the *Star Trek* universe but has never been directly provided to the audience. One attempt to articulate it is as follows: "The Prime Directive prohibits Starfleet personnel and spacecraft from interfering in the normal development of any society, and mandates that any Starfleet vessel or crew member is expendable to prevent violation of this rule" (Okuda, Okuda & Mirek 1999). As in *TRACES*, it is often tempting for those bound by this directive to transgress it for reasons related to their personal morals and wishes, thus interrogating the notion of it. As with *Star Trek*, players in the game are implicitly asked whether they have a moral imperative to act, as other time travellers in the *TRACES* narrative who have come before them reflect on this same question in the logs the players find.

I also quickly realized as I designed the game's scanner that through both experimentation and an initially-unexamined tendency, I was leaning toward creating something that resembled a *Star Trek* "tricorder" — a specialized scanning machine capable of analyzing and identifying almost any physical phenomena or substance, so long as it was in the ship's database (1987-1994). Given the size of the components and the function that the machine would serve, this was a simple, "natural" configuration — something that I discussed at length with other designers.



Figure 5.4.1 Gates McFadden as Dr. Beverly Crusher on *Star Trek: The Next Generation* using a tricorder for a medical evaluation (1987-1994).



Figures 5.4.2 and 5.4.3 Players using the *TRACES* equipment, for comparative purposes with the *Star Trek: The Next Generation* tricorder. Photos by Vjosana Shkurti.



Figure 5.4.4 Players using the *TRACES* equipment, for comparative purposes with the *Star Trek: The Next Generation* tricorder. Photo by Vjosana Shkurti.

At the start of the project, I had wanted the scanner to be wearable. My initial sketches, which included gloves, scarves and wrist/arm scanners note that this "has to be an interface to fit many body types." Although not insurmountable, the sheer physical weight of the technology posed an obstacle that I did not focus on solving in the time allotted for the project. Together, the assembled technologies included a Raspberry Pi 3 (a tiny miniature computer that usually runs a custom Linux build and is capable of most of the functions that a typical notebook computer can perform), an Arduino Uno clone (a popular printed circuit board that is compatible with a great number of other breakout boards, sensors, and tools — many are designed to plug directly into the Uno and "stack" on top of it), an NFC/RFID (near-field communication/radio frequency identification) reader breakout designed for the Uno, a USB battery pack (designed for cell phones), headphones, and many, many USB wires.

Another project that I serendipitously became aware of during the process was Tess and Karen Tanenbaum's *Reading Glove* project (Tanenbaum & Tanenbaum 2010, Tanenbaum 2009). I happened to run into the pair at Montreal Maker Faire 2018. We spoke about our work throughout the event and at the symposium which followed. As it turned out, they had wrestled (with slightly older technology) with similar technological and material problems to those I might face while making *TRACES*. A decade earlier, they had made the wearable/textile version of a reader that would tell stories such as I had been considering earlier on in my process. Their work alerted me to potential pitfalls that I might encounter. This alerted me to be cautious about the range of the near-field communication/radio frequency scanner and tags.

The principles behind Reflective Game Design, as I expect may be clear at this stage, guided the design process throughout, particularly the four design patterns of "questions over answers", "clarity over stealth", "disruption over comfort" and "reflection over immersion" (Khaled 2018).

From these core traceable influences, I turn next to the context in which this project was designed and playtested.

5.5 Particularities of Context

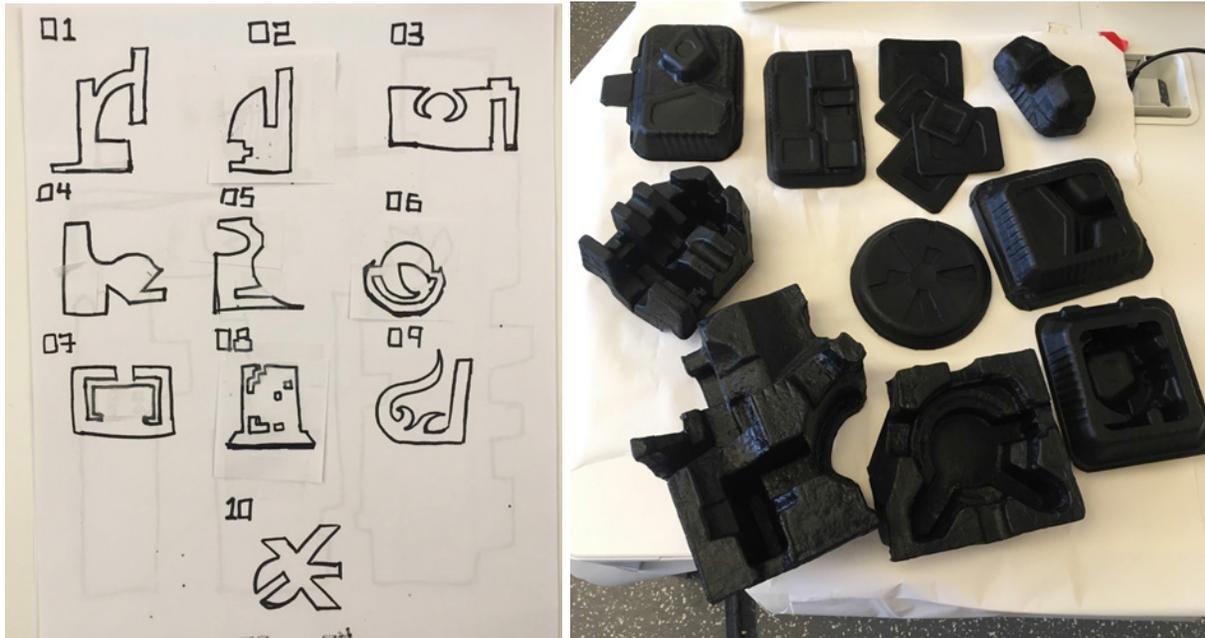
A marked difference between the contexts of creation for Project 01 (*Flip the Script!*) and Project 02 was my ability to be physically present in my lab space, with other designers and peers, throughout the entire process. This ability to be physically co-present was outstandingly helpful to the process. Quite literally, it was a game-changer.

Whether working on a design problem or wrestling with a tricky bit of code, the ability to turn around and ask someone if they were available to talk or help is what carried me through what was, for me, an ambitious solo project. Although I have taught myself how to code, with the assistance of directed reading courses and many a tutorial, I remain a novice programmer. Code library documentation can be obscure and unclear at the best of times, but I also tend to work on atypical projects. (NOTE: For further discussion about the code and the process of seeking out help, see section **5.8 Reflection-in-Action and In Situ Design**.)

Another particularity of this project's context is that I began to teach my first university course partway through its development. This largely affected the pace of my work — I suddenly had a time commitment that seemed to eat up spare time. As anyone who has taught a course before can attest to, there is a great deal of preparation involved when teaching any course for the first time (or so I am told), but this is even more so the case for someone teaching their first university-level course. Ultimately, this and other challenges (tasks that took longer than expected, for example) led to some unhealthy "crunch" behaviour as I approached my first playtest.⁶

⁶ "Crunch" is a term used in the game industry to describe extremely long hours, usually toward the end of a production cycle, that developers work in order to finish a game.

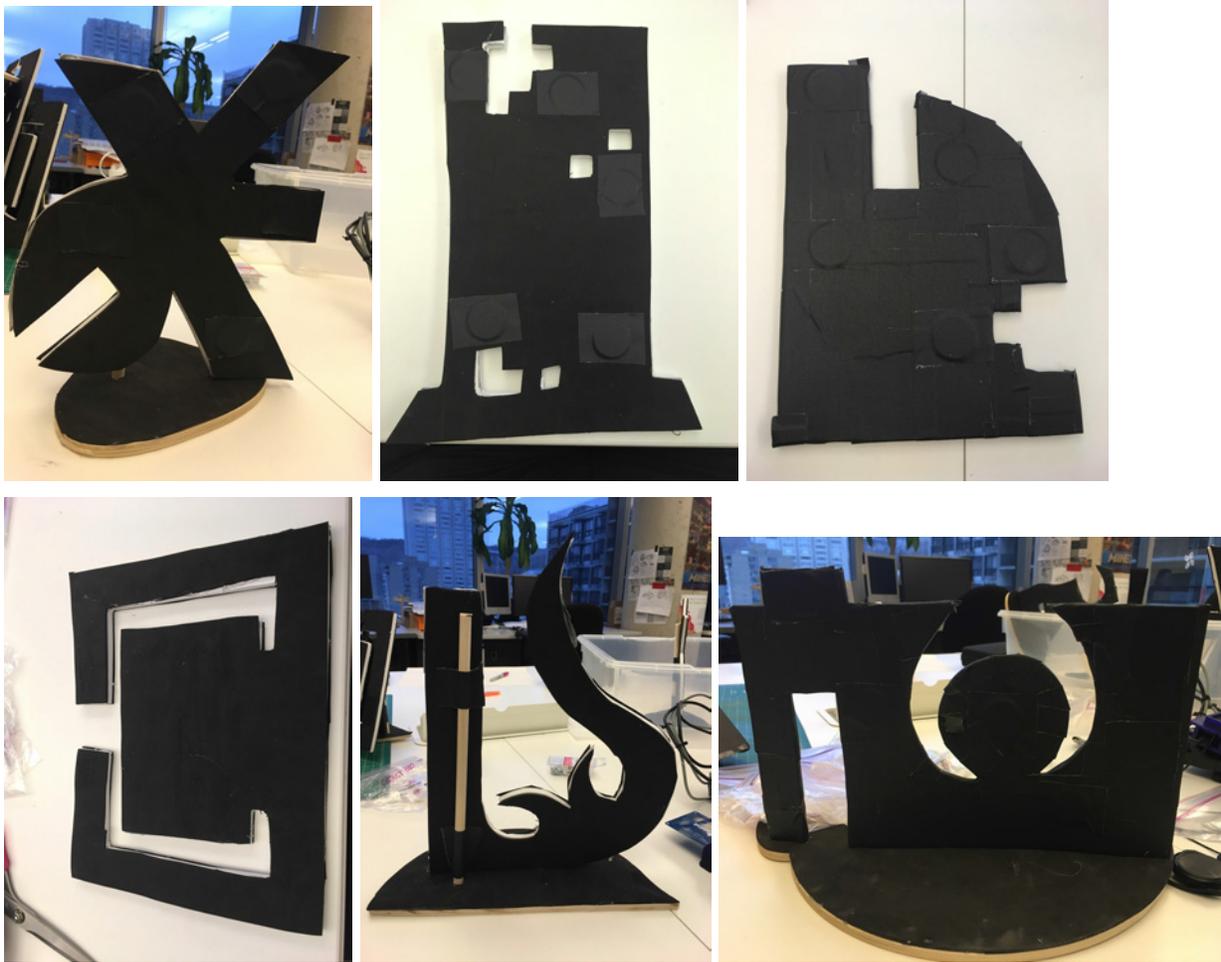
5.6 Playtesting Contexts and Lessons



Figures 5.6.1 and 5.6.2 An early prototype sketch for the objects created for Arcade 11, contrasted with the final sculptures. Photos by Jess Rowan Marcotte.

TRACES was playtested on three separate occasions: at Arcade 11 in Concordia's 4th Space (March 2019), at scheduled playtest dates in the Milieux Institute commons (May 2019) and as part of the Arcade alternative games showcase, which was also held in the Milieux commons (July 2019). It has been playtested by approximately 40 players between the ages of 11 and 67. It changed drastically between the first time that it was fully testable in March 2019 and its final form from May 2019.

There were four major changes to the game between March and May. The first is the addition of a costume to encourage players to get into character and take on a role (in addition to providing them with an option for hiding their device). The second is that I changed three of the "objects" or stories of the game, rewriting them entirely. The third is the complete overhaul of the sculptures that contained the RFID tags, with totally different materials and aesthetics. The last major change was the addition of the *ACT 'NORMAL'* larp (Marcotte 2019c) to help to animate the space for players in quiet playtesting contexts.



Figures 5.6.3, 5.6.4, 5.6.5, 5.6.6, 5.6.7, and 5.6.8: The "placeholder" sculptures from the very first playtest. Photos by Jess Rowan Marcotte.

The sculptures that I playtested in March were always intended to be placeholders. Created during "crunch" time in less than 24 hours, there was a hurriedness to them, and it showed in the way that they were crafted and in their level of polish. They weren't the worst for a prototype, but their materials and appearance were not what I envisioned for the game. The only pieces that I kept from these early prototypes were the "starting" object and "end" object — these were made of moulded pulp inserts from industrial packaging. Their look and material ultimately influenced my decision to gather and work with other moulded pulp packaging materials and compostable food containers. The unusual shapes of the moulded pulp packaging were somehow alien and inspiring. The fact that they were three-dimensional provided more surface area to space out the RFID tags (as the accidental reading of tags placed close together was a technical concern).

The other changes directly reflect the feedback from the Arcade 11 playtest. I received three key pieces of feedback that influenced my decisions. Although only about five players were able to play when I was set up at Arcade 11, this was the project's first contact with the outside world, so to speak, and the data was invaluable. There are certain pieces of feedback

that, when heard, are likely to make me want to change the project in consequence, whether the feedback seems universal or not. The three pieces of feedback that fell under this "instantly must change" category for *TRACES* were: 1) amicably, the player told me that it reminded them of a museum tour, 2) the player only scanned four out of five of each of the tags on the objects because that was how they expected that others would play, and, 3) that the tone of some of the objects felt overly didactic (perhaps, the player thought, because they already had a lot of knowledge about trans issues).

I did not want this game to be an overly-didactic museum tour where people didn't scan all the pieces available to them.

To resolve these issues, I added several elements to the game and re-wrote the three objects that felt most didactic. I created a mission briefing for the game which underscored the need for stealth and that any traces which were not scanned would be forever lost. I created *ACT 'NORMAL'* to animate the space to account for playtesting contexts where there were not many people, and I created the aforementioned infinity scarf uniform to help players get into character. Together, I hoped that these changes would encourage players to get into "stealthy spy" mode and avoid that "museum tour" feeling. In rewriting the objects, I tried to hone in on emotional cores and gentle, hopeful experiences, rather than "teaching" the player about transgender issues and lighting the fire of revolution against the fascist state. The resulting stories are amidst my favourites of the project.

Here is an example of an object that I flagged as overly-didactic (the square brackets denote where an audio clip would begin and end):

["I came to this time to study the signs of a culture on the brink. The emergence of fascism that happened here — first slow and tentative, but then fast once it realized how little resistance it found — I thought I might find it instructive for my studies. I wanted to observe aloofly, but I wasn't prepared for the realities of watching it all happen live."]

["I visited their own museums on the topic, which delineated in clean, simple language how fascism comes to grip a society. It turns out that few people read museum displays, I guess. Otherwise, more might have known that this was coming. Would it have mattered? Or was it just too inconvenient to organize and fight the insidious bigotry that surrounded them?"]

["I am angry in a way that I had not expected at the state of this world and the people inside of it. Knowing the underpinning of the fascism that blooms here like canker sores, knowing how it is held up by systems benefitting the rich and powerful, the privileged — none of that helps to bring me any peace."]

["I swore not to interfere, just like all of us who come here. I tell myself again and again that all of this has already happened, and that maybe there are lessons here to prevent it from happening again. But this isn't like reviewing footage in an archive."]

["At its core, fascism needs our apathy, it needs to scapegoat others for the daily problems that it claims it can resolve, and it needs the people who will stand idly by and do nothing, just as it needs the banality of people 'just doing their jobs' and keeping their heads down. I know I probably won't have any impact on what is to come, but I still can't be a bystander. All of this has happened before."]

(Object 05 from February 2019, before being replaced, from my personal project files, also available on GitHub.)

And here is the text that replaced it, the "final" Object 05:

[It isn't true — what they say — we can change this timeline. I know it. I've seen it. I've done it. It is possible. In fact, it's inescapable. We leave traces in this time. We become quantum-entangled with what we care about — people, things, times. A small part of us becomes forever intertwined.]

[Quantum Entanglement. Even when separated by great distances, the very substances of our being continue to affect each other... This journey into the past fundamentally changes us, and it changes what we connect to while we are here.]

[Knowing that they won't forget me or our time together when I leave, that we will still be connected on a quantum level, makes it a little easier to go. I wish I could take them with me.]

[When they tell us that 'all of this has happened before', I understand that they don't want us to mess with the course of history. But the lies have got to stop. Our actions impact this time in ways that we may not yet be able to imagine.]

[If we are altering this timeline, we should come in with our eyes open, now that we have come at all. We will continue to affect this timeline long after we are gone. We are all entangled now.]

(The object as it stands in the final prototype of *TRACES*, Marcotte 2019a)

The thematic link between the two is the question of whether or not to act. Both explore the idea that oppression and fascism have existed before and atrocious events can easily happen again — are already happening — not only in the present moment, which the time traveller characters are looking back upon, but also in the histories of the world that the players would be familiar with. The second one aims to soften the idea and make it more accessible by taking it away from museums, history, and academic observations, and into the idea, to put it simply, that even if we do not fully understand the ramifications of our actions, it is important to hope that we can effect change, and try to act accordingly.

Object 02 provides an example of something that I rewrote rather than replaced. Below is the final version, which I will then compare line by line with the original version.

[I was freshly arrived in this era. There was a single-stall bathroom nearby, but it was locked. So I cast about and chose between the other washrooms. It was the kind with all stalls and no urinals.]

[I was gripped right above my elbows from behind. I spun around, and there was a five-foot-tall woman smiling at me, a customer service smile. Surprised, I grabbed her wrists on reflex — but gently. I tried to make my six-foot-tall frame smaller, less intimidating. 'This is the woman's washroom,' she said. 'I know,' I said, and — still taking pains to be ever so gentle — pushed her hands away from my body.]

[I have regrets about how I responded to what happened. Grabbed from behind — without my consent — but I was the one trying not to intimidate the person who had done the grabbing. Seems like a bad joke.]

[I was afraid of scaring the woman that grabbed me, see, because I thought they would look at me and think that I was a bad person — a dangerous person. I have heard that nonconformity can be dangerous in these times.]

[In the end, she apologized profusely. I had to do the emotional work of telling her it was okay — it wasn't — I had to assure her that everything was fine — just so that I could finally get into a stall and pee.]

(Object 02, as in the final prototype, Marcotte 2019a)

Here is the original passage:

["I was freshly arrived in this era. There was a single-stall, accessible 'family' bathroom nearby, but it was unfortunately locked. So I cast about and decided to use the /Women/'s washroom. For anyone confused by that, that's the room with all stalls and no urinals."]

In the original, the narrator is speaking to other time travellers, from an era where, or so it seems, the idea of gendered washrooms might be somewhat absurd. It also adds some details that are accurate, but distracting. The writing is also less fluid, and the syntax is a bit odd. Here is the edited line:

[I was freshly arrived in this era. There was a single-stall bathroom nearby, but it was locked. So I cast about and chose between the other washrooms. It was the kind with all stalls and no urinals.]

The edited line is almost the same, abbreviated and edited with the above critiques in mind. The only change in the next line is the removal of the clause "lest she find me scary or intimidating":

["I was suddenly gripped right above my elbows from behind. I spun around, and there was a five-foot-tall woman smiling at me, a customer service smile. Surprised, I grabbed her wrists on reflex — but gently. I tried to make my six-foot-tall frame smaller, less intimidating. 'This is the woman's washroom,' she said. 'I know,' I said, and — still taking pains to be ever so gentle, lest she find me scary or intimidating — pushed her hands away from my body."]

In the next part of the original text, the narrator names the negative feelings associated with going to the washroom directly, as humiliating and dehumanizing. They evaluate the risks of the activity and why one gendered washroom feels safer than the other.

["Going to the bathroom in this era often feels humiliating, dehumanizing. I pee sitting down, so the men's room, which usually has fewer stalls, was a dangerous, intimidating place, because I might be stuck there for longer. More chances of 'getting caught', as it were."]

This rational, logical unpacking of the qualities of the experience and the finer points of bathroom-choosing is entirely removed in the edited line. Instead, it becomes about the in-the-moment experience of being grabbed and their instinctive protective reaction:

[I have regrets about how I responded to what happened.
Grabbed from behind — without my consent — but I was the one
trying not to intimidate the person who had done the grabbing.
Seems like a bad joke.]

This thread, bringing it back to that specific experience rather than the general case, continues throughout the remainder of the edited script. In the original, we see the narrator expressing frustration and sharing strategies for how they have come to address this type of unwelcome intervention:

["I started to practice certain phrases when I came to this era. 'I think I know what bathroom I ought to be using better than someone else.' That's my go-to. I have my pride, after all. I don't want to cause an incident, but for crying out loud, I'm just trying to pee."]

In the edited passage, they move instead to consider what this woman who has grabbed them may be experiencing, and express fear that they will be considered to be the aggressor in the situation. This is a valid fear given recent memories of bathroom bills and the gender-policing of trans-exclusive radical feminists, who have been known to question the identities of other cis women in washrooms who they judge to not be feminine enough or not conform to cis beauty standards sufficiently.

[I was afraid of scaring the woman that grabbed me, see, because I thought they would look at me and think that I was a bad person — a dangerous person. I have heard that nonconformity can be dangerous in these times.]

In the last passage of the original, there is again a move toward discussing the generalities of their time in 2018/2019 rather than the specifics of the particular situation. Although there is more discussion of the narrator's mood and affective response, there is actually less intimacy because it moves the story out of "scene" and further into "summary".

["I know my work here is important. That's why I stay. But while there's the initial thrill of someone from the past mistaking you for another gender, based on the archaic rules here, it gets old real fast. It gets tiring."]

The edit again moves back toward the specifics of the situation, and instead of telling us the narrator's emotions directly, there is a small mention that things are "not okay". There is also an explanation of how the person who originally committed the "transgression" must now be emotionally-cared for by the person they have wronged as the woman over-apologizes and centers her own discomfort. This is a common situation for many marginalized people where

normative identity is centred (whiteness, cisness, heteronormativity), and, through the specifics of the situation, touches on a universalizable experience:

[In the end, she apologized profusely. I had to do the emotional work of telling her it was okay — it wasn't — I had to assure her that everything was fine — just so that I could finally get into a stall and pee.]

I believe that these moves decreased the sense of didacticism because they accomplish two main goals. Firstly, they trust the reader to interpret the emotional experience of the narrator. Secondly, there is far less of an effort to inform or teach about the experience, and far fewer generalizations to the narrator's typical experience overall. The player is thereby brought much "closer" to this one moment in their experience.

I could not explicitly ask new playtesters to compare the old texts with the new, as they had no familiarity with them. Still, I did ask some close friends with writing and design experience about their opinions. Overall, the feeling amongst players seemed to be that the writing had moved to a more emotional register and away from a didactic one.

The Arcade playtest was much more casual and celebratory. Given the atmosphere of the showcase, I was unable to sit down and ask players my usual set of debrief questions. Instead, I spoke with people as they waited to play and after they played and left out a notebook that people could write comments in. Because the event space was already so busy, I gave players who were waiting to play, or who had already played, access to the rules for *ACT 'NORMAL'* and encouraged them to interact with players, but did not deliberately recruit people to stay in-character.

The feedback from playtesters during the final version's official playtests and debrief sessions were on the whole, largely positive. The experience did fluctuate based on how many people were playing *ACT 'NORMAL'* at the time. Specifically, this playtest made it clear that having more people in the environment made the experience more exciting and underscored the need for stealth. It also made the objects harder to find. When there were fewer people, playtesters (who had been told about *ACT 'NORMAL'* ahead of time so that they could come prepared to play it as well if they so chose) took note. It seems that being approached felt like both an interesting opportunity for roleplay and also a potentially-fraught obstacle.

One player mentioned that they were enthusiastic about taking part in the playtesting but had not prepared for the experience as much as they thought they might have, even knowing that others would be larping. They attributed some of these feelings to having come directly from a shift at work to play. Ultimately, this caused them to avoid certain areas where there were objects so that they would not have to interact with other people. Here is an excerpt from our conversation:

And also a lot of players I could tell were waiting for me to mess up. Like, one person was very much looking at me as a player, kinda waiting for me to mess up and following me. Which I didn't feel comfortable at all with it. As a player and as someone who

doesn't want to talk to a stranger roleplaying a bigoted 2019 person. So I wasn't feeling super comfortable. Because of not prepping, but also because of not being ready to interact with people during the game.

(From a May 16th, 2019 *TRACES* playtest debrief)

Although I had included content warnings and framed the experience carefully and fully disclosed what kind of experience this was, players still came with their own assumptions about what the experience would be like. They were not necessarily prepared for the intensity of playing a character that is both canonically-trans and trying to keep secrets about their identity from another set of physically-present players.

This sense of being watched and for someone waiting for them to reveal a weakness, of having to sneak around the space and try to make themselves "take up less space" is something that almost all players related to the experience of what they thought transgender people might experience in their day to day existence, and that felt impactful to them. Players described this as "being seen as the stranger", "having to sneak around", "trying to make myself smaller", "feeling watched", and other similar terms.

This does feel true to some of my own experiences as a transgender person, but it was not a conscious decision on my part. Rather, I wanted players to feel like their actions had meaning even though I was not tracking them programmatically. I wanted them to take the stealth aspects of the game seriously because they could be discovered, and I desperately wanted to move away from that "museum audio tour" feeling. I did want players to feel like they were taking on the role of outsiders from another time and place, but I had not explicitly or consciously connected this to the time traveller character's transness. The decisions about costumes, *ACT 'NORMAL'*, and underscoring the "secret agent" aspects of play were largely about raising the stakes. This had a huge impact on how players "read" the game — and I am glad for it. These felt like the "right" decisions for the experience in a way that I did not fully examine at the time. Still, I cannot say that I consciously adjusted the play to create this effect, as tempting as that might be.

Another common thread was that approximately 15% of the May playtesters wished that I had the opportunity and budget to expand the experience. They said that they would have loved to have seen a version of the game with a fully customized "level" or "play environment" instead of one that I arrived at and imposed the game over.⁷ The decision to use a pre-existing space did mean that the space that I had access to was familiar already to many of my players, who had attended events in that space before, and that I could not completely reconfigure it. Making the game portable was a deliberate decision to ensure that it would be possible to travel with the game and play it at festivals when the opportunity arose.

The players almost universally pointed out the strength of the writing and the emotional core of the stories being told. [NOTE: The script for the game can be found in **Appendix C.**]

⁷ This is something that I would fully support if ever there was someone who wished to give me the budget to do so — if an angel investor is reading this dissertation, please reach out.

However, transgender players of this experience pointed out that they felt like, on the whole, the experience of being transgender was being painted as a primarily negative one, although some positive experiences were represented. One player mused that although it was difficult to be a transgender person in a transphobic society, it was the society and the oppressive aspects of it that make transgender people's lives more difficult, not the fact that they are trans:

[I]t's more because of this cis, phobic society, than [...] the dysphoria or that anything that comes with being trans, right? So [...] yeah for, for me, it was overlooking that. It was talking a bit about it when, when they were talking about experimenting with, with your gender presentation and stuff like that. But I feel there are many positive things about the trans experience — or when they talk about a bit too about the community... the sense of community, stuff like that. It was a bit... it was mentioned a bit, but [...] I feel like people, someone who sees transgender people as miserable entering this sort of experience would still see them [as] miserable people. Without maybe picking up that it's just because of people around them.

(From a May 14th, 2019 *TRACES* playtest debrief)

This is important because it highlights the question of who the game is for and what it might teach them. In trying to underscore the seriousness and difficulty of the transgender experience for people in a western, North American 2019 context, I intended to speak to an experience that transgender people could relate to and that cisgender people could understand the stakes of. In my rewriting, I did make sure to include positive experiences, but the negative experiences somewhat overshadowed these. This was borne out in my conversations with cisgender players as well, who were left with a sense of how difficult and frustrating an experience it can be to be transgender.

Remembering that this is one truth of many of these lived experiences seems like an important note for making future games dealing with experiences of marginalization and about marginalized people. We are more than just our misery or the difficulty of living in the kyriarchy. Certainly, it is also true that the experiences of transgender people are many and varied from one person to the next as well — my project should not have to stand as something that is read as representing the experience of all transgender people. More examples of representation are needed, rather than examples that try to be all things to all people.

Players generally seemed to feel a strong sense of responsibility in collecting and "witnessing" the stories that unfolded. This signalled to me that the ways in which I "raised the stakes" of the collection in the fiction of the game seem to have worked as intended. The act of bearing witness and listening to another person's experience without being able to intervene is a powerful one.

I take the lesson of "bearing witness" and restricted agency from the design of *We Are Fine, We'll Be Fine*, a game by Raoul Olou, Nicole Pacampara and Hope Erin Phillips that I had

the privilege of assisting with as part of the Critical Hit 2015 Wearables incubator (2015). In it, players hold onto each other in a kind of ritualistic way as they bear witness to a series of people telling stories about their marginalization.⁸

On a technical note, the most wished-for feature for players was the option to "skip" traces that they accidentally rescanned, although many expressed that they mostly did not mind having to listen again. Taking the option to rescan out entirely is not a good solution because players also deliberately wished to re-hear certain passages — perhaps because they had been interrupted by another player who was "acting normal", or because it had a particular resonance for them. It would certainly be possible to implement this in the future, though audio loops and breaking them and ensuring that audio does not layer over itself is always a bit of a tricky (but ubiquitous and doable) piece of code, and it will mean adding another button of some sort to the controller.

In terms of animating the space, lessons from playtesting and debrief discussions afterwards are that a future version of *ACT 'NORMAL'* should include a shared context, such as a shared location (a coffee shop, bookstore, grocery store, etc.) or event (a networking event, a concert, a festival, etc.), for players of both games. This would give players a common starting point. Both the *Denizens of 2019* and the *TRACES* time travellers would have a sense of where they are to help them evaluate what appropriate responses would be in their conversations. In a similar vein, while some *TRACES* players took very readily to the roleplaying required of them when interacting with someone playing *ACT 'NORMAL'*, some other players would have liked a cover identity to help inform those interactions as well — perhaps just a few character traits, a fake job, or similar reason for being there.

There is an anecdote that I want to tell about my youngest playtester. Although I did not seek out younger playtesters, this young person was very excited to play during *Artcade*. After I reviewed the content warnings for implied violence and transphobia with them and the adults that they were with, they went off to play the game. When they return, they wrote me this lovely and encouraging comment:

Oh boy! It was really really great! I loved it. It was so cool to imagine myself as a cool badass time-traveller. And the puzzles where [sic] soooo fun! Though cuz I'm only 11 I did'nt [sic] quite understand what the other time-travellers where [sic] talking about.

(from the *TRACES* Comment/Guest Book at *Artcade* 2019)

We also chatted a bit about some of the game's content and what they thought about it. This was a heartening reminder to me that even someone who may not fully understand every part of my work or my intentions can still take something from the experience of play that they value. This is something that I hope to take with me from the experience of playtesting this project.

⁸ I have written more about this game in detail in my 2018 article, "Queering Control(lers) Through Reflective Game Design Practices" (Marcotte 2018a).

Another player, who knew more about my work with research-creation, observed that one of the goals of my research was to create knowledge through design, and said:

I think you've constructed something very beautiful and moving, and I don't know if for you the point of this game is to be educational [but] I know that part of your research is to talk about how games can create knowledge.

When you're writing about this in your dissertation, I hope you'll have a section about emotional knowledge because to me this game is not about knowing the facts about trans — the trans experience, it's about knowing the emotional core of the trans experience, spoken beautifully, performed wonderfully, and formatted in a way that draws people in and creates a fiction, and creates — the magic circle you've drawn here is one in which we are outsiders looking in, right?

So it's our nature as these like time-travellers, so it's sort of— you're coming to understand your own character's world [...] through the lens of this world too. And so, in some ways, the game feels like a little utopian in that like 'oh we'll look back on things, when it was really sad and fucked up, but that's not the future that we're heading towards.' And I hope that's true.

But in the meantime, there's the emotional knowledge this creates, and the empathy it draws out of players is something unique and powerful [...] that for me condenses an empathetic understanding or an empathetic attempt to understand the trans experience that because I have the luxury of having been in diverse communities and knowing a lot of trans people, I learned a lot of these emotional inflections in the past by— like by developing tons of trust in friendships and relationships, right? And you have condensed that level. [It] is an excellent tool for people who don't know anyone trans in their life to empathize with trans people and understand that experience. And I think that's special.

(From a May 16th, 2019 *TRACES* playtest debrief)

So, here it is — that section about emotional knowledge. This is one area where playtesting confirms that the game has an emotional impact on players. This is a game with an emotional core, which players seemed to find very clear. It appears to have made players feel a responsibility toward cherishing and taking care of the experience that they have been entrusted

with across time and space. All of these feelings that I note seemed to be fairly universal experiences.

Overall, this project felt much closer to the kinds of experiences that I hope to make, and I received a great deal of positive feedback about it. Players thanked me for the stories that I was telling and for the care and thought they perceived must have gone into its creation. They said that it opened new possibilities for how they would think about games in the future. In closing this section, I take a moment to celebrate those positive feelings before moving onto the further challenges, failures and learning that this project presented and made possible.

5.7 Design Strategies

In **Chapter 4**, I was able to point to distinct, discrete strategies that I used in the design of *Flip the Script!*, because there were distinct phases of creation. My work with *TRACES* was more holistic, and the story of how the different portions came together is much more entangled. Rather than dividing up the different design approaches, I have kept them entangled but have made an attempt later on in the section to identify design strategies specific to the hybrid nature of the project.

My experience has taught me that many strategies and approaches are transposable between media. The differences between these strategies across media have more to do with the specific project's goals and the affordances of the specific materials being used rather than necessarily representing a change in the strategy itself. Certain strategies (i.e. prototyping) are more "expensive" in terms of both time and material cost when it comes to physical making, but largely, I do not think the strategies themselves differ significantly. In thinking through this, I consider a "technique" (i.e. using a heat gun on thermoplastics) as distinct from a "strategy".⁹

As I previously mentioned in **Chapter 4**, the frequency with which I used a particular mode of documentation in a project often matches up with the design process. *TRACES* required very involved amounts of programming, electronics work, scriptwriting, sound design and voice acting, and physical crafting. The primary way that I left records of these processes was actually in the code repository "commits" (the term for when one uploads a version of one's files to a code repository with version control). I included drafts of the script in the code folder, documentation about the electronics for anyone who might for whatever reason aim to do something similar or reproduce the work, the audio files, and comments in the commits themselves about what was left to do and what I was struggling with in addition to the programming. In some places, the commits provide a day-by-day breakdown of my work and my thoughts about that work (though abbreviated). This record begins on November 15th, 2018, and goes to May 26th, 2019. Although the project officially began on September 1st, it was not before mid-to-end of October that I began to make headway, as this journal entry from October 24th notes:

⁹ See Section 4.7 for the further definitional work that I have done toward distinguishing techniques, strategies and goals.

The seven weeks since I began my latest design project, working title/codename “TRACES” have been busy, but I’ve already talked a bit about that, so I won’t go too far into it [...] I haven’t had a lot of breathing room to focus on the project — but things are moving ahead, little by little. Technology is on its way. I have started to write the game’s story and script. I am thinking about aesthetics, and rules, and context.

(Marcotte 2018h)

As I began the physical making, and once the project was in its final playtesting phase, I took many photographs and videos, as well as working with filmmaker Vjosana Shkurti to document the project. The main goal of this video documentation was so that I could see what playtesters did without being obtrusive, and while staying “in-character” as their handler (as well as welcoming other players as they arrived and debriefing players as they left). As a side benefit, it is the only game out of the three projects I created for my doctoral work to have a trailer.

None of the parts were wholly finished until immediately before the “final” playtests. I worked on the different pieces partially simultaneously, partially on a problem-by-problem basis, usually switching between kinds of work. The writing was the first aspect that I started on as I awaited the arrival of the electronic components. The coding and electronics of the hand-held interface came next as I connected each piece and made sure it worked with the others without placing it permanently together on any kind of structure.

As I approached the first work-in-progress playtest, I focused on crafting the interface that would hold all of the electronics together, and I recorded voices with willing friends. I also hastily threw together prototypes of the sculptures to place around the space — although they were visually-interesting on the level of the symbols they represented, not a single one made the cut after that playtest. After this playtest, I also rewrote three of the ten vignettes and extended some of the program to better synchronize the audio with the writing — two subjects that I talk about more in **5.6 Playtesting Contexts and Lessons**. The focus following that initial playtest was rewriting and re-recording the text where necessary, creating the “final” sculptures, and, after that, the costumes for the time travellers and the rules for the companion larp to activate the space.

This summarizes the order in which I accomplished the work, but doesn’t necessarily speak to “strategies.” This project was one that I approached largely from personal experience and intuition. The way that I can track those intuitive decisions is autoethnographic record keeping and the examination thereof, which is what has allowed me to map out this order of events.

5.7.1 Transposable Strategies

What follows is my best attempt to identify the specific, transposable strategies that I used to create this project and that would likely prove effective in the future. Many of these strategies involve some degree of listening to the tacit knowledge that I have accumulated as a creator

and to the intuition that I've developed as a result, similarly to the practitioners in Schön's *The Reflective Practitioner* (1983). That knowledge, and why one choice was made over another, can be especially difficult to unpack. It brings together a lifetime of experience, both personal and professional.

5.7.1.1 Design Strategy: Lying Fallow

A first strategy involves many agricultural and life-cycle metaphors: in my journal entries, especially at times when I have faced exhaustion and burnout, I come back to the metaphor of "lying fallow" — like a field that has been allowed to rest to replenish its nutrients. So, although it may not seem like a strategy, strategic resting often seemed to allow my mind to return to a problem with new solutions. At times, dealing with burnout symptoms enforced this rest, reminding me of its importance. This can be seen most clearly for Project 02 in the month and a half period from December to the end of January when I was "stuck" with the Project's script and was working instead on teaching.

5.7.1.2 Design Strategy: Let the Idea Ripen

In a similar vein, the notion of letting an idea "mature" or "ripen" was an effective strategy for me. This meant working on a problem without forcing a solution, and trusting that, as I worked on other aspects of the project, a particular idea would grow clearer. In this project, I worked on multiple aspects of the design simultaneously — the technology, the story, the mechanics, the sound design, and the physical crafting. Oftentimes, figuring out the solution to a particular problem in one area of the project, or making a design decision in said area, would then clarify what I might be able to do in another area. Even when I was not actively or consciously working, my brain was piecing together solutions in the back of my mind.

5.7.1.3 Design Strategy: Seek Nutrients from the Outside

(Let's try to keep this plant metaphor going.) The third strategy that I want to tease out may seem self-evident, but feels necessary to verbalize, especially since I was reluctant to make full use of it at first (a reluctance that I will discuss in the upcoming section, **5.8 Reflecting on Reflection-in-Action and In Situ Design**). The strategy is, simply put: to engage with other people. Being able to ask for help or even just discuss a problem with other people in my community and in my lab was usually a sure way to become unstuck. Not only did it strengthen my work, it also strengthened my ties to the people who helped me and allowed for reciprocity. Having had my access to my physical community greatly curtailed when I was in remote Fort McMurray, I now know that I do my best work when I have access to a community of peers and friends. No human is an island, and all that.

5.7.2 Hybrid-Specific Strategies: Rehearsing the Embodied Experience

The major difference between my design work and that of the typical video game designer is, of course, how much embodiment comes into play in the work. This also differs from a tabletop game or board game designer, who, while they may be dealing with physical elements, largely make use of the same materials in the same configurations (cardboard, plastic, paper) to represent concepts from their game on the bounded space of the table. Hybrid games deal with non-standard configurations.

With that in mind, the hybrid-specific design strategies that I made use of (and again, I am talking about design strategies and not techniques for physical crafting such as 3D printing, sanding, painting, sculpting, and soldering, for example) for *TRACES* all have to do with embodiment, specifically. These strategies and others related to creative processes can be thought of as a kind of "reflection-through-action", or, "thinking with" or "through" the use of specific design strategies and actions. This is central to research-creation and this is part of how knowledge comes to reside within the objects that designers make and within the processes of making them. Below I discuss the process of reflecting-through-action regarding the physical experience of playing *TRACES*.

A lot of energy went into thinking through the embodied and emotional experience of *TRACES*. I gave particular attention to the experience that a player might have as they traversed the space, including what movements they would be making with the interface, and what that might feel like or mean to them. I thought about physical awkwardness. I thought about the mutable, modular experience of it as I imagined it shown in different spaces. I considered size, weight and ergonomics (perhaps with mixed success, as it is both rather heavy and blocky, a bit of a burden, but that feels like it might be right for the game). I spent a lot of time visualizing the effect of my decisions on the embodied experience and moving my body to see what the results of those decisions might be. In some difficult-to-pin-down way, this feels different to consider "in real life" rather than in a digital two-dimensional or three-dimensional representation of space. Perhaps I might call this strategy "thinking through embodied action" or something like that, or "projecting oneself into the physical experience."¹⁰

5.7.3 Further Design Strategies

More tacit strategies involve my moment-to-moment choices as a creator, and those can be difficult to account for but easy to contextualize. As a writer with substantial formal training related to this type of creative work, for example, I know that my instincts for choosing one word over another have to do with connotations that I "feel" more than know — a kind of internal sense of what word fits just right. Other choices are easier to explain: because I value sustainability, I wanted to work with sustainable materials — so, for example, that meant using moulded pulp for the sculptures and used second hand fabric for the costumes. Because I value

¹⁰ I documented this embodied process in writing, but in hindsight, I wish that I had also used other ways to document this. Perhaps video documentation would be a place to start in the future.

accessibility, I wanted to increase access to the work by representing the same information in more than one mode (audio and visual).

I reflect further on the lessons about process and method that can be drawn out from the autoethnographic records of the project in the next sections.

5.8 Reflecting on Reflection-in-Action and In Situ Design

As I revisit the in-the-moment materials of this project, I am struck by my ability to recognize a pitfall and yet still fail to avoid it, especially when it comes to overwork and burnout. I am reminded yet again that six months is rather short, especially for a solo project. Some of the major in-situ design lessons that are clear in the process data were about collaboration, asking for help, and rest.

As an example, the commits for this project provide a record of the many moments that I became thoroughly stuck, as well as the many peers who generously helped me through it. I am especially indebted to Enric Granzotto Llagostera in that regard. The code below is a typical pattern: the example code from other programmers on the Internet is not working as expected, I wrestled with searching out other examples and trying to identify the problem to fix it myself for a solid day, before asking for help.

The problem is that serialport has changed a lot since most of the example code was written, so I'm trying to use the correct documentation.

```
@jekagames
jekagames committed on Nov 28, 2018
1 parent 0f977a5 commit
a950d65415618fe9891848671b76b1a32db99aaa
```

—

struggling with serialport

Getting a "data" undefined error for the parser...

Anyway, some progress has been made even if it doesn't feel like it!

apparently serialport is a touchy node package.

```
@jekagames
jekagames committed on Nov 28, 2018
1 parent a950d65 commit
35af558a3505cc95151746f43eea5250b36ddca5
```

—
serialport is working! thanks to Enric

Enric helped me pair-program and debug my serialport code, and it is now up and running! <3

[...]

@jekagames

jekagames committed on Nov 29, 2018

1 parent 35af558 commit

67a6bccb3c9e4d82ea7d7860e1c01987cc35ffea

(Marcotte 2019b)

I was reluctant to ask for help despite at times struggling for many hours for a number of reasons, none of which particularly hold up to scrutiny, though I understand where they might come from. The first was my sense that asking for help was an imposition. Second, there was certainly some degree of impostor syndrome and a sense that I should be able to solve these problems myself. Third, these projects were intended to be solitary, examining my own process, and I had yet to consider what that meant for this type of context. Here's an example of how I voiced this at the time:

I was talking to Tom about this yesterday: I want to be independent and handle the tech myself this time. It's not that I mind collaborating with others, but because I am largely self-taught when it comes to all the tech that I use, I need to prove to myself that I'm able to do it, or something like that. It seems a bit ridiculous putting it into words, but that's the feeling that I have.

(Marcotte 2018i)

Rationally, I knew that although helping me would take time and effort, I had always freely given my time and help to others, and that this was a part of my lab's culture — one that I had taken pains to foster in my time there. I also knew that I was not demanding help and that I was giving others as ample space as I could to say no if they could not help. My second and third concerns involved reminding myself that knowing when it is time to seek guidance or assistance is an important skill, and that, ultimately, getting help didn't make *TRACES* lesser in any way or lessen my accomplishment in creating it. Getting help and learning from that help instead of staying stuck helps me to become a better creator. In this project, I often waited until I was tired or frustrated to ask for help.

Oftentimes, this highlighted the strange reality that programming practices are not universal and that when we bring two bits of code together that have never met, they can interact in unintended ways. The problem is not always where one would think, or even in one's

own code. For example, there was no reason that I had to expect that servo code and near-field communication code within the same library would interact negatively with one another. And yet the fact remains that I had to disable servo-related code to get my project to function, and later add a new board definition because I switched from one board to another functionally-identical board from a different company:

Altered Code to work with Adafruit M4 Metro

Yikes, that was an adventure. I arrived to try and show Squinky my code on the new M4 boards and it was a lot more complicated to get it to work on the M4 than expected. I had to edit Boards.h to include a definition of the M4 — I should probably include what I put in boards.h for future reference. Also, I had to include junk code at the start of the file and I had to disable the servo library. Yikes!

@jekagames

jekagames committed on Feb 14, 2019

1 parent 5afc49d commit

62fb8099060fa2e41d2f5af47e20b0a794217c70

—

Added information about defining [sic] the Adafruit M4

@jekagames

jekagames committed on Feb 14, 2019

1 parent 62fb809 commit

a3fb5d29eef0835e8e0518453dea8b234675e021

(Marcotte 2019b)

Although no less frustrating in the moment for being a strange interaction between these various bits of code, this kind of encounter is heartening for me in programming because it involves a bug that is not (quite) of my own creation. As someone who has very little formal training when it comes to programming, moments like these, and their resolution somehow make me feel like a little bit less of an impostor.

As I mentioned before, my writing about my own process was frequently reflective about healthy working practices, and yet even when I could see certain pitfalls, I was not always able

to avoid them. The following is excerpted from a blog post where I tried to describe what I was learning from the autoethnography process half-way through the creation of *TRACES* (February 2019).

In tracking my creative work closely, I am learning a lot about myself and how I work. I hope that eventually that data can be generalized to others [...] At the very least, I can propose hypotheses. Here are some thoughts.

1. Most importantly, the more stressed and unwell that I am, the harder it is to feel able to do creative work, both in terms of scheduling and prioritizing it, and actually accomplishing it when I finally do sit down to work.

In December, I opened and looked at my script a good half a dozen times, but I was stuck. I was too worried about other things (primarily, things related to Tom's work situation and precarity). While being busy has gotten in the way of my creative work in the past, finding the time to get down to work was always the challenge.

2. Enjoyable, challenging work balanced with breaks and personal time can be fulfilling fuel.

Sure, I am now adjusting to teaching for the first time and managing other commitments that I have made (opportunities to publish, to edit/give feedback to others on their work, to collaborate on design projects), but I enjoy that work for the most part. It affirms (in most cases) my confidence in my own abilities, even though I may have the occasional doubt. Doing work that shows me my own capabilities helps me fight impostor syndrome!

But I also definitely need to build in more breaks and rest into my schedule. [...] I suspect it's something that I'll struggle with for the rest of my life, especially with my tendency to overcommit (which is prized and encouraged because it makes me so *productive*).

[...]

3. Recognizing and naming burnout, and taking as much of a break as you can from the things burning you out seems crucial.

I feel like I keep having these mini-burnouts — I have the evidence of them and their mounting severity every time I write one of these posts. I'm not an expert on this by any means, but after not even attempting to work on my dissertation project for the past few weeks, I have felt able to do creative work and I find myself excited to work on my dissertation project once more.

4. It is easier for me to work with someone else. I find it easier to get past blocks and prioritize working when I'm working with at least one other person. This is born [sic] out by how many solo projects I've released versus how many team projects, I think. At least right now, having a lot of creative control is important to me, so I like working in small groups on all aspects of the game. Maybe that will change with experience.

I'm also trying to get better at asking for help (even with individual projects) and letting other people take over tasks in groups that I'm working with. One of my problems is feeling like if I ask for something, I'm being a pest or taking up other people's time, but I think I am fairly generous with my own time, so I am trying to ask for help in ways that I feel are fair and respect people's boundaries.

(Marcotte 2019d)

This journal echoes my earlier discussion about what it is like for me to ask other people for help, and about the importance of rest more generally. What I find especially troubling is knowing that I did later go on to continue to overwork myself despite acknowledging overwork as a problem. Guarding against overwork and the healthier working habits that I have been able to build in the intervening time, therefore, feels like especially hard-won knowledge. By tracking my feelings, mood, thoughts and general progress throughout the creative process, it is easier to recognize patterns of behaviour and thought. This has value for me as a creator. It further helps me to account for how much or how little progress was made over the course of certain time periods, and the cost of keeping up an unhealthy pace.

Here is an excerpt from an update about two weeks later, further confirming this pattern of overwork and burnout:

Just dropping a note to say that work on Traces is going well — I'm actually hoping to have something playtestable for the very beginning of March, so I'm busily working away on all fronts — I'm soldering components for the scanners and screens, installing software on raspberry pi, writing code, thinking about sculptures and recording audio, thinking about displaying the script on tiny

screens, thinking about the aesthetics of the controllers and how they'll all fit together... There's a lot afoot.

It's exciting to be in the thick of it, even though I'm keeping a hectic pace. I would love to have something finished in time to playtest at Arcade 11 — that's currently my goal. I would be right on track for six months with this project if I finished by then, which is kind of incredible given the delays and difficulty I was having with it earlier.

(Marcotte 2019e)

The struggle to avoid overworking and overcommitting continued throughout this work, despite my awareness of the danger of this. Perhaps other designers and academics can also relate since both areas seem to value productivity greatly and encourage overworking behaviours. The previous entry was followed by a journal entry which opens on the following line:

I have an unsurprising confession to make: in the time since my last blog post, I crunched to get a version of TRACES ready for playtesting at Arcade 11.

(Marcotte 2019f)

Despite taking an anti-crunch stance toward the games industry and my students' work when teaching, I fell into the same patterns I asked others to avoid. This is a pattern that I hope to learn from and avoid in the future. It has become increasingly clear in the analysis of the data that my game prototypes were, in fact, out of scope for a six-month or even seven or eight-month process. The added goal of physical polish in addition to complex intersectional themes seems to have pushed the scope into a somewhat ambiguous area.¹¹

5.9 Further Challenges and Learning

I have already discussed many of the challenges and lessons that I learned from during the creation and playtesting of this project at length. One that I haven't mentioned in detail is the challenge of the scope of managing such an experience while it is being played. The truth is that such a wide-scale interactive experience, with players wandering around a space, is difficult to manage, especially as one person on their own.

This presented several challenges that I had to resolve. To keep an eye on the space and players, I had to enlist the help of my spouse, Tom. To animate the space and give the sense that this was a (somewhat) busy environment where players would have to be stealthy, I created *ACT 'NORMAL'* and invited kind friends to play. As the "handler" or "technician" for the

¹¹ I discuss scope across the three projects further in the **Conclusion** chapter.

game, I could not play all of these roles at once. I needed other "actors", and my solution to have people, minimally-prepared, come to larp was passable but could have been improved.

The last failure that I want to take the time to mention is that, unfortunately, the project does not fit inside a carry-on suitcase, nor follow checked baggage rules. This is disappointing because it limits my ability to share the work or requires me to seek ways to transport the game where costs do eventually add up, especially on an artist's shoestring budget. At a minimum, it requires a full suitcase to transport. This does limit my ability to transport it to festivals without a significant re-design or additional cost (as electronic equipment is rarely welcome as checked baggage, and the moulded pulp sculptures, while not especially fragile, are still vulnerable to being squashed).

Since these projects live on partially through their ability to be played and shared as widely as they can be (given that there are already so many limits on how they can be distributed), this is disappointing. However, I am nonetheless pleased with the prototype. I arrived at the sculptures due to inspiration from the materials, and through concern around the technological constraints of how close the RFID tags can be placed on the surface of an object without triggering accidental readings. However, I do think it would be possible, in a future iteration, to redesign the sculptures to be smaller, especially if I were willing to design my own moulds rather than recycling existing moulded pulp.

5.10 Revisiting the Game's Seed

At the beginning of this chapter, I proposed two questions that are important for thinking through the central themes and interrogative goals of this project:

What do we do when we have been entrusted with the stories (sometimes heavy, sometimes hopeful) of other people's personal experiences?

and

What do I do with these feelings of alienation and fear, these feelings of love and hope, these experiences of trans beauty, as the world around me once again grows scarier and darker for people like me?

These are very different questions than the one that I was asking myself with *Flip the Script!* and in some ways, a lot less measurable and more difficult to respond to.

In many ways, it is up to the players to decide on their personal answer to the first question, and there is no one answer to point to. From my debrief discussions with cisgender players, it seemed important to many of them to hold in mind and honour the knowledge that the transgender people in their lives may be experiencing feelings and anxieties around the way that the world already treats them or may treat them. It also seemed important for many of them to consider how they might provide support to the transgender people that they knew. For

transgender players, this was, at times, a heavy experience, and they wanted to make sure that, amidst the heavy, the hopeful and wonderful aspects of being openly oneself, of being transgender, were not outweighed by a sense of misery. These answers are both useful in unpacking how the game was understood, which in turn helps me to respond to the second question as the designer of the project.

For my part, the answer to the second question was to make *TRACES*, but that isn't where the work ends, either. My initial answer was to try and communicate and express those feelings through a medium that I thought could hold their weight and importance. I am quite proud of how this project turned out.

Now, having playtested the game and having thought about the project further through this writing, two main thoughts occur to me. The first is that I want to communicate more about trans hope and beauty than about fear and difficulty, even though the experience of being transgender can be fraught. I wrote the game at a moment where the world felt like it was becoming especially scary, and the writing somewhat reflects that, although there is love and hope there, too. However, as my playtesters pointed out, being transgender is only (and only sometimes) a negative experience because of the cultural and societal contexts that surround us. It is an act of queer resistance to choose to show what liberating and wondrous experience it can be instead of mostly speaking about our tragedies.

My second major thought is that, throughout this process, it is clear that I was caught between two audiences: did I want to explain my experience of being transgender in a 2019 context to cisgender people, or did I want to share and reflect on my experiences with other transgender people? By the numbers, there are fewer transgender people than there are cisgender people, and in trying to playtest widely, it would have been difficult to work my network in order to only playtest with trans people. I also thought at the time of designing the project that my writing and my design could speak to both experiences at once, but I do think that there are differences in writing to an in-group of marginalized people versus trying to communicate to the dominant group. This is something that I wish I had made a more conscious decision about.

In any in-group, there are discourses to engage with that go beyond the common public perceptions of that identity. I did not set out to write about transgender issues for cisgender people, but it seems to have happened along the way. Ultimately, the project's writing communicates more to a cisgender audience than it does to a transgender audience. There was a sense when playtesting with transgender players, implied in the debrief discussions around misery in **section 5.6**, that I could have engaged with experiences within more emotional registers and with more nuance than the wistful melancholy that largely characterizes the game.

As with *Flip the Script!*, it feels like there is so much room to expand and continue with *TRACES*. I do not yet know what that would look like, especially in the context of all that has happened in 2020, but I do intend to revisit the project when it is safer to be in physical proximity again.¹²

¹² Writing this at the beginning of 2021, it is difficult to know when this will be due to the on-going pandemic and the uncertain timeline for the roll-out of vaccines.

PROJECT 03: *UNLOCK. UNPACK.*

6.1 Overview

To the holder of this letter,

Hello. I hope that we are well-met.

I am the Maker who wrought the wooden suitcase that sits before you. I didn't make it alone — it was shaped by a community of people who helped to create it in thousands of ways, large and small. I made it for myself and others to explore connections to other entities and their surroundings, to the links that we might make with each other, even without ever meeting face-to-face.

This relic is a record of those connections.

Think about the three challenges in this suitcase as puzzles-to-think-with. To find the solution to these puzzles, you'll need to explore the case and discover its secrets. Each is thematically-linked to a question that you can find within the case once you have solved it. These questions ask you to reflect on your life and how you relate to the world around you. Take your time and write down your answer to each question — you can address it to future players, to yourself, past or present, or to anyone who you would want to hear your answer. When you have finished, fold it up and place it within. Inside each case, you'll also find the answers of past players.

Accompanying the case is the Caretaker. Their role is to care for this relic as it travels from place to place, as well as those who choose to engage with its mysteries. Should you need assistance, please ask them. There is no time limit, but if you believe that something is not working as intended, or you become mired in frustration, it is their sworn duty to assist you.

May you take away something you value from this experience and may you be well.

Sincerely,
The Maker

(The introductory letter which accompanies the "relic" in *UNLOCK. UNPACK.*, Marcotte 2020a)

UNLOCK. UNPACK. can be described as escape-room-in-a-suitcase that, unlike most escape rooms, has no time limit. The game asks players to collaborate to solve three multi-step puzzles. Through this solving, players build a sense of camaraderie and intimacy. Solving each puzzle grants players access to compartments with questions that ask them to reflect on their connection to themselves and others, as well as the answers left by past players. Only those who solve the puzzles have access to these compartments. This aims to provide players across time with a shared connection, even though most of them may never meet face-to-face: to read the answers of others, you must also put in the same time and effort that they have; face the same challenges.

My initial thoughts around this third project revolved around designing some kind of physical toy or puzzle. As the project developed, my design goals were inspired by a desire to create something that I wanted but that did not yet seem to exist: an escape room-style game where there was thematic resonance, aesthetics, and other trappings around what players were asked to do and the theme of the room matched up. I wanted to make an escape room with meaningful puzzles that communicated something that resonated with the kinds of themes that I address in my other work. I also wanted to push my design skills. Though I had long designed puzzles for my tabletop gaming group, I had yet to include puzzle design in my formal work. Lastly, I wanted to design something that would fit inside a carry-on suitcase because I have a pact with a fellow designer, collaborator, and friend (Dietrich Squinkifer) to create an exhibition of suitcase games. So, I started with fewer thematic questions, and more of a sense of the mechanics, aesthetics and constraints that I wanted to work with.

If I had to describe this as a question that I was asking myself, now that the project is completed, as I revisit the documentation that surrounds it, it might be something like,

How can I make a compact escape room where there are solid thematic links between the puzzles that players are being asked to solve and the themes and aesthetics of the game?

A thorough investigation of this project involves revealing some of its secrets. I have decided to "spoil" the puzzle solutions and talk about some of the details of the responses that are contained within the box without fully revealing what was written word for word (for the integrity of the design, that's reserved for those who play and take the time to read).

As in the previous chapters exploring *Project 01: Flip the Script* and *Project 02: TRACES*, the goal of this chapter is to give a thorough account of the project's creation and explore the process of making it. This will include discussions of physical materials and technologies, the process of working with the people who helped me to make it, the context of its creation, how it was documented, the playtesting process, and the challenges, worries and failures that came up throughout. The chapter also explores what can be learned from reflecting on the materials and traces that remain from the creative process. These same topics and more

are discussed and elaborated upon in connection to Projects 01 and 02 in the **Discussion and Conclusion** chapter.

6.2 Detailed Project Description

6.2.1 What is *UNLOCK. UNPACK.*?

The "f***ing box", as my collaborator on this project has come to call it, is made of kiln-dried knotty pine boards, biscuited and joined together by hand with many a clamp and a great deal of wood glue in the process. It has mitre corners and is stained with Varathane Satin Pecan all-in-one Stain and Polyurethane. It contains a hidden panel, concealed by carefully-placed trim, three oddly-shaped boxes, a shelf that holds some of the technology necessary to play the game, and a hole to fit through the plug that powers it all. The outer edges of the box have all been routed, rounded with a quarter-inch blade attachment. A piano hinge joins the two halves of the case, and ornate faux-antique fasteners hold it shut when it is stored. Its appearance carries within it the signs of the labour and care that went into its creation.



Figure 6.2.1 *UNLOCK. UNPACK.* in unassuming box form.

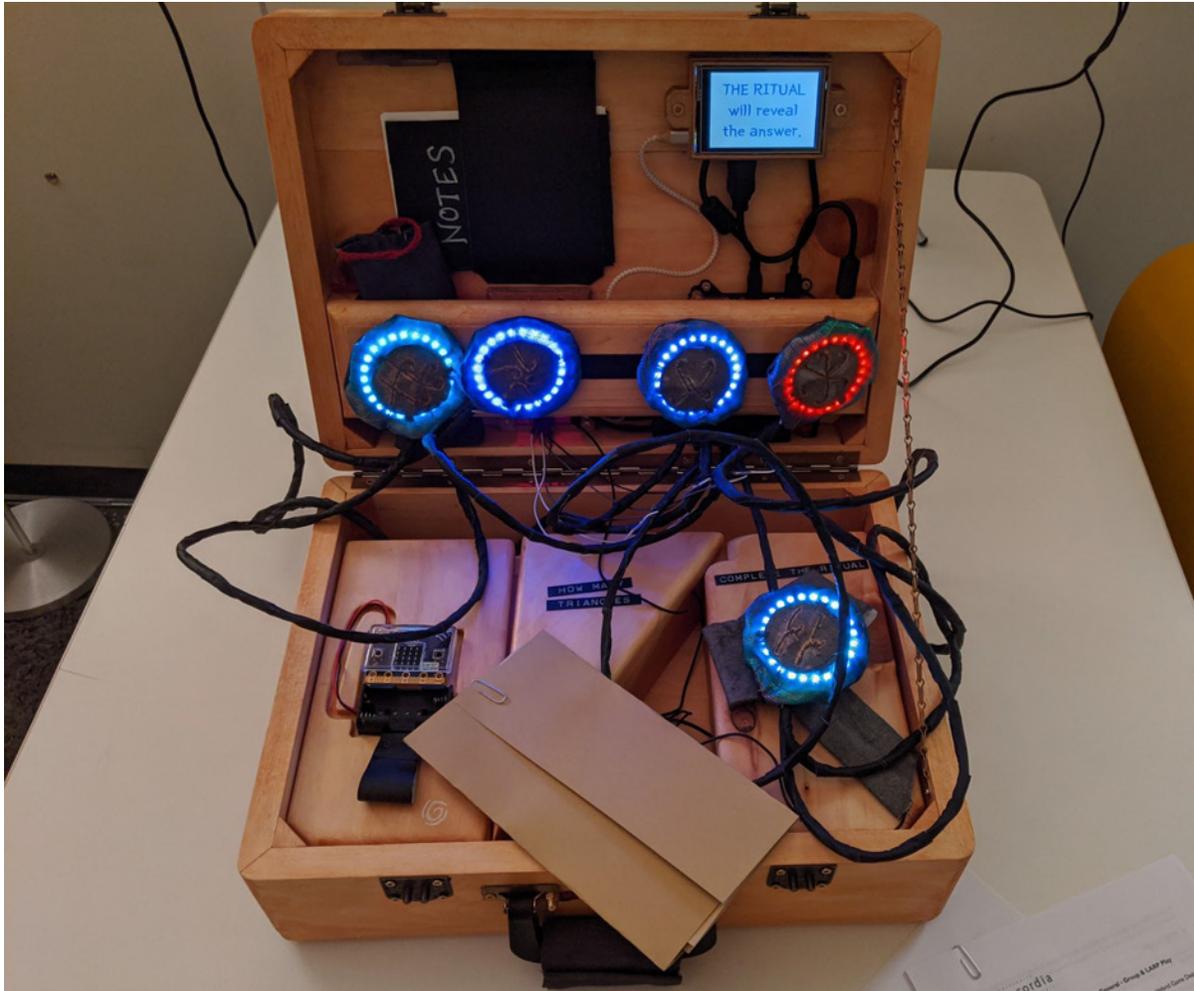


Figure 6.2.2 UNLOCK. UNPACK. set up to play at the TAG Research Lab. Photo by Jess Rowan Marcotte.

Inside, there is a tiny nine-centimetre screen in the upper right corner of the lid, which, when plugged in, says, "The Ritual Will Show the Answer." There is a shelf (mostly) hiding a Makey Makey microcontroller and a Raspberry Pi 4 computer and some external USB hubs, as well as holding a blue-grey fabric bag. There is a leather strap holding in a notebook and several pens. Wires wrapped together in Gaffers' tape sprout from the ports and split off to plug into the Makey-Makey.

These wires extend to five glowing, vibrating patches, embroidered and painted with strange symbols made up of hooks that do not resemble any known alphabet. Each patch contains a Flora board, a vibrational motor, a lot of conductive thread, and a NeoPixel ring. These patches are scattered — some velcroed to the shelf, one lying on top of a fabric wrap of sorts, seated on top of the rightmost box lid, which says "Complete the Ritual." A wire also extends from this fabric wrap to the Makey Makey concealed beneath the lid's wooden shelf.

In the base of the case, next to the first box, is a triangular-shaped box that says, "How Many Triangles". Both of these boxes have clear locking mechanisms. The "Ritual" box has a

word lock, whereas the "Triangle" box has a number lock. The leftmost box has no clear mechanism to unlock it, although there is a pull tab to open it once it is unlocked. There is a small spiral symbol on the bottom-right corner, and a BBC micro:bit (the same device used in Project 01) is seated there, partially recessed and velcroed in, with an empty battery pack. The last item of note is the suitcase's handle, which is covered in the same blue-grey material as the bag held on the shelf inside the lid. Atop all of this is a folded piece of dark brown cardstock, containing the letter that heads this chapter.

The above is what players see when they sit down to play *UNLOCK. UNPACK.*

In a typical playthrough, players tend to work from left to right. For the purposes of this explanation and for reference later, I've designed the puzzles, from left to right, as "The Handle Puzzle", "The Triangle Puzzle" and "The Ritual Puzzle." What follows is a walkthrough for each puzzle that tries to describe an average (but hint-free) solving. These are written in the second person to preserve a sense of immediacy.

6.2.1.1 The Handle Puzzle

Glancing into the wooden suitcase, the tangle of wires looks a tad overwhelming, so you decide to search for clues, and almost immediately spot a bag behind the wooden shelf that seems to be hiding the electronics. Taking the bag in hand, you feel a weight in the bottom of it, and immediately open it up and pour its contents out into your hand. It is a pair of AA batteries. You see a spot where they will fit: the battery pack of the strange board that is velcroed to the leftmost wooden box. As soon as you put the batteries in, some red LEDs light up on the surface of the board.

What could that mean, and what should you do? How do you interact with this board? You spot two buttons on the front surface: the "A" button and the "B" button. You turn to your partner and they suggest pressing the A button. When you do so, symbols begin to scroll across the screen's surface. At first, this seems a little overwhelming, but you notice that there are only three kinds of symbols: dots, dashes, and spaces. Your partner immediately asks whether this might be morse code.

Does the designer expect you to know morse code by heart? No way. But they've told you that everything that you need to solve any of the puzzles is inside the box... You flip through the blank notebook that was provided for your note-taking and find nothing. You check inside and around the box.

Finally, your partner picks up the bag that you found the batteries in and grins at you. "Ohh — look!"



Figure 6.2.3 The Morse Code alphabet printed directly onto the inner lining of the battery bag. Photo by Jess Rowan Marcotte.

They turn the bag inside out, and printed directly on the fabric inside is the morse code alphabet. The two of you turn back to the code. It has stopped on a smiley-face. When you press the A button again, the code starts again. You both start copying it down, but that gets confusing. You then decide that one of you will read the symbols aloud while the other copies them.

You translate the message transmitted through the symbols on the device using the Morse Code alphabet. "Hello :)," it says.

Your partner reaches for the button labelled "B". Is it the same code? At first, it's hard to tell, but then you realize that this code is much, much longer. Maybe the "A" button message was the warm-up round. The Caretaker tells you that there is a reset button at the back of the board so that you don't have to sit through the message each time if you make a mistake or get lost.

Together, you go at it with a will, then translate this second encoded message from the device. "Hold On You Can Handle This <3", it says. What does that mean? Is it a hint, or just a word of encouragement? You tug on the leather strap of the box experimentally — maybe it'll just open now that the puzzle is solved. Is that what they mean by handle?

Finally, you both look askance at the Caretaker. They smile, "Gee, that seems like a lot of work for just a word of encouragement."

That must mean that it's a hint. Hold on, you can handle this... Your eyes fall onto the suitcase's handle, and you unwrap the fabric that you had thought was there to make the grip more comfortable. Aha. There's some kind of blue tag there. You've seen similar fobs at apartment buildings — it must be some kind of RFID technology.

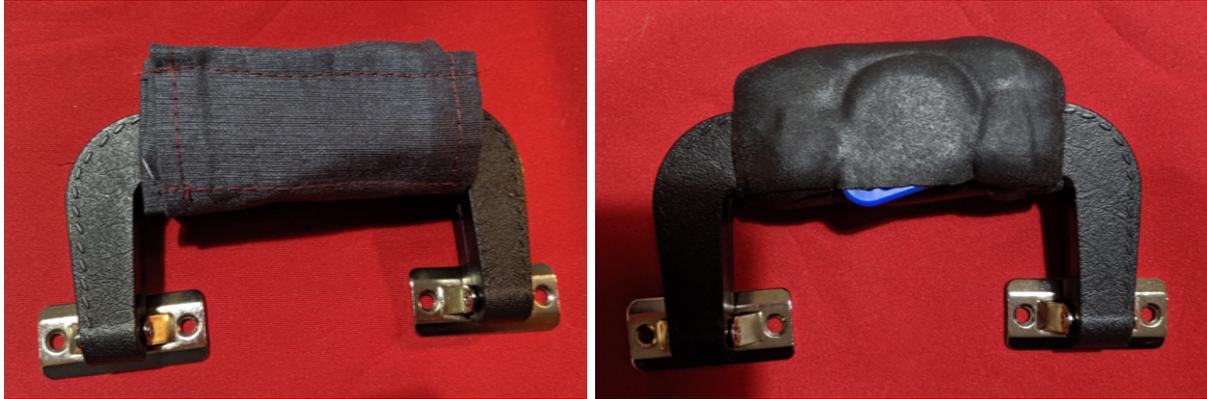


Figure 6.2.4 and 6.2.5 The expertly-hidden RFID tag pocket in the handle. Photos by Jess Rowan Marcotte.

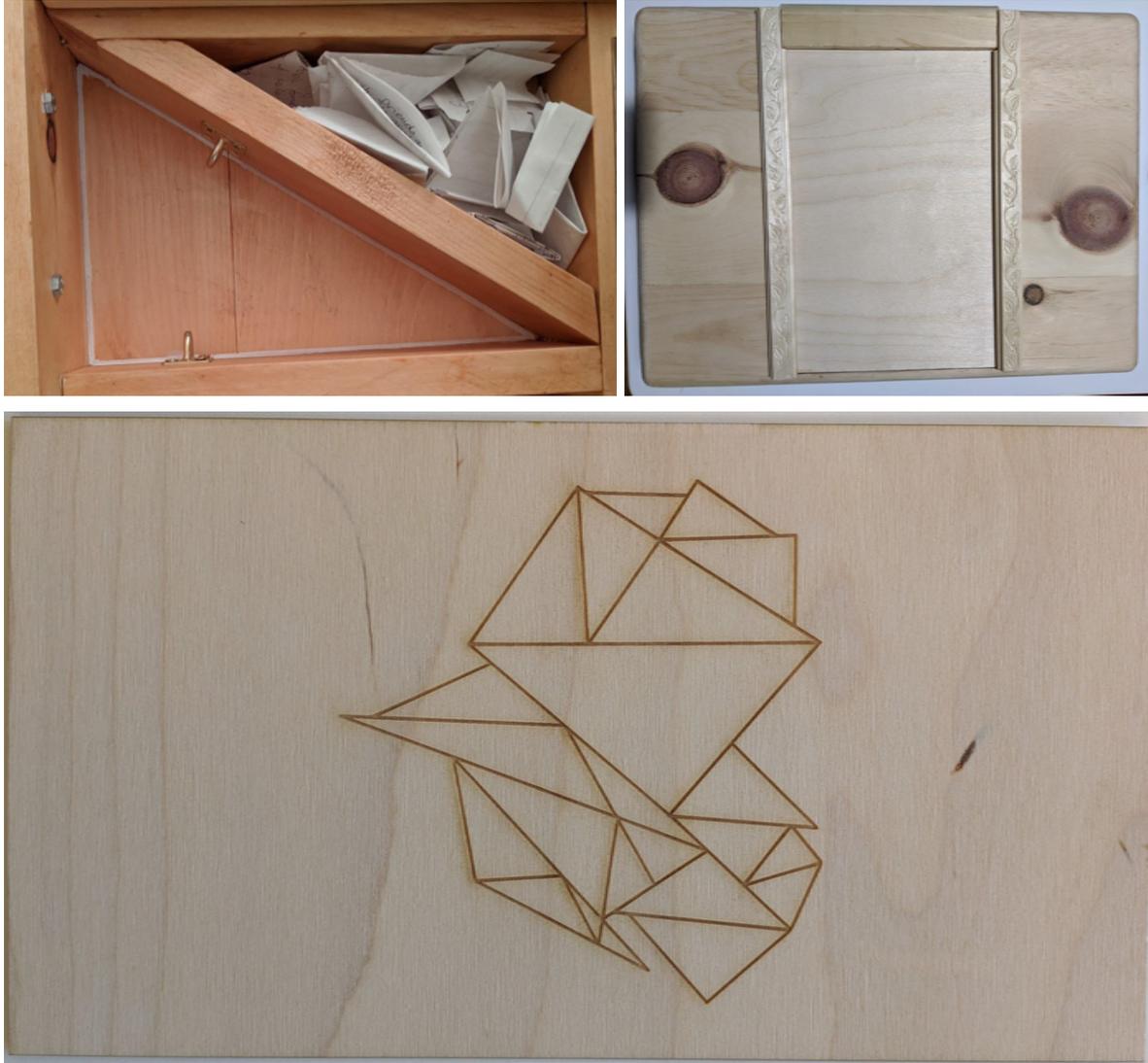
Examining the box more closely, you note that there's a small swirling pattern on one corner of the box that you hadn't really paid attention to before. Experimentally, you touch the blue tag to the symbol, and a small, victorious electronic melody plays, and the box unlatches. Pulling up the lid by the leather strap, you gain access to the question inside, and the many answers from past players.

"What do you hold onto when things get hard to handle?"

6.2.1.2 The Triangle Puzzle

Moving from left to right, you read the clue atop the second box. "How many triangles," the box reads, its own cover in the shape of a triangle. "One," you say with a chuckle. "One triangle, let's try that."

As it turns out, that's not the answer. Beginning to investigate the box more thoroughly, having been told that there's nothing underneath the box, your partner finally grips and slides a panel from the box lid. There is a heart made up of triangles hidden on the underside of the panel.



Figures 6.2.6, 6.2.7 and 6.2.8 Some structural triangles hidden in the body of the suitcase, a hidden panel on the outside of the case, and a geometric puzzle in the shape of a heart, made up of triangles. Photos by Jess Rowan Marcotte.

You count them and then count them again. You and your partner keep on coming up with very slightly different answers. There are triangles hidden upon triangles in the shape. There's particular uncertainty around one triangle, whose corner doesn't quite align with the rest. In the end, you decide that there are 32 triangles. The number lock doesn't open when you put that in, but you remember that the box lid is a triangle. Thirty-three? No dice.

Looking again at the box, you note that there are outlines drawing attention to certain triangles in the box — the triangular pieces of wood that reinforce the corners, the triangle formed by the negative space beside the triangular box lid... There are ten of those, all told. Adding those triangles up with the 32 from the heart, you come to a satisfying 42 as your final answer. The lock opens, and inside are dozens of small pieces of paper, many of those also folded into a triangular shape.

The question on the inside of the lid reads, "How does the prism of your life reflect your many facets?"

6.2.1.3 The Ritual Puzzle



Figure 6.2.9 The glowing, vibrating symbols of the Ritual puzzle. Photo by Jess Rowan Marcotte.

This leaves the tangle of tentacle-like black wires and the softly-glowing and buzzing symbols that you were both drawn to and intimidated by at the start. This one looks difficult. First, you look at the box, hoping for a hint. It says "Complete the Ritual"... one of the embroidered patches is lying atop a grey fabric with velcro dots that is also wired into the case. There is also that screen, which says "The ritual will reveal the answer." You take this to mean that solving the puzzle will give you the password that you need to open the word-lock keeping this box closed.

Searching the sewn grey fabric carefully, you find a little pocket made of a different kind of lighter grey material with a rolled and folded piece of fabric inside. Unrolling the fabric, you find that there is also something printed directly onto it:

THE RITUAL

*The lines of the symbols represent
the flow of the ritual's magic
and this flow must
be managed with care.*

- *Avoid causing the flow of power
to rise and fall too sharply in sequence.*
- *The horizons begin and end the ritual,
like the sun at dawn and dusk.*

- *The channels of power must not be wholly connected at either the beginning, middle, or end of the ritual.*
- *As it proceeds, the pattern of the ritual loses equilibrium and becomes more chaotic.*

*Treat the flow of the magic with great care.
Once you have sorted them, close your fist 'round the artefact, and call the symbols in order.*

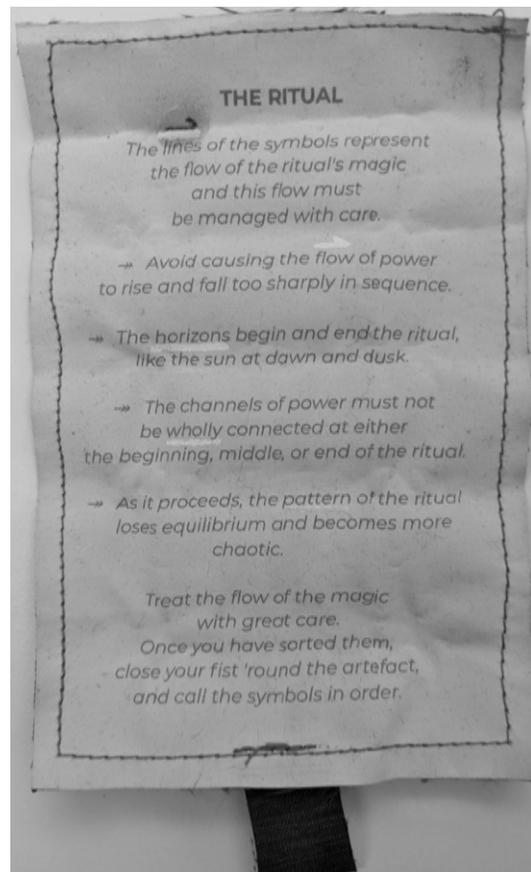


Figure 6.2.10 The Ritual instructions. Photo by Jess Rowan Marcotte.

What could that mean? It takes some time to sort out the lines and their cryptic meanings, which at first just seem like flavour text. As you read them, you start to wonder what losing equilibrium and becoming more chaotic could mean. What's the flow of power? When you

slow down and take it line by line, it becomes a bit clearer that these are conditions to help you order the symbols.

The lines of the symbols must refer to the embroidered parts of the patches. The symbols are made up of embroidered hooks. From there, it becomes easier to sort them out: some symbols have all the hooks touching, while others don't. That must be what is meant in that line, "The channels of power must not be wholly connected at either the beginning, middle, or end of the ritual."

Looking at the line about the horizons beginning and ending the ritual, you find the patches with horizontal lines, but can't quite yet decide which goes first and which goes last. What does it mean to lose equilibrium...? Everything else has been about the visual appearance of the symbols, so you look for visual cues of equilibrium. You realize that some symbols are more symmetrical than others, even accounting for the fact that this is all hand-made.

You and your partner agree that you have a solution that you want to try, but the patches aren't giving you any feedback. You figure that you have to commit to your solution and close your hand around the "artefact"... It might be metagaming, but seeing as how that strange piece of fabric is plugged in, you figure it must be the artefact. Maybe it's a ground or something similar? So, you close up the velcro on it and hold it, touching the patches in the order that you've placed them.

The screen suddenly changes, giving you the four letters that you need to enter into the lock. The question inside reads, "What rituals do you use to connect with your loved ones?"

6.2.1.4 The Messages Left Behind

From these game descriptions, I move to discussing the types of messages left behind and impressions from playtesters. I will not be sharing the exact contents of any of the messages that players have left within the locked spaces of *UNLOCK. UNPACK.*, as that particular access is earned through playing the game and facing its challenges (or alternatively by being the person who designed the game).

What follows is one example of how players valued the kinds of questions that they were asked to answer throughout playing the game, and how the game changed the meaning of accessing the answers of other, previous players:

The more we talk about this, the clearer it is kind of, to me like... doing work to open up access to the other adults like that, that feeling, it kind of changes your relationship to it. [...] You could have the exact same [...] writing and stuff like in front of you, and you're like, "I'll take a look", but it has a different meaning and different weight when you're like, we both went through this experience and like work and like tribulations together. And [...] I get to experience this - that feeling is very... like almost like a generational feeling or something. Maybe not generational.

It's interesting to be like, to feel bonded to people who you can't identify. But like, not in like an abstract way. Where it's like, oh yeah, like everyone has a heartbeat or something. It's like, no, like I, I just, I know that this other person went through the exact same thing that I just went through and they [...] wrote this out and it's very personal.

(Excerpted from the first full playtest debrief between a new couple, January 2020)

The types of responses vary widely — some fill the space of a small, double-sided notebook sheet entirely, while others are just a single line, or even four letters, deliberately written in morse code to entice and tease future players. Some players chose to deliberately write in their most inscrutable cursive (telling me that even they can't read their own cursive) to preserve their anonymity and the vulnerable thoughts that they had written down. There is a wide range of response types. Players did usually feel a responsibility to leave some sort of answer. To my knowledge, all players chose to answer the questions in some form.

Reading the questions that were asked, one can imagine the variety of answers that they might prompt. Players described feelings of connection and alienation, a sense of communal sharing, and the feeling that another way of looking at their connections to themselves and others might be possible. Many reflected that other players' answers gave them inspiration for how they approached their own answers.

These answers could be said to function as sort of a collection of communal wisdom. Given the Covid-19 pandemic's paradigm-altering impact, the messages are almost a time capsule, especially when it comes to questions of shared rituals with loved ones and what is currently possible and safe.

6.2.2 Rhetoric and Meaning in *UNLOCK. UNPACK.*

In this section, I address, to the extent that this is possible without actually having the reader play the game, what *UNLOCK. UNPACK.* is intended to convey to its players and how it does so through various ways of communicating meaning, including, as in **section 2.6** of the **Background** chapter, a variety of aspects of its design, including its words, its procedural rhetoric (rules and mechanics), its interfaces, and its aesthetics.

UNLOCK. UNPACK. is a project where the horizon of expectations of the genre that it slots most easily into (escape rooms and puzzle boxes) is in some ways at odds with what the game asks of players. In a typical escape room, the time pressure is on, and the primary goal is to solve all the puzzles within the time allotted (typically no more than an hour, though there are some longer games). Typically, these escape rooms value independence and not asking for assistance. Though clues are available if you get really stuck, there's the understanding that asking for help is essentially a kind of weakness.

The procedural rhetoric of this project is quite different. The primary goals of *UNLOCK. UNPACK.* are to, through shared struggle and collaboration through these three challenges, form connections with oneself, with the players that one is present with, and with past players.

The game provides space for reflection and asks players to pause and answer questions about themselves and their relationships to others and their experience of the world. That this is the goal is explicitly stated in the introductory letter of the game, along with the fact that there is no time limit, and that players are welcome to ask for an infinite amount of hints and clues, or for other help that they might need to manipulate locks inside of the small enclosed space of the suitcase.

Aesthetically, its appearance and materials are designed to be inviting, appealing, and worth valuing. Not in the sense that they are themselves especially valuable — the box is made of knotty, kiln-dried pine, which costs approximately eight Canadian dollars per eight-foot plank, and, individually, each component inside is not particularly expensive. Rather, I am talking about the care that is inscribed on the project through the making. It is intended to be clear through the level of polish that this is an object that someone cared about (and this does seem to be the case).

Beyond what is contained within the introductory letter, the actual "rules" of how to approach the game are rather light. The game's setup and the difficulty of the puzzles do tend to encourage a certain solving order, as I will discuss later, and that is a kind of embedded meaning, too, but on the whole, there are few rules about what is allowed or disallowed, beyond trying to avoid breaking things.

Importantly, I wanted some of the protocols around the game to be shaped and altered through play by community practices. That means that I wanted players to make decisions about the culture and customs around the suitcase, especially when it came to the messages inside the boxes. This has so far included things like most of the messages in the Triangle box having been folded into triangles, for example, and has also affected the general direction of where players take their answers, to an extent, as they are in some ways responding to both the original question and other players' interpretations of it.

These and other topics are elaborated on throughout the chapter.

6.3 Genesis

PROJECT #3

~~I want to make a more challen~~

Do I want to make a more points-based physical/speed skill-testing game?

I don't know, but I'm very relaxed and the natural [?] plants, mountain and water here are very pretty.

maybe about friendships & relaxation

Maybe about sushi.

Maybe about mental health.

Maybe about fashion.

CATS

Some kind of creature to care for —
 Ida & vibropixels

An intractable creature —> do they really respond to you?
 Are you just proposing to design a furby?

An interactive diorama game.
 but what's the interaction? Switches?
 How many possibilities? Different configurations of objects in a
 limited set of spots to tell different stories? What's the challenge?

In Flip the Script, the challenge was the request for vulnerability
 and the need to open up

In TRACES, the challenge was having to be "stealthy" about your
 identity and the surreptitious search for the tags. Also, the subject
 matter was challenging?

Is it 2 players? Do they each propose an object? Is it adversarial?
 Do the objects fight or do they relate?

Like a physical "fighting game" — what would be the point of the
 digital assist?
 A board game? with an app? (Ew. Well, I'm not really a fan.)

(Brainstorming notes from a road trip in British Columbia, June 4th, 2019)

(from a design perspective)
 FLIP THE SCRIPT was about looking outward — discovering how
 you relate to other people

TRACES was about looking inward — examining your identity as
 a trans person

Maybe PROJECT 03 could be about letting other people look into
you.
 Except that also sounds exhausting. ~~Unless~~ Also,
 TRACES sort of does do this, since the player gets to experience
 this narrative you've created

I don't know if this is a fruitful direction.

I kind of want to make a physical-digital puzzle or maybe even an escape room. Maybe like a thought palace — you're inside a mind?

PROJECT 03

a physical digital puzzle

- riddles
- RFID locks
- compartments
- light patterns
- physical locks

(Brainstorming notes from June 17th, 2019)

JUNE 18th 2019

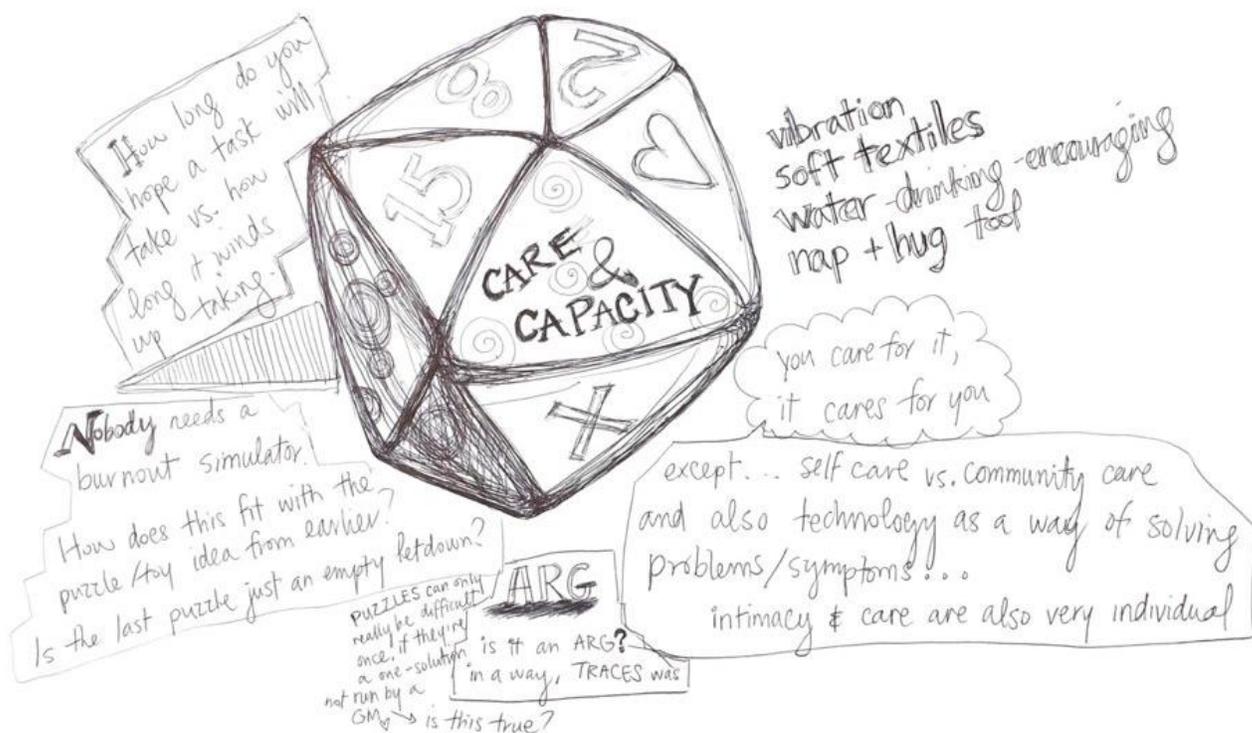


Figure 6.3.1 Brainstorming and Sketching for Project 03.

[Image Description: A soft-edged icosahedron with the words "Care & Capacity" as well as some numbers written on the face. The following words and phrases surround it (in clockwise order, starting from the right) with different levels of embellishment:

"vibration", "soft textiles", "water-drinking-encouraging", "nap + hug tool", "you care for it, it cares for you", "except...self care vs. community care and also technology as a way of solving problems/symptoms... intimacy & care are also very individual", "ARG - is it an ARG? in a way, TRACES was", "PUZZLES can only really be difficult once, if they're a one-solution not run by a GM → is this true?", "Nobody needs a burnout simulator. How does this fit with the puzzle/toy idea from earlier? Is the last puzzle just an empty letdown?", "How long do you hope a task will take vs. how long it winds up taking".]

My earliest formal notes for *UNLOCK. UNPACK.* date back to June 4th, 2019. Early on, two main threads were care — for one's self and others — and the desire to create something new that was still in conversation with my previous projects. I wanted to create something that would allow me to stretch my capabilities and practice different skills, and what immediately came to mind was to make something challenging.

But, as one can see in the notes, I also immediately wanted to be cautious about how I framed the idea of challenge. Typically, what I expect comes to mind when talking about challenges in videogames is about physical coordination, speed, and timing, rather than the subject matter, or other types of challenges. While my games have rarely had numerical metrics of success, or even real lose conditions, I do not believe that my players would say that they are not challenging for other reasons.

I quickly became torn between making some kind of "toy" around themes of care and making an escape room in a suitcase. Looking back at this, it feels like *UNLOCK. UNPACK.* exemplifies a "why not both?" approach to deciding which I would make.

6.4 Traceable Influences

As with my other projects, given that this type of work already has limited shareability and reach, one of the major goals was to create something portable. As I have mentioned elsewhere, games that are explicitly built into suitcases are an interest that I developed through collaboration with Dietrich Squinkifer. We intend to one day have an exhibit of these "suitcase games." So, this contributed to my desire to create this project in a suitcase.

I already had some experience with the escape room genre and with puzzle design from co-designing *Sandra's Keys* in collaboration with ACT Concordia (2019), as well as from playing a number of escape rooms, and being a tabletop gamemaster who designs puzzles for their weekly games. Having decided that I wanted to work with puzzles, two main threads of thought emerged.

The first, I discuss elsewhere, and I don't want to belabour the point, but escape rooms are typically quite disconnected thematically and narratively from the puzzles that one is being asked to solve. So, my major thought was that I would try to create better thematic unity between the solving and the diegetic context.

My second thought was that I should do more in-depth research about puzzle design. After some research, I purchased *Puzzlecraft: How To Make Every Kind of Puzzle* by Mike Selinker and Thomas Snyder. Although it is largely about the kinds of puzzles that one can print in a book or newspaper, the book was very useful for developing a vocabulary of possible

puzzle types, and ultimately, most kinds of puzzle-solving, even if their type is hidden, hybrid, or not easily recognizable at first, did fit into the types discussed in the book (Selinker and Snyder 2018).

Beyond these traceable influences, I drew inspiration especially from the materials themselves and the constraints and limitations that I encountered or resolved through them. I speak more about this in section **6.8 Reflection-in-Action and In Situ Design**.

6.5 Particularities of Context

My collaborator for this project, who prefers not to be named in publication, is a resourceful self-taught woodworker and craftsperson who, at the beginning of this project, did not consider herself a designer. She has told me that, when it comes to carpentry, she will typically follow plans and create variations on them. So, working with a custom design that required some especially unusual features (i.e. these hidden panels or strangely-shaped boxes within boxes) was an adventure for both of us.

Special trips to work with my collaborator became a (typically) weekly ritual as we found time in our schedule to work together. The materials stayed at my collaborator's home, and in-between our sessions to physically-craft the box, I would work on designing the pieces that would go inside, designing 3D cases, printing and testing them, or working on puzzle design.

The most notable impact of these contextual particularities is the rhythm that this set for the work. I had to switch between tasks frequently because woodworking takes time, and we had to wait for the glue to dry between sessions, or for the next time that we could match up our schedules. This forced me to slow down and consider each part of the design in a different way than some of the more frenetic paces that I had set with the earlier projects.

6.6 Playtesting Contexts and Lessons

Okay. What was playing this game like and how did I feel? Playing this game was [...] very mysterious. I felt... yeah, I think that there are some ways in which my play of this game [was] really heavily coloured by my relationship to you, and the fact that I played almost everything you've made for the last like five years or whatever, I think I've played most of that stuff. And this felt like a real departure for you formalistically in some ways.

And, I mean, your themes were, right, right where I like, - like, in the, in the extending comfort zone of like where I view your themes to - to where I expect like, a Jess Marcotte game to take me thematically. But the style of play and puzzles, besides the fact that there is a box here and there's vibration technology, couldn't have been, in my mind, less like what I expect from like, if Jess Marcotte invites me to play a game. So in that regard, I want to kind of like applaud your diversity of like, mechanical design.

(Excerpted from a playtest debrief with the only solo playtester of the game, January 2020)¹

UNLOCK. UNPACK. was playtested as a full experience in two distinct batches between the beginning of January 2020, and March 13th, 2020 (when Concordia University suspended in-person human research due to concerns about the Covid-19 pandemic). It also made its first public appearance at the QGCarnival in Toronto (a fundraising event for the Queerness and Games conference) but was not playtested there. As compared to the other two projects, which saw both formal playtest sessions and informal play through event showcases, the playtesting data is therefore much more limited, and far fewer players who were completely unknown to me played (as I had expected to expand the pool later).

By the time this game was ready for playtesting, many of the playtesters already knew my work from previous dissertation projects. Out of the 24 playtesters who played *UNLOCK. UNPACK.*, 10 had played one or more of my other dissertation projects. Because I intended to broaden out the scope of my search for playtesters later, when the puzzles had been playtested and further refined, my initial pool of playtesters were work peers and friends. Nevertheless, because playtesters were invited to ask along someone that they would like to play with and form a team with, I do have data from three playtesters who I had never met before in any capacity.

Consequently, players frequently expressed a kind of trust in me and my work when discussing their experience playtesting. They had a basis of comparison and were generous in assuming my intentions as a designer to be fair and aimed at providing a collaborative experience that they would enjoy rather than an adversarial one that aimed to defeat them.

At the same time, my connection to the playtesters made me wonder whether playtesters felt able to be completely honest with me about their experiences with the game, especially where those might be negative. However, this feeling of anxiety persisted for me with both players I knew very well and have friendships with as well as with players who did not know me. I mention this feeling for the sake of being transparent in terms of the goals of autoethnography, knowing that testing insights are somewhat hindered by the (somewhat small) sample size due to factors far beyond my control and that one solution to this type of problem is to increase the sample size.

Play in this game can be divided into several distinct actions: puzzle-solving, collaborating, reading, writing, and asking for help. I have broken the actions down because each "verb" provided its own insights during the playtesting sessions, rather than providing one larger throughline lesson about the experience. More so than either of the other two dissertation projects, player responses and preferences concerning the kinds of requests that *UNLOCK. UNPACK.* makes were far less unified. This may be because the actions that players were asked to engage in were far more traditionally-challenging (in a game mechanic sense) than the more emotion-focused challenges of the previous two projects.

¹ I only needed one playtest to realize that this game would not achieve its goals with a lone player. The experience seemed lonely and disconnected, especially compared to the shared experiences of other players.

6.6.1 Puzzle-Solving

I'm very accustomed to your games being like *lyrical*. I'm not so accustomed to your games being like... tricky, you know, and there were like a whole bunch of times where I was like, "damn you."

(Excerpted from a playtest debrief with my one solo playtester, a friend, January 2020)

A first lesson that seems obvious in hindsight but that I only confirmed through playtesting is that context matters a lot when it comes to a puzzle's difficulty. Each puzzle was playtested at a variety of stages before being integrated into the box. Versions of the three puzzles were playtested with the TAG lab's game design meetup group, my spouse, and a variety of other people who happened to be handy and willing to try when I had a version ready. They seemed like they took up an appropriate amount of time and were at an acceptable level of difficulty. But, added together and integrated into the suitcase greatly increased the difficulty as their clues acted as red herrings for each other.

Nevertheless, a corollary lesson is that "level design", the term that I'll use for the visual clustering and arrangement of the puzzles because it is analogous, can and did alleviate some of that confusion. I made a deliberate effort to spatially-arrange elements in the box so that they were vertically-aligned with the puzzles that they belonged to. This was subtle. Playtesters did not comment on it without prompting, but did seem to intuit it through the spatial arrangement that certain parts and clues must go with certain puzzles.

Another lesson is that it is difficult to tune the difficulty of a puzzle because players bring such different levels of experience, ways of engaging, and preferences to puzzle-solving. It is also difficult to gauge a player's affective response to a puzzle without asking them directly. "Having fun" with and feeling engaged by a puzzle can look like: calm silence, visible frustration, animated talk, thinking aloud, and any other number of reactions.

In a similar vein, there's no such thing as a universal level of difficulty, and what people enjoy or dislike about a particular puzzle type varies extremely. There was no generalizable average experience of the puzzles. For narrative-focused content, one might expect players to more-or-less react within a certain range of affective responses, but this simply was not the case with these puzzles. What one person found very intuitive and easy, another player might find quite difficult. Watching people play and talk about their experience brought this to the fore.

These feel like obvious lessons in hindsight, but, as, prior to this project, the audience for my puzzles was mostly my regular tabletop gaming group, who I know pretty well, I had never had the occasion to observe this knowledge in action and think it through.

6.6.2 Collaborating

I felt like the first connection was actually with the player that I was playing with because we were actually cooperating, and the more the time passed, I felt like this connection kinda like increased as we were trying to actually find these codes and we were like somehow getting them wrong and then we got better at them, and then for the next puzzles, we were actually more cooperative and more connected in a way of like solving this puzzle, and because it was very needed because of the third puzzle which was very challenging.

(Excerpted from a debrief with two players unknown to each other prior to playing, January 2020)

There're probably a number of design decisions that made us feel that way, but certainly the end result was a play thing where, yeah, we got a little like stuck, but we're not stressed either, and not worried or concerned, and that's great, and that kind of enabled us to kind develop a great kind of relationship with the game where it didn't feel— where it felt like we were kind of working through things together.

Which I think is like — that's — that's what a lot of great games— that's one of the things that games can do really well, right? Getting people together in a social way to work through something, work with something, and work with a system, and either uniting against a system or using a system against each other or whatever, but it's like, it kind of lets you — what's the word — like transcend kind of the potential social awkwardness and things like that.

(Excerpted from a debrief with two academic peers, one of whom was a visitor, March 2020)

Relationship dynamics between playtesters included significant others (typically with someone who had previously played one of my games bringing in a partner to play), close friends, colleagues and peers, and relative strangers who had shared a workspace for just a few days. It was especially common for players in newer relationships to talk about feeling connected to each other through the act of collaboration. For example, two of the strangers who playtested felt moved to share a hug afterwards. While I have commonly heard cynicism about the intentions of corporations who encourage employees to participate in team-building exercises, that does not mean that such exercises are not effective. My limited playtesting suggests that

the collaboration and shared struggle that I asked players to engage in was an effective way to build a sense of connection quite quickly.

Another important reminder from playtesting was that, even in a game that carefully frames its goals as being collaborative, there will still be players who choose to solve on their own. This is one of the places where, no matter what I told players, they brought their own expectations around puzzle-solving and escape rooms (one of the closest analogues to the experience). From the outside, as a designer, having one player go off and begin to solve without the other players was uncomfortable to watch. But, the other players didn't seem to mind as much, based on what they said, and simply focused on the most difficult puzzle, which ultimately still required collaboration. This playstyle favours optimization and individual satisfaction about solving over collaboration and shared experience.

It was important for me as a designer to see this and to recognize it as a valid playstyle — to be reminded of this style of play. It re-emphasized that I cannot predict nor control how players respond to particular aspects of my work's invitation. It was also a reminder that, ultimately, I am also not responsible for trying to control their playstyle, even if it creates a problem for what I expect certain actions to build toward (i.e. collaboration and its impact on player connection and trust).

6.6.3 Reading

There's something very calming, I think, about the fact that [...] there are traces of people who did this before, because you know it's very— you know it's very doable, not only is very doable but also you're sort of like — there's a part of it that's like reliving [...] the ritual with them, so there's like a presence there but not so it's kinda interesting to do.

(Excerpted from a playtest debrief with peers, January 2020)

It was only when we opened the first box that I realized this was something different, that it was something that we could really take our time with, and I wanted to take our time, like I wanted to take my time and slow down to read everyone's responses [...] It was really nice to see what other people had said, and that put me in a really different space than I was expecting to be in, and so after that there was still that element of puzzle-solving and trying to figure everything else, but it just became — the pace of it changed, it became like a different thing, yeah.

(Excerpted from a playtest debrief with a married couple, March 2020)

A good portion of many of the debriefs spent some time considering the current players' relationships to what was inside the box and what the act of stopping to read (and to write) did

to the pacing of the game. Some people said that this was a positive rhythm because it allowed them to slow down and not be so focused purely on solving, and take some breathing room, while others described it as an "energy disconnect," because they were especially eager to continue solving.

Many groups discussed how reading the notes felt like something that they had earned through committing to playing the game, and that it made them feel like a part of a community or part of some kind of continuity. They discussed how they related to what they read, both when it was different from their own experience and when it shared similarities. Most players spoke to a feeling of intimacy that reading the notes made them feel.

As playtests progressed and the number of notes contained in each box of the suitcase grew, player behaviour also changed. At first, players tended to read everything available to them. There were not so many notes, and seeing other people's responses helped people to define their own. As the number of notes grew, two general approaches emerged: players who deliberately decided to choose a random sampling of notes, and players dedicated to making sure that they read every note without missing any. Of course, the more people play, the more there is to read, so I assume that this player behaviour will continue to evolve.

6.6.4 Writing

It's very unexpected somehow because playing a game doesn't often mean that you're going to reflect on something very personal or deep if I may say so. And this is very personal and deep at some point.

(Excerpted from a debrief with two players unknown to each other prior to playing, January 2020)

Players also had a choice to make when it came to writing their answers. They could either open a box, read its contents, and write their responses before moving on to the next puzzle, or they could open all the boxes, read the contents, and then write the answers. The players who chose to complete each puzzle and write their answer before moving on tended to be the players who seemed less rushed and less concerned with how much time they were taking to resolve each puzzle. They were also more likely to read more notes, as they were not faced with the notes from three boxes all at once.

While I did not make a conscious decision about which way of approaching the writing I thought was most "correct," I do think that I had it in mind that players would finish their response before moving onto the next puzzle. At the same time, reading the question without answering it and moving on could provide some time for reflection.

Playtesters who paused to write between puzzles tended to comment on how this affected the game's pacing positively: to be able to alternate between intense moments of solving and (sometimes, equally intense in a different fashion) introspective, slower moments where they could pause and consider. Players who continued straight through often commented that they were in a "puzzle-solving mode" of sorts. They usually said that they didn't want to

interrupt or found it difficult to switch between that and a more introspective, vulnerable state of mind.

One set of players suggested that they would have liked to have seen the questions before-hand, so that, as they solved the puzzle, they could consider their answer. I have not yet settled on whether that is a suggestion that I would take for future iterations. I am concerned that this could potentially create more red herrings for the solving, and that there is something worth preserving about the mystery of not knowing what each box contains (even if one has been told that they contain questions and the answers of past players).

6.6.5 Asking for Help

I didn't really know what to expect, and as we talked about before we've done a lot of escape rooms, so I'm used to this sort of like ok we gotta do this, we gotta solve this as quickly as possible, y'know like I came in feeling like we've got to solve it really fast, and just get through it, and get a record and put our name on the wall and all that kind of stuff.

(Excerpted from a playtest debrief with a married couple, March 2020)

By now, it may be apparent that barriers and behaviours around asking for help are a theme of this dissertation. In this section, I talk about player behaviours, expectations and barriers to asking for help rather than my own.

One of the closest analogs to this type of puzzle-solving experience for most players is the escape room genre. This is also the language that I used to describe the game to give people a sense of what they were signing up to do. That association set some pretty strong expectations about time limits, getting hints, and asking for help. Players often exhibited concerns and doubts about their own abilities and what it meant to ask for clues or help: were they failures, or bad playtesters, if they needed help, were they worse players compared to those who had played before? Puzzle-solving pride also entered into it — the feeling of wanting to be tenacious in the face of a challenge, wanting to be able to solve without any help.

For most puzzles, the types of hints that I would give involved how to search the relic or drawing their attention back to an element that they might not have checked as thoroughly as they could have. There is no official list of hints that lives anywhere in the design documentation. I have experience providing puzzle hints for the challenges that I design for my tabletop game campaigns, and I drew on it. Giving hints in this context was about observing playtesters and trying to be attuned to what kind of players they were, both in terms of things like puzzle-solving pride, as discussed above, but also in terms of what communication style would work best for them.

Luckily, in all but one playtest (the one with my solo playtester), I was watching them communicate in order to collaborate with another player, which meant that I had time to observe them for a while before having to give them hints. After a few playtests, I had a mental database of the kinds of hints that worked well, and these became a part of my performance as a

facilitator. If I had to formalize this process and create a list of hints, I would start from player observation. In a digital game, I might even create a tool that asks players to self-assess what level of challenge and what kinds of hints they are looking for to be able to display the appropriate hints.

Predictably, since the "last" puzzle — the ritual puzzle, was the most difficult, it was also the hardest to give clues for. I would often encourage people to think through the instructions from a different perspective, reconsider what might be meant by terms like "equilibrium" and "chaos," or simply encourage them to revisit the ritual instructions and read carefully.

I found myself promising players that I would do my best to respect players with the kinds of clues that I gave them. An especially common refrain for me became, "I will do my best not to rob you of your moment of discovery." This felt important. It reinforced for both myself and players what I hoped they would find through the puzzles, in addition to the opportunity to collaborate and open up in their notes. The goals were to create space for them to engage with the questions that the game asked of them and also to create space for exploration and discovery through the solving process.

6.6.6 Further Playtesting Thoughts

Playtesting encouraged me to clarify some of the vaguer intentions that I had around the project. Before playtesting, I knew that I wanted to achieve a sense of connection between players past, present, and future — those who were there in the moment playing together, those who had come before, and those who would come in the future. I thought that one of the ways to achieve that was through shared struggle, and I knew that I had made something that I personally found to be aesthetically-satisfying in a mysterious, intriguing way.

Although I always knew that I placed value on helping players to find a sense of connection over the traditional time-based challenge of an escape room, I did not yet know what that would look like in practice. Throughout the playtest experience, the questions that arose asked me to decide what I valued most, to both direct players and alter the puzzles accordingly. A clear example of this is in how I worded my clues: although the clues were usually very individual to my observations of the session, I came to value, as stated previously, not "robbing" players of their moment of discovery over, say, giving clues that would quickly and automatically lead them to the answer.

I also discovered that I wanted to allow people to "fail" or to need a lot of clues to get through the puzzles. So long as the puzzles felt fair, I wanted them to experience that shared struggle that I thought would lead to stronger connections between the player and themselves, the players with the people they were playing with, the current players and previous players, and the work. This was borne out in what players told me about their experiences: that the challenges built a sense of connection and made accessing the private, intimate thoughts of other players (inasmuch as they shared such thoughts in their answers) feel like something that was earned and worthwhile. There was a consensus during the debrief discussions that there was something precious about gaining that access.

What follows are some additional themes that came up often in the post-playtest discussion that I find noteworthy but do not have additional commentary to add to. Firstly, most

players commented on the pleasing and appealing aesthetics of the box, which they often ascribed a living energy to, particularly due to the lights and vibrations of the patches of the Ritual puzzle. Like me, some players wished that the box could start closed (which was my original design, but which I struggled to implement because of the connections needed for the conductive patches — I'll speak more to this in the **Further Challenges and Learning** section). Secondly, players who were familiar with the basics of how circuit boards worked were a bit concerned that using this knowledge might be metagaming (though I assured them that it was fine for them to use that knowledge). In a similar vein, playtesters loved to speculate aloud about how a certain piece of technology must work. Third, perhaps because they were curious about how they measured up, or perhaps because they were feeling connected to them, playtesters often wondered about the experience of previous players.

I learned a great deal from these playtests, but my one regret is that I think that by the end of them, I had finally tuned the difficulty level of the Ritual puzzle to a place where I was satisfied with it, and did not get to test it fully. In the next section, I will further discuss this and other challenges that arose while designing *UNLOCK. UNPACK.*

6.7 Design Strategies

UNLOCK. UNPACK. took almost exactly six months from the first "serious" brainstorming about the project to having a complete, playtestable version. Playtesting took a further three and a half months as I was on leave for medical reasons in December and then mid-way through January to the end of February.

In trying to name the strategies that I used to design this project, some thoughts come up that don't necessarily feel like specific strategies. Still, they are ultimately what I am left with from the documented experience: dogged persistence, trial and error, a lot of on-the-fly adjustments, and a lot of work with search engines.

This project really focused on physicality and materials above all else. This shows, as expected, in the primary modes of documentation: I have more work-in-progress photos for this project than for any of the others and far fewer design conversations. This is because it is difficult to turn a recorder off and one while one is working with electric saws and is up to one's elbows in sawdust and wood glue. Also, from what I'm told, getting sawdust into one's recording equipment is something to avoid.

Most of the conversations took place in a small outdoor shed, as the work was in progress and the dust hung in the air. We had to work and think with the constraints of the materials and equipment. That led to opportunities for creativity, but also friction between what was desired and what was possible. And sometimes, that meant trying things that were, while not impossible, far from easy, with the potential for failure. Together, we spent a lot of time working ourselves up toward "risky" maneuvers that could lead us to needing to scrap or start over significant portions of the work if we made a mistake. Luckily, we did not make any mistakes that were so bad they couldn't be fixed or considered a part of the project's handmade charm. In some cases, I had to convince my collaborator that this was the case, that some of the work that didn't turn out as expected was more on the "happy little accident" side of things rather than a "project-ruining mistake".



Figure 6.7.1 The Designer making holes for biscuits, but not the kind that you eat.



Figures 6.7.2, 6.7.3, 6.7.4, and 6.7.5 Woodwork in progress. Photos by Jess Rowan Marcotte.

6.7.1 General Strategies

6.7.1.1 Design Strategy: Do What You Can in the Time You Have

The clearest design strategy from the creation of the wooden suitcase itself would best be described as "work as much as we can in the special time that we have put aside together until we can't anymore" because, say, we needed to clamp and glue something, or because it was growing dark outside, or because we were missing a piece. For the most part, we started from a

plan that worked with the constraints of what had to fit inside and the limitations of the materials. From there, we made adjustments for aesthetics and the changing needs of the project. But, because the woodworking was happening simultaneously with the refinement of the puzzle design, sometimes the puzzles had to be adjusted to fit the constraints of what we had already built.

6.7.1.2 Design Strategy: Grounding Practice in Research

Designing the puzzles and figuring out what had to be done was a fairly quick process for most of the puzzles (as I have and will discuss, the "Ritual" puzzle was exceptional there). I read through the entirety of Selinker and Snyder's *Puzzlecraft* to help equip myself with design language and clearly-defined, nameable puzzle types (2018). Using those puzzle types as inspiration, I combined this new knowledge with what I already knew from my own experiences with escape rooms, tabletop game puzzles and riddles, and helping to design *Sandra's Keys* (2019).²

6.7.1.3 Design Strategy: Follow Your Intuition

From there, I thought through what I was trying to achieve thematically until the puzzle idea "felt" right. It was a process that used more intuition and tacit, hard-to-name knowledge that I had been expecting, given that the outcomes that I was aiming for were much more clear and measurable in some ways than my previous projects in that I was giving people something that had clear tasks associated with it (see section **6.6 Playtesting Contexts and Lessons** for detailed descriptions of the "actions" of the game). At the same time, the project still deals with introspection and feelings, relationality, and reflection. I knew what I was trying to provide players: connections, a sense of shared struggle, bonds built through collaboration, and an opportunity for introspection and reflection about themselves and how they relate to others. These were themes that I was used to working with, and I wanted to use the familiar symbols and semiotics of Escape Rooms as my language to communicate them, while simultaneously making something that had little to do with escaping.

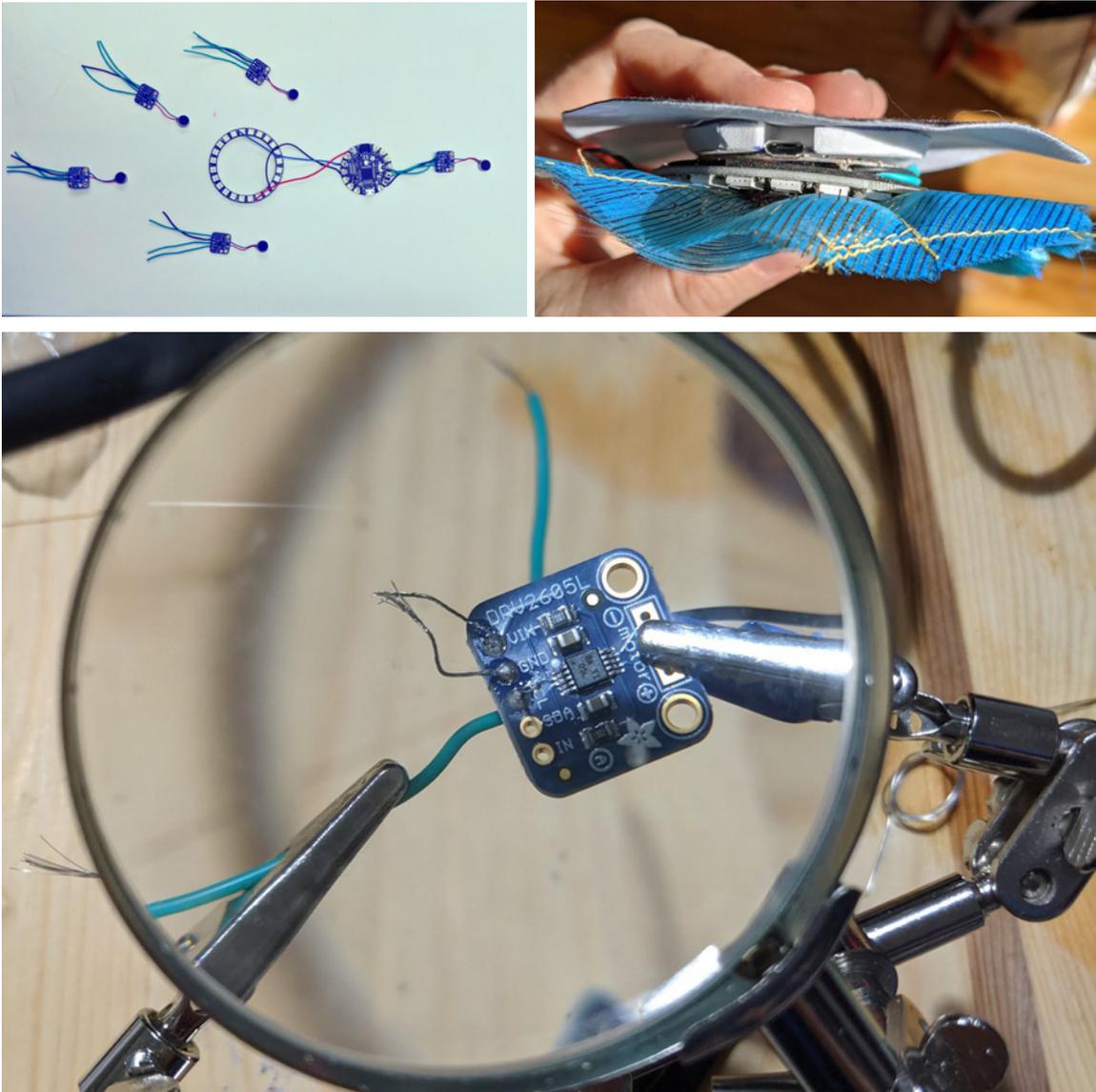
6.7.1.4 Design Strategy: Seek Help From Others

The puzzle design work was largely solo, except for the "Ritual" puzzle, which wound up being the aspect of the game that I playtested the most ahead of integrating it into the final piece, and also the one that changed the most due to playtesting. The physical component design (woodworking aside) was also mostly solitary. The programming for the project was minimal, involving the micro:bit displaying some symbols when asked, a website to be displayed on a

² *Sandra's Keys* (2019) is an escape room about the signs of older adult mistreatment, colloquially known as "elder abuse". It was developed using participatory design principles in consultation with older adults, as well as organizations and activists working to better conditions for older adults.

Raspberry Pi, and the code-entry portion for the website. This last was based on Konami Code-style key presses that a website had to "listen" for. Pippin Barr helped by providing the basis of this code in JavaScript. What I had to do was change the keys to work with the keymaps that I was using and, anticipating that the Makey-Makey wouldn't necessarily read key-presses correctly, or would read them continuously (pressing the key for as long as it was held), modifying the code so that it was checked on "key up" rather than when a key was pressed or when a key was held down.

The physical crafting and hardware design, separate from the woodworking, also took up a lot of time and posed significant design challenges, which I talk about in section **6.9 Further Challenges and Learning**.



Figures 6.7.6, 6.7.8 and 6.7.9. A family of vibrational motors and boards, a conductive patch sandwich, and some soldering in progress. Photos by Jess Rowan Marcotte.

6.7.2 Hybrid-Specific Strategies

Although I would normally have a section on hybrid-specific design strategies here, the design strategies described above in **section 6.7.2** are transposable strategies that I have described in their specific applications to this hybrid project, as well as the physical and digital aspects thereof.

6.8 Reflecting on Reflection-in-Action and In Situ Design

More so than with either **Project 01** or **Project 02**, the experience of making this project was a deeply embodied, in-the-moment experience. Most of the records that I have are from active problem-solving, reporting back on current challenges, or are pictures of progress. The ideas about what the project would do and what it would mean thematically were set toward the beginning of the project. This means that there are far fewer materials that engage with that type of reflection.

Throughout this process, I was "making" and "doing" and actively thinking-through-making. With other responsibilities (such as teaching and conference planning) taking up the time outside of that space of action, any more passive reflective time seems to have been more limited. This provides an interesting contrast to the other projects.

As I discuss in the **Background** chapter, Khaled, Lessard, and Barr note how game design is "a realm in which identical problems can rarely be replicated, designerly intuition is important, and aesthetic taste plays a significant steering role" (2018). This has proven to be a useful thought as I trace design strategies across these three projects. I do not mean to say that these are always unique. This is not the case. However, it can be difficult to recognize similar strategies when the context has changed. Sometimes, what looks like an entirely different approach may involve the same kind of strategic thought or the same designerly muscles.

It can be challenging to name specific parts and generalized strategies from my design process without those individual parts seeming overly-simplistic. However, there are concrete common things that I do when trying to design a project that, in their most generalized form, would appear to be quite simple. This is because these individual strategies, taken separately from each other and in isolation from the specific design problem that they are trying to solve, *are* simple. These are strategies like "generating ideas", "crafting", "drafting", "prototyping", "talking with other designers", "creating a vertical slice", "testing", "researching", "reading", "playing", and similarly broad ideas. From project to project, the *techniques* may also differ as appropriate to the design problem in terms of how each strategy is accomplished. There is a difference between these broad prescriptive methods and the situated action of designing for a specific project. At the same time, designers learn from their practice. From our experience, we develop designerly "instincts" and patterns of design that work for us. We then reconfigure, redevelop and reuse these in different contexts.³

³ As a reminder, discussion about techniques as they relate to strategies can be found in **section 4.7** of **Chapter 4**.

One such design strategy in my three projects is "thinking-through-making". I use the continuous verb form intentionally. I have previously used "reflection-through-action" as a term for using the act of creation while it is in progress, rather than the resulting object, to think through a design problem. The action itself helps to create the solution. In *TRACES*, reflecting-in-action took the form of physically moving my body through space, feeling the weight of objects as I thought through how they should be designed, and similar actions.⁴

During the process of designing *UNLOCK. UNPACK.*, my reflection-through-action can be clearly seen in conversations around the "Ritual" puzzle as I worked out, through conversation and through attempting to design a set of symbols, why I wanted particular elements to be a certain way. As an intersectional feminist, one of my concerns was appropriating symbols from other cultures, which would already have their own associative meanings, so rather than take pre-existing symbols (as is often done in an escape room), I worked to develop new, unique symbols instead. The following conversation took place as I was designing new symbols.

Jess: I have requirements for the symbols that I was going to explain.

[...] Okay. For one, I don't want to appropriate another culture, so I don't want to like take runic symbols

Thomas: You don't wanna modify them?

Jess: No. I would be okay with designing them myself, but I want them to be somewhat abstract and they have to have enough features that like, there can be rules. Like, you know, symbols with two vertical lines can never be next to each other or stuff like that. Like, things like that, right? I also want, hopefully, the symbols to mean something in the context of chosen family, friends, loved ones. Or at least like, they don't necessarily mean something concrete, but then when you look at them together or like, you know, that they suggest that sort of thing, they suggest meaning. Yeah. And yeah, I definitely don't want to appropriate existing symbols.

(Excerpt from a September 23rd, 2019 Design Conversation with my spouse, Thomas Deliva)

Most of the problem-solving and design work in this project took place with and through the materials, in trying solutions and seeing what happened as I did so. The verbalized portions of my reflection in this project largely feature me explaining particular problems to other people as I tried to make adjustments to the design.

Another example that stands out clearly is from the project's woodworking portion: the suitcase's hidden panel. When designing this panel, the difference between "obviously hidden panel" and "integrated into the design but still a hidden panel if you look" came down to a matter

⁴ See **section 5.7.2** of **Chapter 5** for the application of this strategy in *TRACES*.

of one or two millimetres of play in either direction. This panel was something that we had to physically position in order to visualize and make decisions about. In fact, we very carefully positioned everything down to a hair's width, so much so that we later found that the panel's function was affected by the thin layer of stain and clear-coating that we covered the panel in to protect it. The levels of precision involved were somehow both meditative and astoundingly frustrating. This is the kind of situation that led my collaborator to swear at our beautiful little box. These small details had to be fine-tuned by hand after wood had been cut and decisions had been committed to. There was no way to reason or design my way out of this process.

I simply had to *do*.⁵

6.9 Further Challenges and Learning

I start this section with a celebration of learning. There are two personal signs of my growth as a designer that I would like to point to. First, I managed not to crunch during the entirety of this project, while simultaneously teaching a class and undergoing multiple surgeries. So, I seem to be learning from past project mistakes.

Second, this is the first time that I attempted solo puzzle design as part of my artistic practice rather than just for fun for my tabletop game group. I have learned that it is something that suits me, even if my usual audience may not be expecting my deviousness (or, as one player put it, my "tricksiness").

An important part of this learning was in becoming comfortable with an unspoken "designer/player" contract — one where the player trusts that I have created something fair and solvable and that I, as a designer, trust the player's ability to solve it in the context and with the hints provided. It is hard to watch people struggle, but struggle can be intended to lead to something or teach something. In this case, as discussed previously, the shared struggle was meant to lead to a relationship to other players through collaboration. Comfort with that contract and the puzzle design skills to back it up are aspects of my practice that I intend to develop further.

With that, I turn to the difficulties.

I had problems. I had problems with hardware, such as screen drivers and with battery power supply issues with my Flora boards. I had problems with the precision required of my 3D models and the way that those models and their materials behaved once printed, as opposed to on the computer screen. I had problems with measurement mistakes for the woodworking parts of the project. These problems were very much specific to this project and to the materials that I was using. I initially wrote about all of those problems in detail, but these problems and the lessons learned were not generalizable either for myself or others. So, what can be generalized?

The overall lesson from these various problems was a reminder to be adaptable and persistent. For example, it turned out that I had to include additional wires in my tiny, carefully planned wooden box due to those power supply issues. I went from having seven, thin, flexible

⁵ For more discussion about recognizing generalizable design strategies across different design problems, see the **Conclusion** chapter.

wires to having an additional six braided USB wires connected to the same patches. One of the notes that came up frequently for players was that they wished that the box could have started closed, so that they had the pleasure of opening it to begin the game. Of course I also wanted players to be able to simply open up the case and for everything to be neatly placed inside and ready for them to play.

I simply could not manage it. There was not sufficient space to close the box with all the materials connected. Then, players also reported that they couldn't imagine the experience without the strange black tentacles that emerged from the box, mysterious and inviting. So, the problem that I could not solve ultimately serves as a visual attractor in the game. This is one of several reframings and adaptations to the project's original goals that I had to make peace with. Having things not go quite according to plan is par for the course when it comes to the creative process.

6.10 Revisiting the Game's Seed

Revisiting this project, what stands out most clearly to me is how, explicitly, during the project, I was constantly reflecting on how this project connected to the first two. My early notes explicitly make an effort to verbalize what the other projects were about, thematically and mechanically, and to consider what I could accomplish in this third project. I wanted to make something that would stand together with the other projects as a somewhat unified triptych.

That sense of continuity and conversation is also present in how I approached the actual labour necessary to complete the project. As I mentioned in the previous project chapters, my prior in-situ reflections allowed me to pin-point problems and try to course-correct to avoid difficult situations, though I wasn't always successful, and was also able to identify that fairly soon thanks to my reflective processes. With this project, I managed the workload and avoided burnout conditions far better than in the previous projects. I would like to think that this is because I learned from those moments of reflection and put what I learned into practice.

On a similar note, this project is an explicit "extension" or "stretching" of my existing skills — I wanted to do something achievable and within scope, but that challenged my abilities as a designer and my well-worn design patterns. This piece feels related but different from much of the rest of my work, especially with respect to how it approaches the concept of challenge and what it means to create something "challenging".

This "extending" or "pushing", this growth, is present in the question that I proposed at the beginning of the chapter. This question is one that I formulated after the project was completed, but that reflects the concerns that seem apparent throughout the data that I collected at the time that I was creating it:

How can I make a compact escape room where there are solid thematic links between the puzzles that players are being asked to solve and the themes and aesthetics of the game?

Obviously, *UNLOCK. UNPACK.* is the six-month prototype version of the answer to this question — the response lives in the project. Of course, there is more to be said, especially

when it is so difficult to share that answer since access to the project is so limited. It seems important to start with a follow-up question. What *are* the themes of this interactive experience? Much like with *Flip the Script!*, what the players bring to the game greatly affects how the themes come through and how they are received. The game suggests themes such as "connection", "collaboration" and "shared struggle", but the content, puzzles and questions aside, is player-generated. The game provides questions, but the only answers are the puzzle solutions.

At the same time, the game's embedded meaning (its rhetoric) is not silent about this: part of what I have proposed through this game is that we *can* form connections to people that we will never meet, and that we *can* form (or further add to) fairly strong connections to other people through shared experiences and struggle, in just an hour or so. Further, in encouraging people to do so by asking them to play, it is clear that I value this type of connection.

As to whether the puzzles successfully connect to these themes and ideas: to an extent, just asking people to play the puzzles in the way that I do (without the pressure of time, which would potentially lead to more stress and perhaps even heated tempers) accomplishes this. So, in that respect, any puzzles would do. However, what I have tried to do, with a fair bit of success, is connect the puzzles to the questions that players are asked to respond to. For example, the handle of the suitcase is the solution to the first puzzle, and what is revealed is a question about what the players "hold onto" when things get "hard to handle." The geometry of the triangle puzzle is reflected in the "prisms" and "facets", multi-sided and complex, of how the question asks players to consider their life experiences. The complex, at times arcane-seeming "ritual" of the third puzzle reframes and prepares the players for the question which asks them about the rituals that they share with their loved ones.

This is not the same as, for example, having a haunted house-themed escape puzzle and trying to find puzzles that thematically fit that story and theme, instead of shoving in some "pagan rune puzzle" and calling it a day, or having very non-diegetic-feeling modern technology clearly evident in what is supposed to be a hundred-year-old cabin in the woods. In some ways, the abstract concepts of *UNLOCK. UNPACK.*'s themes are more difficult to tie in, but in some ways, they are more forgiving. On the whole, I do think that I managed to successfully integrate the themes of the game with its different parts, including the puzzles and questions.

There's a degree to which I let go of some of my power and control as the designer over the shape of this experience. On the surface, the "seed" question for *UNLOCK. UNPACK.* is less personal, with lower emotional stakes than either *Flip the Script!* or *TRACES*, but I think that there is an unexpected emotional core to this game that is nevertheless common to my design practice. The major difference is that willingness to engage on a deep emotional level is not a prerequisite to play in the same way that Projects 01 and 02 required. It was clear for both *Flip the Script!* and *TRACES* that we would be broaching difficult topics. With *UNLOCK. UNPACK.*, it is up to the player the exact degree of vulnerability they want to bring to their answers to the game's prompts, and there is no encouragement to go deeper. That feels sort of nice, actually.

CONCLUSION

7.1 Overview

"Sometimes I feel like my process is, 'which part of the dystopia that we live in should I focus my design work on today?'"

(Marcotte 2017, a tweet)

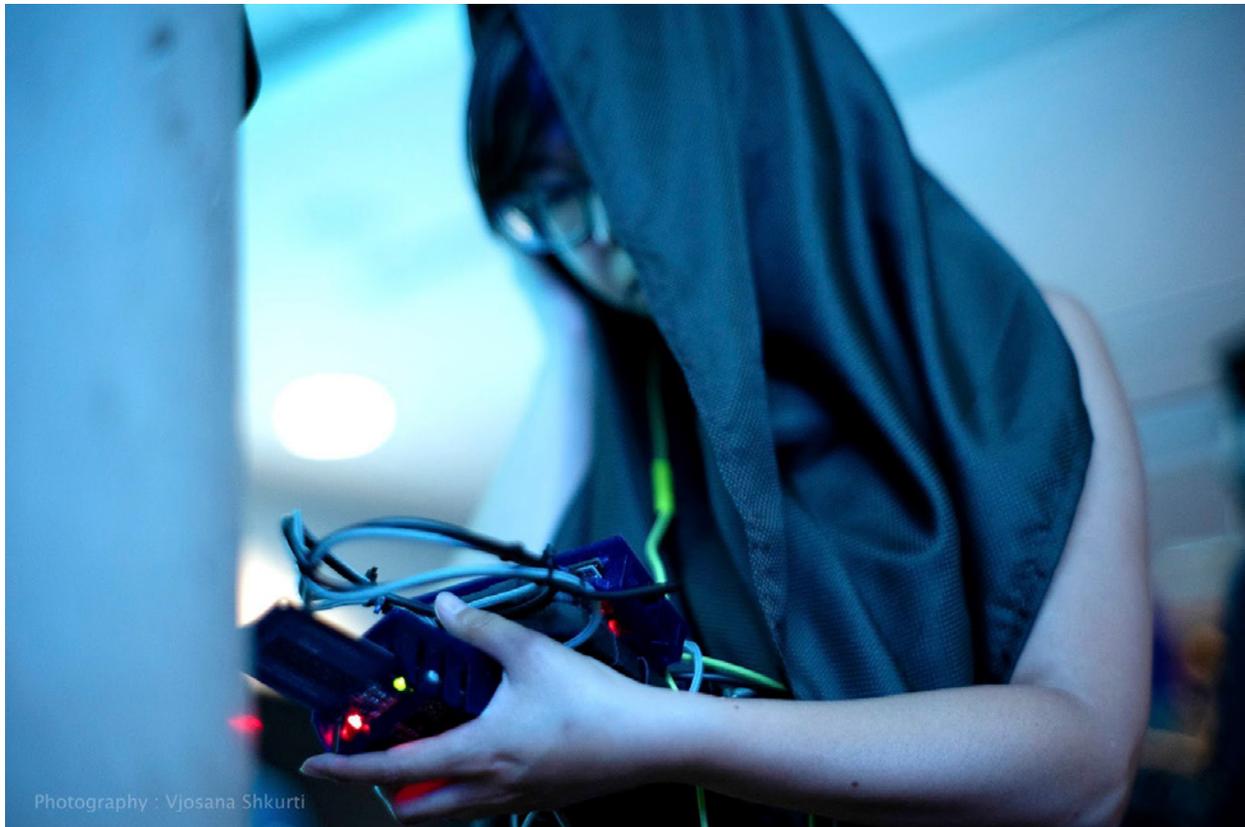


Figure 7.1.1 A *TRACES* player furtively concentrates on listening to a trace left by the time travellers who have preceded her at Artcade 2019. Photo by Vjosana Shkurti.

I come to this chapter aware that, in true queer fashion, there are not many things about my chosen methodologies, projects, or the takeaways that fit neatly and tidily into the silos of what may be expected from this dissertation. As Schön describes in *The Reflective Practitioner*, there is so much tacit knowledge that lives inside a practitioner's mind. In this dissertation, knowledge is embodied in the projects themselves and in myself, with much of it being an accumulation of experiences that translate into what we call intuition, which can be difficult to verbalize.

In this chapter, I begin by situating the work, with its many borrowed areas of interaction, within the context that feels closest to my own. Next, I return to the research questions that I posed at the start of this doctoral project. Following this, I discuss further reflections on learning

from in-situ design process traces. I end by discussing the limitations of this project and the future directions that those limitations suggest.

7.2 Situating This Work

In the Background chapter of this dissertation, I identified no less than ten background areas connected to my doctoral project. Because this is a research-creation dissertation with distinct ludic projects and a written thesis, it was necessary to position this work in two ways: via the individual projects and the categories of knowledge that I drew on in creating them (such as queer game design, intersectional feminism, theatre and performance, alternative controllers, and larp), and via the research methodologies that I used to investigate those processes (such as autoethnography, archival practices and grounded theory).

These are not necessarily the same areas that I am contributing to. For example, while I use knowledge from larp and theatre practices, I have not pioneered new techniques in those areas, though I have used them to make new work. Where I use autoethnography and process-focused archival practices, my contributions lie in applying these methods specifically in the areas of game design and game studies. The same can be said for queer theory and intersectional feminist theory.

I contribute most clearly to the areas of critical game design research, including, in particular, queer game design. Throughout my research, I ran into the problem of finding models for writing about game design from a practitioner's point of view that took into account the kinds of concerns that arose for me.

Within other research-creation disciplines, some researchers have managed to artfully explore parts of their process through writing. Creative writers, for example, often have recoverability and the tools to talk about their work embedded into their process since drafting (and the preservation of drafts) is a common practice. Writers are also generally well-equipped, as people who work with words, to write about their processes. In a formal research context, Skains suggests a methodological proposal for "Creative Research as Practice" applied to creative writing (Skains 2018).

Scott McCloud's *Understanding Comics: The Invisible Art* is an example where the art form being discussed is wholly integrated into the discussion and explanation of itself (2004 [1993]). Although not formally academic,¹ it has long been taught in academic contexts, and with good reason. McCloud manages to communicate the thorough research that he has done through the medium that he was researching. McCloud's examples are directly available as they are integrated into the "text". It is also very much process-focused, discussing strategies of representation and communication in comics as well as the end result. McCloud's own process is exposed through the making of the book. It is an inspiring graphic novel that most closely approximates some of my hopes for what game design writing might become in the future.

What these two forms, creative writing and comics, share is that they are reproducible on the page. Media involving movement and sound can have static visual representations (such as

¹ This artificial divide is a can of worms that others have opened and it is out of scope for this discussion.

film frames or sheet music), but this is not how the audience encounters them. Other media such as dance and film are challenging to represent on the page in traditionally-published academic papers, even with stills and descriptions. Such writing is an act of translation. The same is true for digital games, which, though they are not the only form to do so, also add dynamic choices and, often, increased agency (or the illusion thereof). Harder still is the combination of physical objects, digital programs, and live facilitation.

There are many game design textbooks about how to design or write for games written by game designers, and there are plenty of ethnographic studies about game designers by academics. There are far fewer examples of game designers writing directly about their own practices and processes in academic contexts, and fewer still that take into account concerns like what I have earlier called "justification after the fact" of design decisions, or that have, as Khaled, Lessard and Barr suggest is needed for the area of game design research, the "recoverability" that can provide necessary rigour (2018). The annotated journals of Jordan Mechner (2020), along with Khaled, Lessard and Barr's suggested code repository records (2018), are two of the strongest examples of how to write about game design in this kind of rigorous way. In many ways, game design research has yet to fully develop what effective game design writing looks like. With all of this in mind, this area is where my work belongs and where I contribute to the creation of knowledge.

There are many ways to build and design hybrid games. There are at least as many as there are to do any other sort of game design. This is why I have favoured, as in the definitions that I provide in my **Background** chapter, familial resemblances over creating a complete taxonomy of hybrid games and design approaches, which is outside of the scope of this dissertation. For this type of categorization and taxonomy research, I recommend the doctoral research of Enric Granzotto Llagostera, such as in his presentation, "Towards an altctrls classification" (2020).

Similarly, I have already made the case in my **Background** chapter for why I do not consider commercial alternative controllers to be within the purview of this project. To summarize, the secrecy created by non-disclosure agreements obfuscates rather than opens up access to such projects' in-the-moment design process. Further, comparing my work to large-budget commercial products developed over the course of years creates a problem of scale. I am not saying that commercial projects by companies such as Nintendo cannot ever be considered human-assisted physical-digital hybrid games. I am, however, saying that there are particular traits that make them, in many ways, a very different beast. My focus throughout this dissertation has been on small-scale, non-commercial projects. The affordances of commercial products are also likely to be quite different in some ways from the ones that I explore here.

My way of designing hybrid games is informed by queer game design, intersectional feminist theory, critical, speculative and reflective design, as well as my research in performance and theatre and live-action roleplay. However, in contrast to the methodology for capturing the design process, my approach to the design work and the act of creation was not as formalized. I made conscious decisions to create reflective, critical games that meant something to the players, and I knew that I wanted to do so through the medium of hybrid games. Informed by these background experiences and my own lived experiences, I followed and thought through

my designerly impulses. My dissertation projects feature a core focus on facilitation and the integration of technology, centring sociality and relationships.

This doctoral project makes three key contributions to the area of game design research. Firstly, there are the creative projects themselves, the significance of which I will discuss further and summarize in **section 7.3 Research Questions and Findings**. Secondly, I contribute my combined methodology, consisting of data production techniques, documentation techniques (video, audio, photo, writing, code), and diligent autoethnography throughout the creative process. With this contribution comes access to some of the data thereby collected (limited in some respects due to ethical concerns — which I will discuss in **section 7.4 Limitations and Future Directions**). I also contribute my own analysis of the data in the present written work, the further significance of which I discuss in **section 7.3.2.3 Learning from In-Situ Process and Reflection**, as well as a discussion and acknowledgement of the limitations of the research and potential future directions.

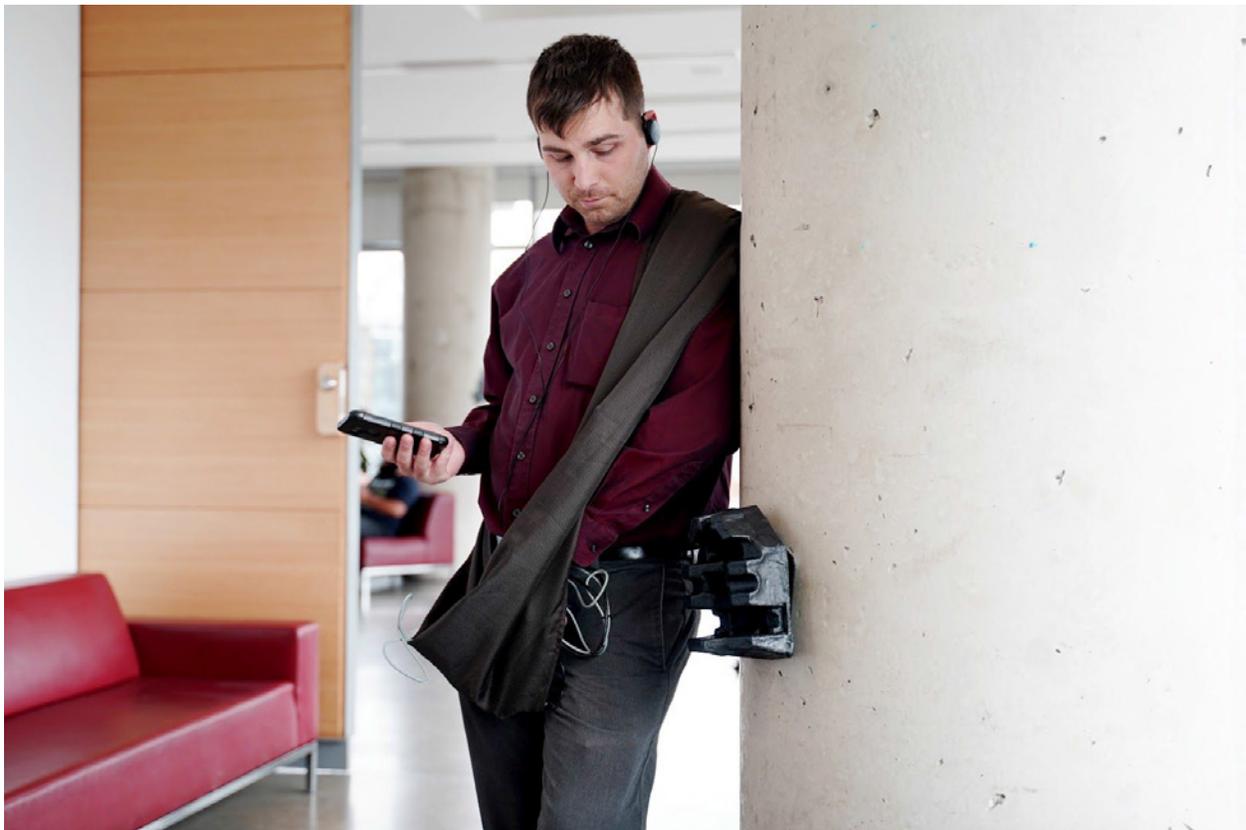


Figure 7.2.1 Keeping it casual. A playtester pretends to browse his phone, hiding his futuristic gear inside his perennially-fashionable infinity sash. Photo by Vjosana Shkurti.



Figure 7.2.2 Playtesting *Flip the Script!* at the Montreal Maker Faire in 2018. Photo by Ann-Louise Davidson.

7.3 Research Questions and Findings

This section addresses the research questions that formed the basis of the entirety of this doctoral project. As I mentioned in the **Methodology** chapter, my work provides one version of the answer to these questions, based on my one dataset, and I would be interested in seeing other designers take up similar questions. Based on the analysis that I have performed in the preceding three chapters, the next two sections summarize and discuss some takeaways and answers.

7.3.1 Affordances of the Physical-Digital Hybrid Game Experience

What are the affordances that physical-digital hybrid game experiences offer as a form for creating opportunities for critical, reflective play about nuanced subjects and what possibility spaces does this form open up for designers?

My answer to this question is grounded in the three hybrid projects that I created. As I created *Flip the Script!*, *TRACES*, and *UNLOCK. UNPACK.*, as I tried to make projects that felt like they truly made use of the hybrid game form, two things became clear.

The first is that this form is incredibly flexible. So long as some degree of attention is paid toward each part of it (the attention to facilitation, the custom physical experience and interface, the digital program), each can be present in almost any degree. There is no such thing as an ideal balance of these different component parts in this form, and to require one would be stifling. I know this because I have tried and spent a fair bit of time agonizing over whether I was effectively integrating digital technologies into the project or whether they were extraneous.²

The second is that there is nothing that a hybrid game is *uniquely* suited toward creating. The hybrid form and the different techniques (from physical crafting to safety mechanics to theatre techniques, etc.) used to make games in that form are a part of my toolkit as a designer, just like other tools. Just as many painters have a favourite paintbrush, I also have favourite tools. It is possible to recreate similar effects — or affects — using different tools. It is also possible to create totally different effects working from the same tools. In either case, some tools will also resist our attempts to use them for certain purposes, sometimes to the point that it may be worth choosing a different one.

Therefore, the uniqueness of what the form can do is not the right question to focus on. Instead, it is important to bring the line of inquiry back to the word "affordances" to explore what the form facilitates compared to what it resists or causes tensions around. Further, what opportunities are created by using the human-assisted physical-digital hybrid game as a form, and on a personal level, what keeps drawing me back to this form?

I draw on the flexible affordances framework proposed by Dr. Jenny Davis to describe some of the affordances of hybrid games, as discovered through my own projects and those I

² See **Chapter 4: Project 01**.

have encountered through my research. Davis states that affordances are often taken to be rigid and static, whereas they are, in fact, continuous and dynamic, with a flexible nature (2020). This binary view of solely *whether* an object has a specific affordance, rather than how it affords, limits how researchers talk about affordances (2020). Expanding this discussion, Davis proposes a framework for asking "how" objects afford in place of "what" objects afford, moving the discussion beyond "this object does afford" and "this object does not afford". In this framework, objects can "request, demand, encourage, discourage, refuse, and allow" (Ibid). Davis emphasizes that these categories are not intended to be concrete or prescriptive, but rather to help describe "the intensity with which technological objects facilitate or impede particular lines of action and social dynamics." The names themselves do not matter as much as the concepts that they describe, and the categories could be expanded further.

Davis argues that the features of objects themselves "may not fit cleanly into one mechanism category or another [...] A strong discouragement may also be read as refusal, just as a weak demand may be read as a request" (Ibid). What follows is a summary and description of the framework's affordance categories.

Requests and demands both "originate within the artifact" and are "initiated by the technological object" (Ibid). Requests "indicate preference for some line of action over others" whereas demands "render one line of action inevitable and other lines of action implausible" (Ibid). Both are "rooted in sociostructural dynamics". Demands "are not deterministic" as users can opt out from using an object, and demands can be subverted (Ibid).

When "technological objects respond when user-subjects initiate some action", the object may encourage, discourage, and refuse, and these responses can "accommodate, deter, or block users' initiatives" (Ibid). Encouraging "make[s] some line of action readily available and easy to execute" whereas discouragement "erect[s] barriers to a line of action [which] may still be available [though t]he user may have to overcome obstacles or creatively engage the technology" (Ibid). Refusal happens when a "line of action seems entirely untenable" (Ibid). Some refusals are intended by the design, where actions are explicitly prohibited, while others occur "when a feature is unreflexively omitted during construction" (Ibid).

When an object's affordances "allow", this allowance can come from either the object itself or the user's actions. According to Davis,

Allow is distinct from other mechanisms of affordance due to its neutral intensity and multidirectional application. A user may take a line of action, but there is no pressure to do so, and there are no significant obstacles in the way. Allow is like a fork in the road. A traveler may just as easily opt for one route as another. The traveler is not faced with enticements from any direction, and the traveler does not need to overcome any extra blockades to access the pathways.

(Ibid)

Davis notes that these categories could go by other names, and there could be more or fewer categories. They are intended to be used "as a set of hooks on which analysts can hang their descriptions, comparisons, and points of debate" (Ibid). This is how I intend to use them.

The affordances that I describe are not meant to be prescriptive. The ones that I draw out come directly from my observation of my design process and my particular way of engaging with hybridity and hybrid games. They come out of observations from my own projects and projects that I have come into contact with. Any affordances that I describe do not preclude the existence of another opposite affordance. Another designer could find different sets of affordances arising from the same objects, and they would not be wrong. The same materials, strategies, and forms used in a different way can create different sets of affordances. My design work often centers around embodied, reflective experiences that I want players to have (for example, playing with puppets, playing with an escape room in a box, connecting to collocated players through storytelling). My findings would differ if the focal point of my design work were different.

I focus on affordances that I see coming out of my experiences with games and objects that I have created or helped others create. I focus on what the objects that I have made communicate and what designing them has taught me, using the recoverable traces that I have produced and the design objects themselves. My research into hybrid games has long been invested in experimental experiences designed by small teams. The affordances that I draw from these are usually generalizable to many other hybrid game experiences that I have encountered. That being said, this is an exploration, as I have said above, of "tendencies toward" rather than a set of prescriptive descriptions. At the beginning of this section, I defined the practices related to the creation of hybrid games as a toolset in my designer toolkit. These tools can be used to build all sorts of experiences, and there is no one ur-hybrid. Tools can be used as the wielder wishes, even if one's tool choice is not perfectly suited to the task at hand. (I know this because I have stripped many screws when lacking the correct screwdriver but still been able to finish the job.)

My dissertation projects, which form the basis for many of these observations about affordances, feature a core focus on facilitation and performance integrated with digital technologies typically associated with computation and games, focusing on sociality and interpersonal relationships. In these projects, and also more generally, the affordances of human-assisted physical-digital hybrid games allow for and facilitate the involvement of non-expert players, very physical, embodied experiences, and intense affective experiences.

One of the ways in which they do so is by leveraging unfamiliar recombinations of ideas and technologies. These unusual juxtapositions encourage the player's curiosity through both the appeal of these combinations, in an unspoken invitation to play, along with the explicit invitation from the facilitator.

To organize and keep the discussion of affordances in scope as drawn out through my methodology, my autoethnographic study of my projects, and examples from similar games, I have organized it using the different pieces of that word salad that I have been discussing since the background chapter, the human-assisted physical-digital hybrid game experience.

7.3.1.1 Affordances of Control and Controllers

First, coming out of the discussion of the "physical-digital hybrid" portion, I turn to the idea of "control" and, relatedly, controllers and interfaces. One important aspect of the affordance discussion is the hybrid game interface itself, or the technology being used for input or output of the experience's digital parts. In mainstream game design, there is an assumed "control literacy" related to the hardware:

In the tradition of Gilster's Digital Literacy (1997), I use the term "control literacy" to refer to the player's ability to pick up and use a given controller or any other set of learned conventions for controlling a game. When it comes to game controls, control literacy is often assumed. This literacy quickly becomes invisible for those who have it. These design conventions make it easier for those players who are familiar with them to gain competencies more quickly than players who are not [2]. All forms of literacy are learned skills. In reference to the Xbox 360 controller, Anna Anthropy points out: "The amount of both manual dexterity and game-playing experience required ... makes play inaccessible to those who aren't already grounded in the technique of playing games." (Anna Anthropy 2012, p. 15). Designers and those who are inculcated with this literacy make many assumptions about these standard control schemes.

(Marcotte 2018a)³

When it comes to hybrid games, the physical interfaces rarely resemble traditional controllers, or, if they repurpose standard interfaces, these are rarely used in the same way as traditional controllers.⁴

Hybrid games are especially good at reminding players about their bodies in relation to the digital technologies used to play. In part, this is a matter of facilitation and game rules, and in part, it is a consequence of unfamiliarity. Players unfamiliar with games and typical interfaces may find hybrid games to be a more accessible entry point into playing games. This is especially the case for competitive play where familiar controllers would give players already inculcated into their use an advantage. Hybrid games, because their interfaces are generally not standardized ones and are usually custom-built, only need to be as complex as is necessary for

³ Sources for the related Gilster and Anthropy texts are also included in the bibliography.

⁴ Mary Flanagan's *[giantJoystick]* (2006) and Doug Wilson's *B.U.T.T.O.N* (Wilson 2012, Wilson & Sicart 2010) are two hybrid-adjacent projects that provide an interesting case because of their proximity to traditional controllers. Flanagan's *[giantJoystick]* is modelled after an Atari 2600 joystick, but because of its enormous size, requires collaboration between multiple players to use successfully. Wilson's *B.U.T.T.O.N* uses a standard Xbox controller, but the context that the controller is used in is completely altered by the negotiated rules of play.

that particular game, rather than having enough input possibilities to support any hypothetical mainstream game, as is the case with console controllers. The unfamiliar player may also have similar experiences related to embodiment with a typical controller, as they try to map the movements of their hands to what is happening on the screen. For players who are used to typical videogames, hybrid games also offer an atypical experience. Hybrid games can also leverage unfamiliarity with intention in a way that a standard, mass-distributed controller cannot, because unfamiliarity cannot be assured with mass-distributed interfaces.

7.3.1.2 Affordances of Physical Objects and Physicality

Turning my attention to the word "physical" and the physical objects involved in these hybrid games, I recall my earlier discussion of critical design objects as speculative props, after Dunne and Raby (2013).⁵ While not all hybrid game experiences need to concern speculative objects, my work draws on critical design literature, including speculative design. I view the objects that I have made as speculative. Their design is intended to invite speculative thought and create opportunities for reflection.

My games take speculative objects and interfaces, which can exist in digital games, and bring them into physical space. In *TRACES* and *UNLOCK. UNPACK.*, they act as windows into other worlds. *TRACES* proposes a reality where time travel is possible, and an interface exists that allows you to recall memories and words from the fabric of reality, embedded in a place, from time travellers outside of their own time. The narrative setup for *UNLOCK. UNPACK.*, which is intentionally minimal, suggests the existence of a class of travelling caretakers who are responsible for taking care of a ritualistic object and those who choose to engage with it. Though it does not propose an alternate reality, *Flip the Script!* suggests different perspectives, roles, that players can try to take on in order to understand a topic that they have chosen together with the group they are playing with. It encourages players to be aware of the minds of other people and their positionality.

These objects provide new lenses through which to view existing phenomena and other people in the world, inviting speculative thought, which can, in turn, lead to reflective thought. They encourage a certain level of involvement and suspension of disbelief because they are things from an imagined reality made physical. Simultaneously, these projects bring people in close relation to others through the play mechanics. In these player-to-player interactions, continual awareness is called back to the fourth wall because players construct the play experience together, engaging with their own culture and lived experience while simultaneously dealing with the fiction and demands of the game. This also encourages reflection over immersion (Khaled 2018).

The physical affordances and characteristics of these objects and the materials that they are typically made of encouraged me to make certain kinds of design decisions over others. This is especially true when custom-designed objects form part of the focus of the game. As I designed these three hybrid games, I had the notion at the back of my mind that any object that

⁵ For a brief discussion on digital signals as physical phenomena, please see **section 2.10** of the **Background** chapter.

I made for my games was worth making *well*, to the best of my ability. Making a well-designed object required my labour, and I value my labour. So, that also made me value the objects that I made. As I have discussed concerning *Flip the Script!*, the polish of the puppets, and the knowledge of the labour that had gone into them, along with how visibly *cute* they were, discouraged me from damaging them in order to prototype. My reluctance to damage the puppets was not positive for the iterative design process.

However, such affordances and resistances can be ambiguous. There can be positive aspects to having, for example, players see a bespoke object and feel discouraged to damage it or encouraged to treat it with care. This can be leveraged to encourage reflection and engagement with critical topics, which is, as I have stated previously, certainly one of my goals as a designer. Mainstream game narratives frequently feature mechanics involving leveling up and growing stronger, and often encourage in-game aggression and shows of strength. Traditional game controllers are explicitly tested to withstand displays of power, speed, strength, and in some cases, aggression, including being thrown across the room.

Bespoke hybrid game controllers and alternative game controllers are often prone to breaking through wear and tear, even when treated with care. In some ways, that is the nature of an early prototype, which many of these games are. Game jams, in particular, seem to encourage the creation of alternative controllers, perhaps because the pressure to create something more commercially-oriented is lessened. It is not uncommon to hear that people showcasing this type of game have brought a soldering iron, hot glue, and spare components along with them. If players try to enact traditional shows of strength on them, they are likely to break. Even projects that intentionally invite a certain kind of show of strength or physical exertion typically require spare components in order to handle the expected breakage.^{6,7}

There is a certain embedded resistance to such displays of force within the electronic components themselves and *their* physical limitations, even if the game itself is designed with the intention of seeing rough use. This goes for soft textiles and materials, too: a flexible sensor can still only be flexed so far, and conductive textiles can only stretch so much. These game controllers will resist people playing them carelessly or with excessive force, and will literally shut them out by breaking. Affordances and rhetoric come not only out of game systems and the actions that players are invited to take within them, but are also communicated through and across components. There are echoes of this in Robert Yang's *Hurt Me Plenty*, which, in festival runs, was played with a Leap Motion controller, but can otherwise be played at home with a mouse (2014a):

In Robert Yang's *Hurt Me Plenty*, the player takes on the role of a dominant negotiating boundaries with a partner who they are about to spank (2014a). The festival version of *Hurt Me Plenty*

⁶ I have discussed Kaho Abe's *Hit Me* as part of the background chapter. Those helmets broke at least twice that I saw at the *Gaming Beyond Screens* event that I played the game at in 2013.

⁷ Lynn Hughes, artist, researcher and curator, has told me in personal correspondence that the "Squisher" controller, used in *CUBID* (Fauteux et al. 2005-2006) and later in *Fabulous/Fabuleux* (Hughes et al. 2007-2009), was deliberately designed to be more intuitive and indestructible compared to a standard controller, with children in mind.

often makes use of the Leap Motion controller, which can register the speed and movement of a person's hand in the air. This finicky controller does not always work well, meaning that players may not have quite the right technique, and might accidentally flick their wrists too hard, or over-accentuate their next motions in their frustration. This can lead to the player violating their partner's boundaries, and the game can lock the player out for hours at a time, potentially days, depending how seriously boundaries have been violated. [...] Players are used to being catered to and to being in control: being able to reload, reset and try again with few consequences.

(Marcotte 2018a)

Even though the controller itself is not being physically touched and is not in danger of breaking, the interaction breaks. When players respond to their perception that the controls are not functional, the subsequent gesture's speed and strength cause further misinterpretations for the technology and for the player. This particular scenario arises from accidental boundary crossing, but this game also resists deliberate strength-related boundary-crossing as well, because these consent negotiations are a part of the game's rules. These physical limitations and quirks request care, at times demanding it, as in *Hurt Me Plenty* (Yang 2014a).

Of course, there are counter-examples of projects that deliberately ask players to risk breaking technology. *Dive Another Way* (Wrighton et al. 2015), for example, is a project that leverages players' relationships to their smartphones. To play the game in its intended form, players throw their phones into an inflatable pool filled with water, trying to make the phone perform tricks and spins, which can be tracked through the gyroscope. The risk of damaging one's phone by making it perform acrobatics and soaking it in water creates a playful tension. Sometimes, it does not matter to the gameplay if an object is broken. Sometimes, it does not matter to the creators. It can be that this breakdown becomes part of the experience, as with the festival version of *Hurt Me Plenty* (Yang 2014a), or it can be that the object in question does not belong to the designers, and they do not consider themselves responsible if players break their own property, as with *Dive Another Way* (Wrighton et al. 2015). It can also be that the object is easily-replaced, as in the balloon-popping web camera game *Don't pop my balloon* (Tembac 2016).⁸

Other alternative controller games do require feats of strength and athletics. Projection mapping using hacked webcams, the Xbox Kinect or similar technologies are commonly-used workarounds for creating intensely physical hybrid or alternative controller games that do not

⁸ As I have previously mentioned, many hybrid games and alternative controller games start out as game jam projects. Notably, these "disposable tech" games, as I am labelling those games that require breakage as part of the play, often appear to be designed at game jams, as is the case with both *Dive Another Way* (Wrighton et al. 2015) and *Don't pop my balloon* (Tembac 2016). These demonstrate a lack of consideration toward sustainability. I sure hope that *Don't pop my balloon* uses biodegradable balloons.

place players in direct contact with breakable electronic components. *No Pain No Gain* (Perillier et al. 2015), for example, uses a webcam and sheet as a screen to capture players "splating" against a (slightly) padded wall in awkward positions.⁹ Another common approach is repurposing commercial controllers that have been stress-tested already. This is what Douglas Wilson did for his adaptation of Bennett Foddy's *GIRP* (2011), entitled *Mega GIRP* (2011). Wilson's alternative controller¹⁰ installation combines four dance pads, which have been tested for their capacity to withstand a lot of physical pressure, and maps the game's keys to them. The intended effect is one of awkwardness:

Drawing inspiration from Foddy's original keyboard version, the installation is intended to be somewhat, physically awkward. Players must continually crane their neck to look up at the screen, while also concentrating on the pads below them. Yes, it's difficult.

(Wilson 2011)

Awkwardness and pain are a common theme in these slightly "abusive" (after Wilson and Sicart's use of the term [Wilson & Sicart 2011]) physical alternative controller games. Rather than risking the technology, the player is encouraged to risk themselves.

Next, I turn to affordances related to the visual appearances and tactile materials of physical hybrid game objects. Hybrid game designers can use the fact that they are crafting physical objects that can be touched and used in the physical realm to encourage or discourage particular behaviours. Aesthetic and material choices can have a significant impact on how a game is received, and there are countless possibilities for how different choices might affect the design.

For example, the often-visibly bespoke appearances of hybrid games can be used to encourage care through their physical features. This is the case for my projects. In solving puzzles from *UNLOCK. UNPACK.* in my presence, for example, players often told me that they did not want to unplug anything in case it "broke" the experience, though I had not told them that they could not unplug things. In debriefing sessions, players told me that visible care was inscribed in the object and how it showed the signs of its making. This care from players may also have had something to do with the suitcase's framing as a "relic" within the game's instructions.

The affordances of soft textiles can, for example, be used to request certain kinds of touch or to generate certain affective responses. In *Unfamiliar Cat Petting Simulator* (He 2016), players are encouraged to pet a patch of artificial fur on a controller while using an arcade ball joystick to navigate which part of the titular unfamiliar cat one is petting. In *PuffPunk* (Wong et al. 2015), there is a deliberate tension between the soft, cloud-like appearance of the robot (a

⁹ From the designers: "Don't get fooled by the giant screen-mat: this games [sic] hurts and is meant to do so." (Perillier et al. 2015).

¹⁰ Because this is explicitly an alternative controller adaptation of a game normally played on a plain keyboard, I am calling it an alternative controller game rather than a hybrid game.

web camera covered in cotton batting with pipe-cleaner arms) that is directing the players and the dystopian orders that the players are told to enact. The game demands that they cleanse themselves of all emotions if they do not wish to be destroyed. The physical features of this adorable tyrant make its orders feel a bit ridiculous. This is a problem because laughter is definitely a sign of emotion.

7.3.1.3 Affordances of Digital Programs and Computation

As I stated at the beginning of this section, the different components of a hybrid game may be present in many different degrees across projects. So, the use of the digital, and therefore the digital affordances, may vary quite a bit. For example, I rarely create screen-based hybrid games where players control avatars or perform feats of dexterity on-screen (such as in a platformer or a first-person shooter), but there are certainly hybrid games that do so. To focus on affordances drawn out of my self-study and related projects, three primary affordances come to mind.

The first is rather mundane: the affordances of digital programs allow designers to choose what they wish to automate within a program and what should be facilitated by a human. This relieves the human facilitator of some of the work required to run a game. For example, so that I could run *TRACES* with as few live actors as possible, it was useful to have pre-recorded monologues that players could access at a time of their choosing. The Expressive Intelligence Studio's *Bad News* (2016a) takes this affordance's potential to new heights, procedurally-generating an entire small town and its inhabitants for use in the game performance.

The second affordance is that digital technologies can be used as attractors like one might see in a carnival or at a casino. Unusual technologies encourage curiosity. There is a certain appeal to mysterious objects. The works of Robin Baumgarten, such as *Line Wobbler* (2014), *Wobble Garden* (2017), and *Wobble Sphere* (2020), come to mind. These screenless games invite spectatorship with their bright, colour-shifting LEDs, unusual controllers, and performative playstyle. This is one of the ways that technology functions in all three of my dissertation projects.

The last digital affordance that I wish to discuss is also my favourite. Digital technologies and hardware allow designers to simulate magic — and many other fictional experiences in ways that lend verisimilitude even if they are especially outlandish. When technology works in ways that are invisible to us, even if we know exactly how they operate, it can feel quite magical. This is how it feels to me pretty well every time that I scan an RFID tag while playing *TRACES* or *UNLOCK. UNPACK*. As another example, Twocan Consortium's *Séance* (2016) is one of many alternative controller games that takes the idea of magic and the supernatural quite literally. In the game, a "séance leader", played by Ben Samuel of the Expressive Intelligence Studio, leads players through an experience that quickly turns spooky. Ghostly lights illuminate the game's different puzzles and are eventually used to signal the presence of supernatural activity.

7.3.1.4 Affordances of Human Facilitation

Human facilitation is really quite particular to a project because human behaviours are an especially flexible medium to design with. Leveraging human facilitation can create just as much magic and surprise as the fanciest sensor and electronic display, just in a different register. When the facilitator role works well, it can create opportunities for some truly wonderful experiences. In my projects, facilitation has involved, amongst other things, taking care of and repairing the project as needed, explaining and contextualizing the game for players, live performance, assistance with debriefing after the game is finished, and providing resources for players that need care after intense affective experiences.

One of the affordances of human facilitators is that they allow increased capacity for nuanced experiences, tuned to the context and to the players. Human facilitation allows for greater clarity, serendipity and adaptability in the moment. For example, if a player does not understand a rule for how the game is meant to be played, the facilitator can explain it to them based on the player's specific needs. This can allow for greater complexity along all sorts of axes than a game relying on a static tutorial, as there is someone there to accompany the player through that complexity. This is the case for *Flip the Script!*, where the facilitator works to help players discover a topic of play related to intersectional feminism and potentially fraught emotional subjects. The very parameters of the game can often be adjusted in response to the players. Squinkifer does this in *Coffee: A Misunderstanding* (2014). In *Coffee*, the director of the game can make judgment calls about the room's demographics and choices according to which versions of the story have already played out. This allows them to tune the "weirdness" factor and other aspects of the story. They can also push certain threads of the narrative forward, as they can supersede the puppeteer's choices. For example, a game played at an LGBTQ conference might lean more heavily into the game's themes of queerness.

From a practical standpoint, the potential for complexity in the interface, the choice of materials, and the game mechanics is also encouraged by having a caretaker present. The facilitator can function as a technician if need be. Sometimes, a hybrid game or installation piece can require a specialized skill set to set up, which means that there are also specialized skills required to repair it if anything should go wrong. In a similar vein, intense or unusual affective experiences can become difficult for the players. So, if something "goes wrong" for them, a trained facilitator can be a great boon. Having such facilitators on-hand, or at the very least resources to turn to, is common to see in Nordic Larp, where topics from nuclear holocaust (*Ground Zero*) to terminal illness (*Luminescence*) to the experience of refugees (*Europa*) are all considered appropriate topics for exploration (Stenros & Montola 2009).

Live performance and human facilitation are also especially suited for allowing games to take advantage of serendipity and adapt to unforeseen directions. In *Bad News* (Expressive Intelligence Studio 2016a), Ben Samuel can adapt his behaviour to suit all sorts of outlandish tactics for meeting the game's goal of communicating with the deceased's next of kin before letting anyone else know that they have died. Through collaboration between the game facilitator and the players, who also often become performers in such experiences, many accidental and wonderful moments emerge as the "experience", through the facilitator, is responsive to these opportunities.

7.3.1.5 Affordances of Ludic Language and Games

Turning to the word "game" in my chosen term, there is an affordance in positioning these experiences as *games* rather than some other term that they might fall under (and there are many possible terms), such as a "workshop", an "activity", or a "performance". All of these can be playful, and all of them can involve games. Similarly, games can achieve similar ends to these experiences. Games can also be used to demonstrate technologies used for therapeutic purposes, build connections, or teach. However, using the nomenclature of games for these experiences sets up a horizon of expectations and places them in relation to other things that are called games. This horizon of expectations is then available to use and also to subvert. Games are also generally understood as meant to be played. When something is framed as play or playful, it changes the stakes of that activity. The concept of playfulness suggests that there is space for trying things out, for being tentative and uncertain. This makes it easier to imagine trying something within the frame of a game that we might not otherwise.

7.3.1.6 Combined Affordances

Returning to the question of what the affordances of human-assisted physical-digital hybrid games offer in their combined form for creating critical, reflective play experiences, it should be clear from these examples that the hybrid form lends itself well to many possibilities. In my projects, the form has tended to facilitate experiences with a strong emotional core that builds connections between the humans involved. Players are encouraged to remember their bodies, and this, in turn, makes those bodies and the attached minds harder to subsume into the flow channel (Csikszentmihalyi 1990, Marcotte 2018a). As a result, players become closely involved in their own embodied and emotional experience of play. The mechanics that I have used remind them of those experiences *during* play, and they are explicitly invited to reflect through debriefing afterwards.

Of course, there are many other answers to this question. My core definition of human-assisted, physical-digital hybrid games merely describes a configuration of human facilitator, atypical physical interfaces, digital technologies and code, combined with ludic intent. My own particular flavour aims for a type of emotional experience that calls attention to bodies and connections, that requests vulnerability and reflection. The work of Enric Granzotto Llagostera tracks categories of alternative controller games in great detail in a first try at creating a comprehensive taxonomy along many axes (2020). I have tried to ground my answers in the study of process that I have performed throughout this doctoral project and in the hybrid games that I made.

7.3.2 Methods for Studying Hybrid Games and the Impact on Designers

What methods can creators of physical-digital hybrid games use to create robust traces and records of their in-situ praxis and creative output for future examination, and what impact might such records

of praxis have on their work, their ability to reflect on their craft, and their growth as designers?

This is a three-part question. The first is about how to share, preserve and archive my finished work. The second is about how to preserve in-the-moment records of practice. The third is about what can be learned from being diligent and reflecting on the first two. In many ways, the first two questions have been answered (within the scope of this project) in the **Background** and **Methodology** chapters. I nevertheless revisit and expand upon those answers here in order to better contextualize the third part of the question, which is the area where there is still the most left unsaid.

7.3.2.1 Sharing and Preserving the Completed Project

The challenge of sharing human-assisted physical-digital hybrid games is complex. These projects are often non-standard along each of these individual dimensions (facilitation, physical objects, installation and testing of digital programs on hardware) and only become more so in combination. Scale and scope are two especially thorny problems, along with long-term maintenance and continued access to the game over time.

First, there is the problem of scale lock: preparing a handmade physical object for mass reproduction and distribution requires a specific skill set. It can be time-consuming, and it is most definitely expensive. Even a casual glance through an archive like *ShakeThatButton* shows that most of the projects documented there are made by small teams and individual creators (Corbinais n.d.). Many of the creators of hybrid games are students like myself, or participants in game jams, university researchers, or independent creators. None of these groups are known for having an excess of spare funds to create supply chains or engage in similar activities. Comparison to a company like Nintendo can be helpful when it comes to design ideas and inspiration, but unproductive when it comes to questions of resources and scale of production. Nor is such distribution likely to be a common goal in most cases.

Even if the reproduction of the physical object and installation of programs on the related hardware were to be ignored entirely, there is the question of human facilitation. Facilitators are specialized people with a specific skill set that differs depending on the game. Sometimes this role requires experience with improvisation and acting, as in *Bad News* (Expressive Intelligence Studio 2016a), which I discussed in the Background chapter. Sometimes it requires the ability and knowledge to repair the project, such as soldering skills or woodworking skills, or sewing, or any number of others. Sometimes, it requires the ability to recognize players' emotional states and care for them or provide resources to them. It often requires the ability to teach players how to play, and to adapt that teaching to the individual. It is possible to train facilitators, but this too requires resources and time that may not be within scope for many of these projects. As much as they are in some ways freed from the requirement to be economically-viable projects, that also, once again, means that the creators are not guaranteed to have monetary resources to pay actors and train people to showcase their game.

A typical hybrid game makes its appearance at festivals, conferences, game jam playtests, playtests set up by the creator(s), and other special events. It has a life through the

dedication of creators who bring the project to spaces to be played. This life is not indefinite. Eventually, most creators will want to move on to creating and showcasing other work. This is part of what it means for the experience to be ephemeral. So, how do we share what we can?

One solution can be found in changing the interface. Alternate releases of alternative controller projects sometimes use standard or commonly-available commercial interfaces as stand-ins for the physical interface, as in the keyboard-and-mouse release of *Hurt Me Plenty* (2014a). This is typically possible with alternative controllers that make use of screen-based play. Another solution is to make use of modified standard interfaces.

Some creators, such as Enric Granzotto Llagostera, creator of the *gambi_abo* cardboard-and-standard-interface alternative controller project (2018), have chosen to explicitly work with common, easily-accessible materials alongside detailed sets of instructions. This is a constraint that increases shareability, but also requires extra investment on the part of the player, who must build the controller themselves. Further, it limits the materials and techniques that can be used in the process, as specialized knowledge and equipment complicates the reproducibility. Sometimes, the special, handmade appeal or uniqueness of an object is a feature of hybrid projects, which means that this is only a solution for some projects. Documentation of how to reproduce an object and how it was created is, however, always welcome.

Another way to share such projects is to create full video walkthroughs of the play experience, in contrast to only creating a short trailer or documentation of the creation process. This is a valid way to experience games, and the "let's play" is a popular form for streamers (those who perform the play of videogames online, often with commentary). That being said, there is an intangible quality to live performance and physical co-presence that is lost through this process. Similarly, although experiencing a videogame through watching someone else play is a valid way to experience it, this does not mean that it is the same experience as playing for one's self. This is especially true for a game like *Flip the Script!* where part of the play experience lies in deciding which topic to broach, and this is fully dependent on player positionality and lived experience.

Because these objects take up physical space, often in the creators' own living space, they can be difficult to access even when they do not wind up being disposed of. One option is to try to donate the object and the rules to a formal physical archive. However, there is no dedicated *physical* archive of alternative controller projects or hybrid games. Right now, *Shake That Button* aims to document as much as it can digitally, relying on user submissions (typically from creators), as discussed in the **Background** chapter (Corbinais n.d.). Some designers working in the area also have personal archives and provide online documentation on their websites or on social media such as Instagram. Some museums have acquired individual alternative controller pieces, but these are thus far not being acquired en masse (Foulston, M. and Volsing, K. 2018). Establishing such an archive would be quite expensive, and was certainly out of reach and out of scope within the context of this doctoral project.

I have opted to document thoroughly (through photos, videos, audio conversations, preserving material samples, and writing — process-writing, articles, or pieces like this dissertation). I spread that documentation as much as I can, and bring the games to as many people as possible. Direct access to the original object or a facsimile does teach us something

that can be hard to capture, but thorough documentation helps contextualize that object and is also crucial to understanding it in its absence. This is, of course, imperfect, and a part of the work that goes along with this is trying to become comfortable with the idea of ephemerality and lack of direct access to the original "thing" as made. Nevertheless, preservation efforts and making such ephemeral performances, processes, and discourses as visible and accessible as possible contributes to the growth of the form (Stenros 2013).

Ultimately, as I write this in 2021, there is also a reframing and refiguring occurring within the alternative controller/hybrid game community. That also goes for me: as a fully-funded graduate student, I had the luxury of creating these elaborate physical projects and not worrying so much about distribution or how I would make a living from them. As I leave this space, these are concerns that I have to return to and take up anew, in addition to the question of what it means to make hybrid games that often involve close physical proximity and intimacy moving forward.

7.3.2.2 Preserving In-Situ Process

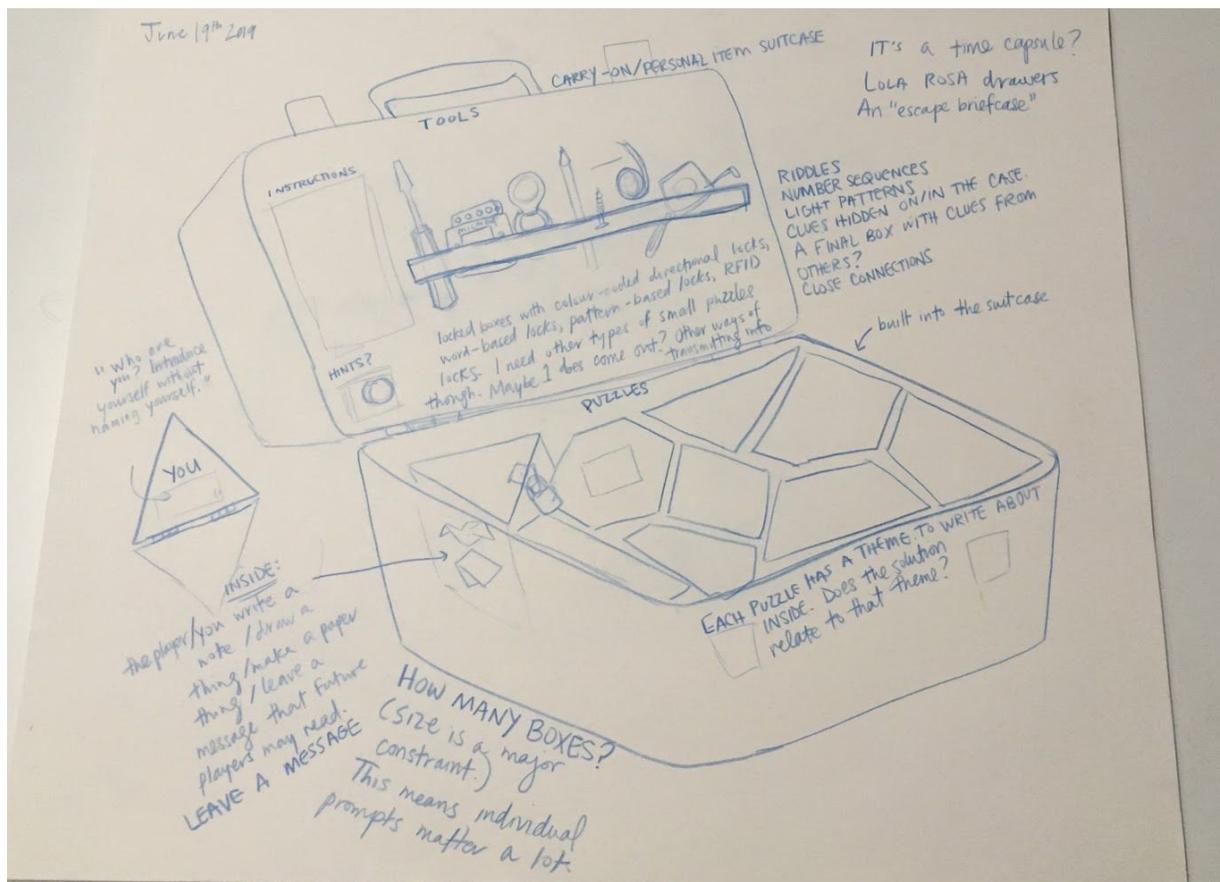


Figure 7.3.1 An early sketch for the escape suitcase that became *UNLOCK. UNPACK.*



Figure 7.3.2 UNLOCK. UNPACK. makes its playtest debut at the QGCarnival in January 2019.

When it comes to preserving as much in-the-moment data and knowledge about the process, my answer is the **Methodology** chapter. As I created, I recorded video and audio of design conversations, playtest debriefs (and the playtests themselves, where appropriate), and my musings to myself. I took photographs and preserved drawings and diagrams. I wrote about the process and what was going on in my life, and I kept small samples of the materials I used. Though there are limits to what is possible, as this documentation truly does take conscientiousness and effort, I have collected a great deal of data and learned so much from it, as I will discuss in the next section.

7.3.2.3 Learning from In-Situ Process and Reflection

I have long recognized the value of reflective writing as part of my creative process. However, what has become abundantly clear is that attentively revisiting those writings with some distance provides a plethora of insights.

Tracking my thoughts about these projects over time and across three similar projects has allowed me to identify patterns of both habit and thought. As an example, I was able to identify the types of moves that made a project's shape feel fixed versus the ones that allow me to continue in a more experimental, iterative mode. After these three projects, I understand that

if I am reluctant to do iterative prototyping when using the materials that I intend to use in the final version of the project. Even if I have explicitly acquired more materials than will be necessary for the final version, there is something about working with the final materials that increases my reluctance to iterate. If I am prototyping with something recyclable or reusable, such as unpainted cardboard or plasticine, this proves not to be a problem. Similarly, it is important that my prototypes be a "minimum viable version" of the idea that I am trying to test, with as little polish as possible. As soon as I begin to add polish, I am reluctant to "lose" that work, even if it actually contributes to the project's long-term betterment.

Similarly, the existence of this data has allowed for insight into my design strategies. As I have discussed throughout the Project chapters, the same design strategies can look quite different when applied and adapted to different design problems. This can make identifying patterns in strategy use a challenging prospect. Removed from the context of the design problem, the strategies can appear quite simplistic. Within the context of different projects, strategies can be difficult to recognize as being the same or similar. As I have argued in **section 6.8 of Chapter 6**, this is because the strategies often are legitimately simple when taken one by one, and become more complex versions of themselves within the context of the specific project. It is the process of knowing which strategies to apply and adapting them to the specific design problem, in a specific sequence, that requires designerly experience and expertise.

As a general observation about my patterns and process, my documentation shows that I have a fairly specific "order of operations" when left to my own devices to work alone. I tend to start my idea generation on paper, using a sketchbook or unlined notebook. I often create associative mind-maps or sketch speculative objects adjacent to themes, keywords and small notes to myself. From there, I will often move into journaling, writing about the new project in my process blog, and talking about the project with others. Although I sketch objects from the start, I have a tendency to hold off on creating functional prototypes because, especially on short timelines (and I rarely have had the leisure of a long timeline), I try to avoid duplicating work. However, knowing this, it is a part of my process that I would like to experiment with deliberately altering. Once I have settled on some project parameters, I usually start to think about the actions that players will perform in the game, and what significance those actions might have in relation to the themes that I am working from. From there, the process is more project-dependent.

Another observation that I draw out of the reflections in the project chapters is that my process requires other people, even for ostensibly solo projects. Having others to discuss the work, the progress, the challenges, and the successes is something that I value, and that allows me to continue through the periods where I am working alone. This externalization of the process, this sharing with others, allowed me to both better document my process as well as prevented me from becoming too "stuck in my own head" and thoughts.¹¹

¹¹ Throughout writing this very document, I had access to a co-working group that ran hourly check-ins. Together, individuals in this group set goals, talked about the previous hour's work, and re-oriented ourselves toward our goals as necessary. Throughout this dissertation, the Reflective Games Group, TAG's weekly design conversation group, my other peers at the lab, my fellow designers, and my loved ones have all provided sounding boards or assistance.

One of the major concerns that I hoped to address through my methodology was the casual after-the-fact stories that creators tell about their own process, and the justifications that we make. When we are not in a process, and when we have finished, it can be easy to think that the outcomes — the decisions that we made, the final results — were somehow inevitable, or that we always thought of a topic the same way because we no longer remember *not knowing* or *not thinking* in that way. The narratives that creators tell themselves after the fact are certainly valuable.

However, I contend that we do not fully know what we think we know about our own processes without doing the work to document and learn about ourselves and how things shift and change over time.

I also contend that designers cannot fully understand the design of an embodied experience until others have embodied and experienced it. When designers study their players' experiences, it highlights specific qualities of these experiences, including, sometimes, ones that we have not consciously designed.

Creators should strongly consider this type of self-reflective, autoethnographic process because it is of benefit to themselves. However, that data is also valuable in the extreme to other creators, researchers, and students. It has long been acknowledged that journals, correspondence, drafts, and other similar documents are important primary sources for research.

While I acknowledge that there are limitations to the exact types of knowledge and certainty that a creator writing about their own work can have (and I will discuss these limitations further in the next section), the same is also true of other methods. The creator is the closest person to their own brain and the person with the greatest access to their own ways of thinking and working. This can lead to greater insights. Who better to clarify, insofar as this is possible, the ambiguity around the creative process than designers who are both at the center of it and carefully documenting and writing about it?

The personal is inextricable from the design process, and from any data that might be reported to third parties. Much like players bring themselves to the game and their experience of it, the designer brings themselves to the design, and nobody leaves their subjectivity or the contexts that they exist within at the proverbial door.



Figure 7.3.3 Meta Realities: The designer and researcher behind *TRACES* takes on the role of a fictional researcher and time-traveller handler in one of the few times that they've worn a lab coat for doctoral work. A time travel device lies in the foreground. Photo by Vjosana Shkurti.

7.4 Limitations and Future Directions

One of the primary limitations of this study is that the results are not generalizable without more work done by other designers willing to undertake the admittedly-involved process of using a similar methodology. As discussed earlier in this chapter as well as in the **Background** and **Methodology** chapters, for designers engaged in solving creative problems, each problem has its own specific set of constraints, and direct reproducibility of the problem is a difficult ask, which may be addressed through *recoverability* instead (Khaled, Lessard and Barr 2018).

Another challenge lies in the limitations of self-study. Even a very dedicated autoethnographer (or auto-researcher, if they are not performing autoethnography) is both limited and supported by their own subjectivity (as is, of course, the case for any researcher, though the limitation may matter or more or less depending on the kind of research being performed). To better account for this subjectivity, I would suggest that future studies pair the designer with another researcher. The designer can examine the data for one type of insight because of their very direct and particular connection to the materials, and the outside researcher can further analyse the same data, allowing for another type of insight.

For example, there are connections and unique insights that the designer-researcher can propose about their own work as they study the research data that draw on their personal understanding of their lived experience and process that would not be at all obvious to an outside researcher.¹² If they were only a research subject, and not also a researcher spending time with the data, these connections might never emerge. However, there may be topics that

¹² "Outside", as in, outside of the designer-researcher's head.

are either uncomfortable or invisible to them because of their closeness. In such an example, the second researcher could look for connections that might be obfuscated by this closeness, or that, for many possible reasons, might be missed by the designer-researcher. The approach of having multiple researchers attend to the same data is one that is common in grounded theory research (Strauss & Corbin 2008). Combining an "outsider" analysis with an "insider" one is likely to create a more nuanced and complete picture than either on their own. There are many possible configurations and areas of expertise that could be useful. It would be fascinating to see, for example, what knowledge an outside designer-researcher and a designer attending to the same project could create together.

While my own ethical framework did not allow for this, it would be helpful to design future studies that could make more of the dataset publicly-available or even published, with the consent of participants, so that other researchers can make use of it. In my own project, much of the data is already publicly available on my personal website (Marcotte, n.d.), such as my practice-focused blog, and my code repositories are likewise publicly-available through my Github account (Github n.d.).

There are many other additional questions in the area of hybrid games and alternative controllers that researchers are already asking, as I have discussed with respect to Enric Granzotto Llagostera's work on classification (2020), or the writings of Tatiana Vilela dos Santos (2018).

One future additional direction for research drawing on this project would lie in expanding the methodology to include other forms of data, such as extending the methodology for collaborative work. This might include pioneering methods to preserve written conversations in chats and on productivity software (i.e. Discord, Slack, Asana, etc.) in a respectful way, as well as finding teams who are willing to engage in such an involved process. Once one begins to consider what data can possibly give us insight, there is a great deal of possibility that must then be kept within scope.

A very significant question for future research in this area, in this moment, is: *"How will our relationship to touch and physical intimacy change in response to the COVID-19 pandemic?"* This is a question that is on the mind of every designer I know who works with physical materials. What will it mean to showcase these types of projects in public spaces in the future? In some ways, I believe that the significance and importance of physical intimacy will be more important than ever. But the conditions under which human-to-human touch and proximity feel possible and safe will surely be altered, perhaps irrevocably. Tied to this are more questions about the future of critical game design. As the systemic forces of our world continue to drive us toward worsening climate crises, which are known to come with disease, and as the most precarious among us continue to grow more precarious, I wonder how designers like me, who believe in intersectional feminism and equity, who are engaging critically in these topics of study, will respond. I hope we will together be able to imagine and help others imagine a more equitable world.

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Coding Frequency

Search in: [DOCUMENT]

Codes: All Selected: [] Coverage Search

Tree Table

	Count	% Codes	Cases	% Cases
Autoethnography				
• autoethnography mention	16	0.4%	6	5.8%
Burnout				
• burnout mention	12	0.3%	6	5.8%
• resting	4	0.1%	4	3.8%
• inability to work	8	0.2%	4	3.8%
• tired/exhausted	17	0.4%	7	6.7%
• guilt	9	0.2%	7	6.7%
• anxiety	23	0.5%	6	5.8%
• burnout warning sign	3	0.1%	3	2.9%
Conversations				
• design conversations				
• playtesting				
Programming				
• code documentation	46	1.0%	7	6.7%
• problems with code	24	0.5%	3	2.9%
• got help	14	0.3%	4	3.8%
Creation				
• brainstorming/idea generation	96	2.2%	19	18.3%
• excitement	22	0.5%	11	10.6%
• ideas	151	3.4%	25	24.0%
• got help making	42	0.9%	25	24.0%
• progress	34	0.8%	13	12.5%
• non-diss projects	55	1.2%	18	17.3%
• goal	36	0.8%	11	10.6%
• problem-solving	154	3.5%	30	28.8%
• expected outcome	63	1.4%	26	25.0%
• intersectionality	235	5.3%	31	29.8%
• materials and technology	303	6.8%	60	57.7%
• questions/problem setting	148	3.3%	35	33.7%
• unexpected outcome	31	0.7%	20	19.2%
• constraints	55	1.2%	13	12.5%
• ethics/responsibilities	58	1.3%	8	7.7%
• critical/reflective	23	0.5%	9	8.7%
• rejected/discarded idea	36	0.8%	12	11.5%
LGBTQ				
• transgender	48	1.1%	21	20.2%

Figure A.2 Coding Frequency Table Part 1

Coding Frequency

Search in: [DOCUMENT]

Codes: All Selected: [] Coverage Search

Tree Table

	Count	% Codes	Cases	% Cases
LGBTQ				
transgender	48	1.1%	21	20.2%
queerness	24	0.5%	14	13.5%
Playtests				
players playing	81	1.8%	9	8.7%
feelings about play	229	5.1%	35	33.7%
surprises	112	2.5%	31	29.8%
memorable moments	109	2.4%	32	30.8%
takeaways	135	3.0%	31	29.8%
explaining game	125	2.8%	17	16.3%
reflections from play	369	8.3%	33	31.7%
debrief	93	2.1%	24	23.1%
facilitation feedback	89	2.0%	16	15.4%
rules feedback	37	0.8%	13	12.5%
challenging	87	1.9%	23	22.1%
connections	113	2.5%	11	10.6%
design feedback	448	10.0%	38	36.5%
writing feedback	55	1.2%	13	12.5%
Records of Process				
archives	6	0.1%	4	3.8%
process lessons	58	1.3%	24	23.1%
observations	223	5.0%	50	48.1%
References				
book	23	0.5%	13	12.5%
theatre	15	0.3%	3	2.9%
film or television	16	0.4%	7	6.7%
game	36	0.8%	16	15.4%
play	15	0.3%	6	5.8%
podcast	1	0.0%	1	1.0%
news	4	0.1%	2	1.9%
Stressors				
Fort McMurray	9	0.2%	6	5.8%
Moving	4	0.1%	4	3.8%
RCMP	8	0.2%	8	7.7%
general stress	24	0.5%	12	11.5%
Type of Record				
Project 01	25	0.6%	22	21.2%
Project 02	23	0.5%	23	22.1%
Project 03	24	0.5%	22	21.2%
journal entry	22	0.5%	21	20.2%

Figure A.3 Coding Frequency Table Part 2

Coding Frequency

Search in: [DOCUMENT]

Codes: All Selected: [] Coverage Search

Tree Table

	Count	% Codes	Cases	% Cases
feelings about play	229	5.1%	35	33.7%
surprises	112	2.5%	31	29.8%
memorable moments	109	2.4%	32	30.8%
takeaways	135	3.0%	31	29.8%
explaining game	125	2.8%	17	16.3%
reflections from play	369	8.3%	33	31.7%
debrief	93	2.1%	24	23.1%
facilitation feedback	89	2.0%	16	15.4%
rules feedback	37	0.8%	13	12.5%
challenging	87	1.9%	23	22.1%
connections	113	2.5%	11	10.6%
design feedback	448	10.0%	38	36.5%
writing feedback	55	1.2%	13	12.5%
Records of Process				
archives	6	0.1%	4	3.8%
process lessons	58	1.3%	24	23.1%
observations	223	5.0%	50	48.1%
References				
book	23	0.5%	13	12.5%
theatre	15	0.3%	3	2.9%
film or television	16	0.4%	7	6.7%
game	36	0.8%	16	15.4%
play	15	0.3%	6	5.8%
podcast	1	0.0%	1	1.0%
news	4	0.1%	2	1.9%
Stressors				
Fort McMurray	9	0.2%	6	5.8%
Moving	4	0.1%	4	3.8%
RCMP	8	0.2%	8	7.7%
general stress	24	0.5%	12	11.5%
Type of Record				
Project 01	25	0.6%	22	21.2%
Project 02	23	0.5%	23	22.1%
Project 03	24	0.5%	22	21.2%
journal entry	22	0.5%	21	20.2%
design conversation	19	0.4%	16	15.4%
playtest debrief	33	0.7%	30	28.8%
Design Brainstorming	3	0.1%	3	2.9%
Notebook Notes				

Figure A.4 Coding Frequency Table Part 3

Jess: I just really don't know what I want the gameplay to look like. It's hard you know?

Tom: Yeah.

Jess: And yeah, maybe not all the puppets have to be bunraku puppets, you know it could be a one-person puppet, multiple of them -

Tom: Well a bunraku puppet is a fantastic idea if you want to go in one specific way but there's no reason why you can't change it, there's no reason why you can't do more than one game, why you can't adapt it to be in different ways.

Jess: Yeah, I mean maybe I should just make one of each style of puppet at the start, you know? Like make a simple bunraku puppet, make a simple hand-puppet-

Tom: Yeah, and there's no reason why you can't experiment either. Maybe you can make a puppet- a bunraku puppet, a simple one that you can adapt and change later if you feel like it, and you and I and one other person can start goofing around with it, and you can give us a few random goals and ideas and we can spitball and brainstorm and see what was funny and what was interesting and then you can say ok, well here's an idea guys, what if we do- we do what we're doing now, but with this change. And maybe that can inspire you. Maybe goofing around and experimenting can help, and maybe making a puppet, a basic puppet would be a good start.

Jess: This is what I'm thinking, this is sort of why I've been hanging back a bit, and I've been ordering the materials, most of them are arriving tomorrow like-

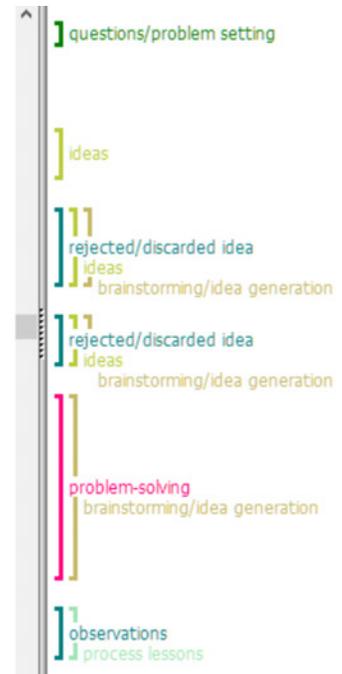


Figure A.5 Sample Coding

Appendix B: Rules for *Flip the Script!*

FLIP THE SCRIPT

Draft Rules v3.0

GAME OVERVIEW (TOC)

- * Explaining About Opting Out
- * Introducing Harle, Avi and Drake
 - * How-Tos (Puppeteering)
- * Introductions (Warm-Up Phase)
 - * How To Use the Technology
 - * Intersectionality in a Nutshell
 - * Finding Common Ground
- * Choosing a Topic (& Anonymous Veto)
 - * Making a Scene Together
 - * Playing Through Scenes
- * A Statement About How We'd Like the World To Be
 - * Debriefing

HIGH CONCEPT

This game explores real-life societal issues through the use of roleplay, puppetry, technology and theatre.

OPTING OUT

You should know that you can opt out of this game at any time, for any reason, without any judgment. It's okay to feel a bit uncomfortable as long as you feel respected and safe, and able to continue. You can opt out now if you like. If you want to opt out during play, you can interrupt the game at any time.

INTRODUCING HARLE, AVI, and DRAKE

These are our talented assistant improvisors, Harle, Avi and Drake. Harle is named for their Harlequin pattern, Avi is named for their avocado-themed colours, and Drake is named after popular Degraasi: The Next Generation star and Toronto rapper, Aubrey Drake Graham. I'd like you each to choose your assistant for this game. If it turns out that one of these puppet friends is particularly good at one specific type of role and you would like to switch off assistants later,

that's fine.

PUPPETEERING

Next, I'm going to give you a micro puppeteering lesson. I am not a puppeteer, but I have seen a few puppet shows. To get up and running quickly with puppeteering, there are three easy things to pay attention to.

So the first element is ATTENTION. When you're actively puppeteering, look at your puppet. This will draw attention away from you and to the puppet. ****When you are not speaking or performing, look at the PUPPET who is.****

The second element is BREATHING. If you want your puppet to look alive, take the time to incorporate some subtle breathing movements and other motions into your performance. You can use head motions, the idea of breathing, you can move their arms, hands and bodies. Experiment and have fun with it!

The third element is SYNCHRONIZED MOVEMENTS. For us, this is especially important for speech. Try to match when the mouth is open and closed to the words that you are saying. As another example, if our puppet had feet, we would want to make sure that it moved in ways that feel realistic to the eye. In a walking cycle, this would mean never having both feet off the ground at the same time.

I mess these elements up all the time -- don't worry about it. You're not being judged on how well you manipulate your puppet, I just find that it helps me get into the game.

INTRODUCTIONS

Okay, so, as a kind of warmup, I'd like you to introduce yourselves using your assistants. Try having a conversation with your puppet where you practice some of the puppetry techniques that we talked about. By the end of your introduction, make sure that you've said **your name, your pronouns, and one fun fact** about yourself. Remember to use your puppets' hands -- they can be very expressive!

TECHNOLOGY

You probably noticed that your puppets are wearing vests with colourful LEDs on them. The A button turns on the flashing rainbow LEDs. Once they have stopped animating, the B button turns them off. When you press these buttons, you'll be activating the LEDs for all the puppets simultaneously, not just your own. Take a minute to have a look. You can also adjust the positioning of the micro:bit board on the velcro patches for your comfort. We'll use these for different purposes throughout play, which I'll highlight each time.

INTERSECTIONALITY IN A NUTSHELL

I want to introduce a concept that'll be useful for us as we play together. I'll try to give you the short version and later we'll talk about it using our puppet friends as an example:

So, Intersectionality is a term from Kimberle Crenshaw that refers to how people from different backgrounds and histories experience the world, and how that changes depending on those backgrounds. Some of those different identities might be things like gender, race, sexual orientation, class, ability, citizenship, and there are plenty of others. The intersection part means that these different aspects of our identity mix together in ways that are sometimes very complicated and tangled. Each person stands at the intersection where their different identities cross. Sometimes, our identities stand at an intersection to other people's identities too. Not only that, this isn't just about individual, one-on-one experiences, but about whole systems that we are all a part of. Those systems are part of our society and culture, and sometimes they hurt us because of who we are.

In this game, we're not going to use any special words or vocabulary to talk about intersectionality -- you can just talk about your experiences with whatever language you are comfortable with. We're just going to use the idea as a way of thinking about how each of our experiences might affect our perspectives, and also how we might share some experiences in common while there are others that we have very different ideas about.

Let's try to talk about examples of different identities and intersections that our puppet assistants might experience.

For example:

"Drake, I understand that you're a horned puppet. Is being a puppet with horns different from being a puppet without horns?"

"Harle, what's it like having two fabric tones on your face? Does anyone ever mention it to you?"

What questions do you have about Intersectionality?

COMMON GROUND

Okay, let's keep in mind the concept of Intersectionality and the discussion we just had with our assistants. We're going to be looking for something to explore together that all the players have a frame of reference to, even if it's not something they've personally experienced. Like in the concept of intersectionality, we're trying to look at systems and groups informed by individual stories, rather than just talking about one person's story. Does that make sense?

Together, let's discuss and answer this question to try and find some common ground for our playthrough:

[What's something negative in society that you experience personally, based on your identity,

that you think other people might also experience, that you'd like to see change?]

CHOOSING A TOPIC

Now that we've had that discussion, let's propose a topic for our playthrough today. You'll each start by proposing an idea. Once you've each proposed one, I'll repeat them one by one and you will get the chance to anonymously veto each topic. You should veto if you're unwilling to discuss it. You don't have to explain why, and this voting is anonymous. If all the topics get vetoed, we'll try another round. If we have more than one topic left, we'll vote on it.

How is the vetoing anonymous, you ask? Since your buttons can active all the puppet's LEDs at once, I'll ask you all to have your hands on your buttons. Don't pay too close attention to other players' hands. If you want to veto a topic, press the A button. We'll know the topic was vetoed if we see the flashing rainbow lights.

MAKING A SCENE TOGETHER

After having a discussion together and choosing our topic, we'll draw out some specific moments and story beats, then choose some roles for a fictionalized scenario about the topic (we don't want to replay one person's specific, real-life story because want to feel free to retell the story and stray from it). I will suggest roles and scenarios, and we'll discuss until we find something that fits what we want to do. We'll write these roles down.

PLAYING THROUGH SCENES

Okay, so we'll be playing through each of these moments together using our assistants. Each time we play through a moment, we'll use the LEDs on our assistants' jackets to communicate a different action that all players will have to perform. In between these scenes, we'll be having discussions about what has just happened and where we want to head next.

Each time, we'll start by reminding ourselves of the moment that we're going to play through. Then, we'll cast the scene. We can cast characters, internal voices, and even abstract concepts. Maybe one player will play another player's conscience, or their self-doubt, or maybe they'll play their pet cat. It's really up to you. If you think it'll contribute an interesting perspective, we can give it a try! We can always recast later if we want to try something different. We'll play through the same moment multiple times until we're satisfied as a group that we're done with it. It's possible that we will be finished after one playthrough of a moment. We'll **decide together** when it's time to move on to the next moment on our list. We can also decide as a group to skip over moments, especially if it turns out that we wound up exploring that subject matter as part of one of the other moments.

OKAY, now this is really important. Remember those lovely LEDs that we used earlier?

Pressing the A button on your puppet's jacket will turn on the LEDs, and the B button will

turn them off. This will mean something different for each playthrough of the moments we choose, and I'll let you know at the start of each scene what the LEDs will mean. Oh, and I also have a micro:bit over here and can activate the lights if I would like one of those events to happen.

Should Have Said

In this round, lighting up the LEDs will mean that you want the player who said the last line of dialogue to say something other than what they have said, and that they should try a different line of dialogue. This is the **Should Have Said** round. You can do this as many times as you like, even with a line of dialogue that has just been changed. You'll have to be quick on the button!

Switch Roles

In the second playthrough, when the LEDs are activated, it will mean that it is time to **Switch Roles**. Each role will move one player to the left (or, clockwise). You can do this as many times as you like, but try to give a bit of time between switches.

Introduce a New Role

In the third playthrough, when the LEDs are activated, it will mean that it is time to **Introduce a New Role**. Anyone can propose what this new role ought to be. You can also take this opportunity to refine or rethink a current role, highlighting specific aspects if you choose. You cannot force another role on a player, though -- it is up to them whether they accept a proposed role or not. Players can each have multiple roles within one scene, as long as they can keep track of them!

When we've played through and discussed each of our chosen turning points/beats/moments, it's time to move on to the next part of play!

A STATEMENT ABOUT HOW WE'D LIKE THE WORLD TO BE

Based on this experience and the topic that we explored, what is something that you'd like the world to know about this subject? Together, let's formulate a hope or a wish that we would like to record about this experience. Feel free to discuss this using your assistants if this feels more comfortable! I'll help by repeating what themes seem to be coming up, and proposing ideas and formulations.

If you all feel comfortable, I will save this statement and collect it with others to post online.

DEBRIEFING

Debriefing is a way of processing in-game experiences and of learning from them. We're going to do a short debrief together to end the game. First, please take off your assistants and place

them carefully aside over here.

Next, let's start with some questions, and then we can move on to more general discussion of the experience. Be sure to contribute your ideas and to leave room for the other players to contribute as well.

1. Was there a challenging moment in the game? How did you feel about that moment?
2. What does this game suggest about what to do when you encounter this kind of situation in the real world? Was there an approach that the group took in-game that you thought was helpful?
3. Did your perspective on the topic that we discussed change throughout play?
4. What was something memorable from this play session?
5. What is something that you will take with you from this game? What is something that you'll leave behind?
6. What topics do you all want to discuss before we say goodbye?

INFLUENCES & REFERENCES

Augusto Boal's Theatre of the Oppressed
 Jacob L. Moreno's concept of Sociodrama
 Brecht's Organum for the Theatre
 Kimberle Crenshaw's concept of Intersectionality
 Blind Summit Theatre's "The Table"
 Snafu Dance Theatre's "Snack Food Music" & other shows
 Rilla Khaled's Reflective Games Framework
 North American Improvisation games and norms

Appendix C: Instructions for *TRACES*

MISSION BRIEFING - *TRACES*

DESTINATION: EARTH, the Milky Way, early 21st century (2019)

Greetings, Traveler!

You have been chosen to return to Earth's early 21st century in order to collect trace residue from participants in our experimental research program for further analysis. You must be very excited!

Your mission is not without danger. Please do not neglect to read the following before speaking to your handler about your departure. Your handler will tell you more about the specifics of your mission's context.

OVERVIEW AND EXECUTIVE SUMMARY

You will be scanning the trace residue for **10 travelers** (see **The Mission Goal**). Each trace object has **5 trace components** which must be scanned, or that data will be permanently lost (see **Collecting Traces**). You will be assisted by your handler and our best equipment (see **Your Equipment**). When you have finished, seek the object which says **"Go Home?"** on it, scan it, and follow the instructions. The whole trip should take around **30 Earth minutes**.

THE MISSION GOAL

You are tasked with collecting the trace residue for **ten (10) travelers**. This residue is linked to physical objects (**trace objects**) that you must discover by exploring the space that you will find yourself in. Trace objects tend to congregate -- **you should always be able to see your next destination** from where you stand.

The utmost discretion is necessary in order to prevent Earthlings from realizing that there are time travelers among them. Use your standard-issue uniform (described below) to shield yourself from view when scanning, and use all of your guile to be **as stealthy as possible**.

COLLECTING TRACES

This trace residue is highly unstable. Each trace object has **five (5) components**. You must collect **all five (5) components** related to a trace before you move on to the next trace object. Failure to do so will result in the **permanent, catastrophic loss of all data** related to that trace. We would be very disappointed if this happened. If this occurs, please continue on to the next trace and be sure to **scan ALL components** -- otherwise, you also risk remaining **stuck in this era**.

To scan a trace, place your scanner on different parts of the trace object and either read or listen to the decoded trace component. You must listen to the entirety of the component before moving on.

YOUR EQUIPMENT

1. [NEAR-FIELD COMMUNICATION SCANNER]

This scanner, which connects to the field computer, must be placed in proximity to a trace object in order to record its components.

2. [FIELD COMPUTER AND DATA DECODER/RECORDER]

This handheld computer is vital for decoding and recording the traces that you scan, as well as for receiving messages from your handler. Without it, you would also be stranded in the era that you are visiting. Treat it with care!

3. [STANDARD ISSUE INFINITY SCARF]

This standard-issue uniform is designed to be versatile, stealthy, and fit many forms. Wear it any way that you wish in order to enhance your stealth abilities. You may use it in order to conceal your equipment, hide your face, keep yourself warm and dry, or to charm Earthlings with your fashionable appearance. The only limit is your imagination!

MISSION COMPLETE?

Time Travel can be disorienting. When you have finished collecting the traces from all ten (10) travelers, seek the object that says **"Go Home?"** on it, and scan it for further instructions.

WARNINGS

Earth in the early 21st is a dangerous place for trans people, and some of the traces that you uncover will no doubt contain **evidence of transphobia and even violence against trans people**. Please prepare yourself any way that you need to. If this is not the mission for you, please inform the handler and they will assist you.

IN CLOSING...

*Please remember **to scan all five (5)** components on each trace object in order to prevent permanent catastrophic data loss and trace destabilisation.

*Please remember to **use the utmost discretion** while scanning the trace objects -- do not allow Earthlings to witness the process!

Have no fear -- you have trained for this moment. You would not have been chosen if you were not ready. And remember...

All of this has happened before.

Appendix D: Rules for *ACT 'NORMAL'*

"ACT 'NORMAL'"

(Working Title)

A COMPANION LARP FOR *TRACES*

A larp for 6 or more humans.

What is 2019 *like*?

Your goal for this larp is to embody the spirit of 2019 as a particular character that you would expect to meet in 2019. Cosplay and caricature are welcome. Your role is to animate the space around you as you go about your "normcore" 2019 life. You can think of yourself like an actor or a non-playable character ("NPC") in a video game, or as someone attending a costume party in-character, in that your performance should not send any *TRACES* playthroughs totally off the rails in terms of its volume or disruptiveness.

PRIOR TO THE GAME

1. Think about who your character is. What are their priorities? What is particular about their experience in this era? What would they dress like? What's their name? How old are they? Do they have a landline or are they strictly a cell phone kind of person? What's their side-hustle?
2. Feel free to gather props and a costume to help you get into character.
3. Invite a friend to come play with you if you like!

RULES FOR ENGAGING WITH OTHER INHABITANTS OF 2019

1. Never touch any other player without consent. Try to make yourself visible as you approach other players.
2. Feel free to wander around and chat with other *2019ers*. Share your best memes and pet photos, talk about what's streaming on the internet, and generally try to embody the *spirit of the age*.
3. It is totally okay to just sit and read a book, knit a scarf, or play around on your phone or computer if that is what your character would be doing or if that's what you feel like doing. Enjoy the view and hang out!

RULES FOR ENGAGING WITH *TIME TRAVELER* PLAYERS

You will recognize Time Travelers by their **brown infinity scarf uniform** (worn in many fashions) or by **their scanner (large, purple and black)**. You can think of yourself like an actor or a non-playable character ("NPC") in a video game, or as someone attending a costume party in-character, in that your performance should not send any TRACES playthroughs totally off the rails in terms of its volume or disruptiveness. **NOTE:** As a regular person from 2019, you can see the time travelers and their equipment, but you cannot see the traces/objects they are trying to scan.

1. Never touch any other player without consent. Try to make yourself visible as you approach other players.
2. While chatting with other locals, keep a surreptitious eye on Time Traveler players who approach the object that you are "guarding." Try to keep your conversation with other inhabitants of the era quiet enough that the time travelers can hear the audio of the game.
3. If they are not attempting to be stealthy or cautious, give them a few chances. You decide how many. Even if they're bad at being stealthy or cautious, the point is for them to be *trying*.
4. If you notice that they are continually very obvious about what they are doing, approach them and engage in conversation. If someone else is already talking to them, look at them intently and somewhat suspiciously instead of approaching.

Depending on what character you are playing, you could ask them if they are lost or need assistance, inform them that this is a no-loitering area, or ask them if they saw *Game of Phones* last week.

5. Always let them leave (and encourage them to continue on their way) after a nosy minute or so.

Appendix E: Digital Journal Entries

PLEASE NOTE: To view these posts in their original context and with their original formatting and images please visit <https://jeka.games/category/dissertation/> as well as <https://jeka.games/category/autoethnography/>, or contact Jess Rowan Marcotte at jess.ro.marcotte@gmail.com. Entries referred to in the text of the dissertation are linked as needed in the bibliography with full citation material.

January 17, 2018

UPDATES AND PLANS FOR JANUARY

administrative, autoethnography, critical making, dissertation, research

First post of 2018! First, some updates, then, some research work.

Here's what's going on with me and my work currently:

— I have applied for a legal name change. Update your contact lists — you should now have me as Jess Rowan Marcotte!

— My partner and I are likely moving in the next few months.

— Got a number of papers and conference proposals in.

— I will continue to work as part of the Reflective Games research group this spring. So far, I'm continuing to focus on larps and theatre. Right now, I'm thinking through and researching the "language" and "mechanics" of short-handing information in nanolarps. More writing on this to come soon, I think!

— I've submitted my dissertation proposal along with a two and half year timeline for completing my thesis-related creative work, autoethnographic study, archival practices, and the dissertation detailing all of this. This work will begin in earnest on February 1st, pending my updated ethics certificate and hopefully receiving a passing grade for the proposal.

— I am spending January tying up a few loose ends, setting up a museum exhibit that I helped to curate at THEMUSEUM in Kitchener-Waterloo called INTERPLAY: Thinking Through Games (see the exhibit description here:

<https://themuseum.ca/exhibitions/current-exhibitions/digital-dynamics-2018/interplay/>), and running and participating in Global Game Jam 2018 at the TAG location.

— I have been reading more on autoethnography, which continues to prove itself to be a method with deep ties to intersectionality and feminism. My latest readings (& re-readings) have been Autoethnography: Understanding Qualitative Research by Tony E. Adams, Stacy Holman

Jones, and Carolyn Ellis (Oxford UP 2015), *Critical Autoethnography: Intersecting Cultural Identities in Everyday Life* edited by Robin M. Boylorn & Mark P. Orbe (Routledge 2016 — first published by Left Coast Press 2014), and Heewon Chang's *Autoethnography as Method* (Routledge 2016 — first published by Left Coast Press 2008).

Heewon Chang's work has been the most useful from a practical "how do I get started" standpoint, and, with that in mind, I've adapted some of the exercises from *Autoethnography as Method* as I begin collecting what Chang calls "personal memory data." My goal for January is to try and get as much of the preliminary investigation into personal memory data as possible finished. So, this blog is going to be a mix of personal memory data posts and Reflective Games research for a while.

One of the differences between much of the autoethnographical work I have been reading and what I am undertaking in my dissertation is that my focus is primarily on my identity as a creator and game designer. What I mean to say is that the group that I am studying are game designers, not members of a marginalized group or who necessarily share a particular identity beyond the fact that they are designers and academics working in the field of games and game studies — and those identities are far from unified wholes. That's not necessarily totally different from what other autoethnographers are doing, but there are some key differences in the kind of subject matter I'll be addressing. I wasn't "born" as a part of this group in the way that I was born into other identities. My own positionality and intersections (and those of others) will of course be a part of this research, but nevertheless, many of the exercises suggested have to be adapted.

The exercise that I've decided to start off my personal memory data collection process with is from Chapter 5 of *Autoethnography as Method* — it's Exercise 5.6: "List five artifacts, in order of importance, that represent your culture and briefly describe what each artifact represents. Select one and expound on the cultural meaning of this artifact in your life."

Using this exercise as a starting prompt, I've decided to do multiple lists of artefacts with a focus on my identities as a player and as a designer. I'm planning to write a little bit about each artefact, and I've decided that I'll place them first in a chronological order, and then later try to rank them by order of importance. I'm also going to write as much as comes out, drawing connections and pointing out gaps for future exploration or thoughts that are in tension as I go. This part of the process will be of course be in danger of being in large part revisionist, but knowing what I think is important in this moment and having some thoughts about why I think that's the case should still be helpful. So, look out for a series of artefact lists related to play, digital play, and game design coming your way in the next little while.

Thanks for reading! Here comes a lot of dissertation work!

February 7, 2018

DISSERTATION AUTOETHNOGRAPHY: JOURNAL ENTRY #1
autoethnography

February 1st marked the start date for my autoethnographical data collection and the death of my Uncle Roger. I guess that if there is a method that takes particular care to acknowledge how personal factors and lived experiences affect research, it would be autoethnography.

The year has been off to a rough, complicated start, and I think that it is important that I be candid about that so that there's a record of the ebbs and flows and complicating factors related to my creative practice. My uncle's death, followed closely by the birth of a new nibling (a gender neutral term for niece/nephew), alongside my exhaustion from dealing with uncertainty related to my spouse's employment, and the fact that doctorates are known to be stressful for one's mental health, are all examples of the things that are keeping me from focusing as much as I would like to on my dissertation work. I have been having a hard time focusing on my work, and have been noticing some early warning signs for burnout. I am doing my best to be patient with myself, say no to as many things as possible, and take breaks when things aren't working. I'm already feeling much better.

Although I'm not behind on my dissertation schedule quite yet, there are a number of blog posts that I have intended to write that I haven't yet. Some are in progress, such as an adapted form of Exercise 5.6 from Heewon Chang's *Autoethnography as Method*, and others are a part of my creative process (such as writing about the creation of my global game jam game, *transgalactica*, which you can [play here](#)). Since you're reading this, that means I've managed to get some work down, so here's hoping that I can keep that up!

In terms of my new project, what I will say for now is that I have been toying about the idea of working with puppets for some time now. Here's the history of the project so far as I can reconstruct it: I took a course called *Objects, Agency and Material Performance* with Mark Sussman, and some of the discussions centered around puppets. As part of this course, I attended a puppetry performance involving a bunraku-style puppet (in the sense that it was controlled by three operators) called *The Table* — [see a trailer here](#).

Then, last spring, Dietrich Squinkifer & I talked about making a series of games in suitcases, one of which would involve puppets and soft circuits. I was signed up for a puppet creation workshop in the summer, but the workshop was cancelled. This year, a game that ostensibly used puppets as alternative controllers made the alt.ctrl.GDC lineup, and I have several critiques of the game's design. For one, it is still screen-based, drawing the focus away from the puppets, involving a series of minigames that, from what I can tell, are played by pressing a button on top of the puppet's head (I find this disappointing since there are so many other possible interactions to do with puppets). For my first dissertation project, after discussions with my supervisor, other game designers, and my partner, I've decided that I'll use puppets as a

starting point despite the disappointing GDC puppet game. I am thinking that I may want to work with bunraku-inspired puppets because I'm interested in playing with distributed agency and having players either collaborate or have differing agendas, but needing to maybe keep up the facade of unity and make the puppet work as best they can. I've barely started to think about what gameplay might be like, or what I might like to do.

Today, with this puppet project in mind, I managed to sit in at the last minute on part one of a soft circuit workshop at the Milieux Institute, given by Marc Beaulieu and Genevieve Moisan. I've worked extensively with the Makey Makey, but not with many sensors or circuits more complicated than that. The project that my team chose to work on (the workshop will continue next week) was proposed by a person named Pat, whose father has Alzheimer's and benefits from tactile stimulation. She had been thinking about making a fidget quilt or mat for him for some time. So, today, we thought through what that project would look like with three separate interactions that would be tailored specifically to her father and his personal history. By the end of the workshop, we decided that we probably needed to scope down, and that Pat would then be able to extend the project later on.

I learned a lot, though I still need practice drawing circuits and making sure that everything that needs power or input gets what it needs. It's amazing how much working with more complex computers and boards handle for you. Sensors are exciting but mysterious things that I can break or short-circuit if I wire them wrong. I think much bread boarding will be needed. I'll need to work more with smaller, possibly wireless electronics to make a project like this work, I think.

So. Life is happening all around me, and it's seriously messing with my best laid plans! But, I trust the schedule that I've set for myself, and I'll do my best to take care of myself as needed.

February 20, 2018

**AUTOETHNOGRAPHY: PERSONAL MEMORY DATA COLLECTION – EXERCISE 5.6
ARTEFACTS OF PLAY**

adventures in gaming, autoethnography, dissertation, Process Writing

Using Exercise 5.6 from Heewon Chang’s *Autoethnography as Method* (“List five artifacts, in order of importance, that represent your culture and briefly describe what each artifact represents. Select one and expound on the cultural meaning of this article in your life.”) as a prompt, I’m going to use these artefacts to talk about my history with artefacts of play and artefacts of design.

In trying to write these lists, I’m aware of the difficulty of the word “importance” — my play and design practices have existed for a long time now, and it’s difficult to know what to give weight to. On the one hand, I could list “firsts” — but are the first games I played actually any more important for being first? There’s also games that I played often or repeatedly, not necessarily because they were particularly good or important games to me, but because they were there. In some cases, I just “remember” certain artefacts vividly — is the fact that they are memorable important? At any rate, I’ve done my best to make these lists without worrying too much about whether I’ve got all the most important ones down, and with a multi-faceted understanding of what the term “important” might mean.

Here’s the first list, five artefacts of play. Writing about myself in great detail is less easy than I thought it would be!

ARTEFACTS OF PLAY, BOTH DIGITAL AND PHYSICAL

* My mother’s brown silk skirt: I used to borrow this skirt constantly to wear it as a cape, or to pretend to be a two-headed monster with a friend. Dress-up and imagination-based games were very important to me as a child. I loved to play pretend. Nowadays, I still enjoy making costumes and cosplaying, and making objects, and I play tabletop RPGs all the time.

* My brother’s PlayStation 2: Many of the early gaming experiences that I remember were with the SNES and then the original PlayStation. I remember having a very limited set of games, which meant that I had to replay or watch my brother replay the same games over and over again. When our household finally got a PlayStation 2, I also got my own memory card, which was important because it was mine to save what I wanted on it. I remember the saved game icons, like the badges that I had earned as a Scout, lined up in rows. What’s important about the PlayStation 2 is that when we finally got one, I was old enough to buy games for myself, if I saved up enough money. The first game I remember buying for myself was *Final Fantasy VII*, years after it came out. Things are a little fuzzy — it’s hard to remember what I played first. I remember playing the *Monster Rancher* series, where game discs and others were special

artefacts that could gain me unusual fantastic creatures...or often just boring old “Mochi”, the game’s mascot, designed to look like a Japanese treat that I didn’t try until I was an adult.

Even later, I often replayed the same games again and again because I couldn’t afford new ones. One of the games I remember renting most often was Wild Arms, a JRPG with puzzle elements where different characters had different special abilities that could solve puzzles in the dungeons. It was a compelling little game, but the copies that I had access to — one borrowed from a friend of my brother’s, and one rented from Game Zone, my rental spot of choice, always froze at the same point in the game when I played it on our PlayStation. The PlayStation 2 was better able to handle any scratches or flaws on discs, and so I was able to play past that point in the game on the rented disc. I remember longing to own a copy, and finally got one as a gift a few years ago.

I spent a lot of time on that PlayStation 2.

* JRPGs: My games of choice as a child were JRPGs. I especially played the Final Fantasy series, because they had a good reputation and I had limited disposable income, which made it harder to take chances on games. Lately, I have been replaying certain “classic” games that I own copies of with my spouse, including Final Fantasy X, Chrono Trigger, and Chrono Cross. Small moments in the play call to mind my childhood and my earlier formative game-playing experiences. I remember that I played Chrono Cross before I ever played Chrono Trigger, meaning that some references in the game to the other series were totally lost on me the first time around. I remember that one of my best friends’ brothers introduced me to Chrono Trigger, saying how he could choose to do the final boss battle right now, at any time, but that he would get his butt kicked if he did. At the time, I was intrigued, but had no idea who Lavos was.

* A Football: My dad was part of an amateur touch-football league for something like fifteen years. When I was about five years old, my brother started to play football with a local tackle football league. Every game, I would ask the coaches if I could play, and they would tell me “come back when you’re seven.” So I did, and from the ages of seven to twelve, I played in a boys’ tackle football league. I played snapper, offensive line, defensive line, defensive back, tight end, and specialty teams. At that age, I had hit a growth spurt before the other kids on my team, and I was pretty strong and coordinated. I learned a lot from this experience, about what it meant to be a “girl” in a patriarchy, about cooperation and being a part of a team, and about persistence. I also learned that I loved to tackle things and play in the mud. Rainy practices were the best practices. In addition to our taste in books and games, football is something that I share with my brother and father.

* My First Set of Dice: I started playing Dungeons & Dragons 3.5 Edition when I was seventeen years old, and I still have the first set of dice that I bought. They are simple, black and white dice. When my spouse tried to test their balance using the old heavily-salted water technique, they wouldn’t float. Over the years, I’ve garnered a reputation for being unnaturally lucky with dice — and not just these ones. I don’t roll a twenty every time, but my character stats, now

always rolled under close observation, are always a bit better than normal, and I have been known to come through dramatically in a pinch when playing Battlestar Galactica and piloting. For the past few years, I have played a tabletop roleplaying game once a week (barring any unforeseen scheduling issues) with the same group of people. I've played multiple campaigns of Dungeons & Dragons, Pathfinder, Call of Cthulhu, Hunter: The Vigil, Ogg, Chaosium, Fate SRD, Fate Accelerated, Honey Heist, Fiasco!, Microscope, Kingdom, The Quiet Year, and many a random one-shot. Even when I'm at my most busy and can't seem to make any time for leisure, I am usually still attending my weekly game night. So, tabletop games, and my dice, are constant companions of play for me.

March 13, 2018

**AUTOETHNOGRAPHY: PERSONAL MEMORY DATA COLLECTION – EXERCISE 5.6
ARTEFACTS OF DESIGN**

autoethnography, critical making, dissertation, game jams, Process Writing, research

Using Exercise 5.6 from Heewon Chang’s Autoethnography as Method (“List five artifacts, in order of importance, that represent your culture and briefly describe what each artifact represents. Select one and expound on the cultural meaning of this article in your life.”) as a prompt, I’m going to talk about my history with artefacts of design. I already wrote about my “artefacts of play” here

[<https://tag.hexagram.ca/jekagames/autoethnography-personal-memory-data-collection-exercise-5-6-artefacts-play/>].

Of course, neither of these lists are exhaustive. In the artefacts of play list, for example, board games are notably absent, and I’ve spent many hours playing games like Battlestar Galactica or Betrayal at House on the Hill with friends. I may later try to do some kind of reconstructive timeline work to supplement them.

These lists are also deeply personal, despite the fact that I belong to a community at TAG and a broader “community.” It’s just overwhelming to try and pick out five canon artefacts. That’s because, let’s face it, everyone plays or has played in their life. It’s part of our development. And while maybe not everyone has “officially” designed a game, whatever that means, designing and adapting games and play is also a part of childhood play. So, with that said, here are my 5 Artefacts of Game Design, or, five important tools and influences on my game design process:

ARTEFACTS OF DESIGN

***Mindmaps**

Especially when working from a pre-determined theme, mapping out my ideas and writing things down on paper in a spatially-organized way has always been an effective way of coming up with a game for me. It also makes it much easier to retrace my lines of thought later. This is a very important design tool for me.

***Game Jams/Rapid Prototyping**

Looking at the roughly 30 games and game prototypes that I have made since January 2013, fully 21 originally started out as part of a rapid prototyping session (7 of them, with the first version made in less than a week) or as a game jam project (14 of them, with the first version usually made in 48 hours or less), whether later refined and reworked or otherwise. Having a playable version to refine and work with has been a key tool for me. It also helps me to discard what isn’t working before I have invested a lot of energy into it.

When I was studying creative writing, I was always more of a “short story” writer than a novelist or someone who wanted to sustain a long term project. I generally prefer to focus on one or two themes and ideas in a project, which I think is true of my game-making practice as well. I think that I can sustain longer term projects if I want — I have a current collaborative project that I have been working on for well over a year, and several other projects that took about six months of sustained work. But I haven’t yet found a project that I wanted to expand enough to make it into a single focus.

*Google Search Engine

The first game-making tool that I used (other than when someone else programmed my first video game ever during Global Game Jam 2013 in Unity) was Stencyl. From there, I moved on to Construct 2, then did a bit of Unity, and then learned Processing, then Phaser and some JavaScript, and now, I’m developping in JavaScript with whichever libraries are necessary to the project, and Unity once again for 3D projects (I’m not big on 3D for 3D’s sake at the moment — heck, I still need to learn how to make textures and align them). But, through it all, (and I normally use Duck Duck Go if I can help it), googling my problems has been a constant. I’d say that roughly half of my time spent programming is looking up code and figuring out how to make things work. Luckily, I’m very good at picking the right search engine terms. I would not have been able to develop games without a cracking good search engine as a resource.

*Duct Tape

Duct Tape is meant to represent two artistic practices for me — the first is “Making the most tin-foil, duct-tape version of a thing quickly” to test out concepts, and the other is how crafting and making physical objects is a core part of many of my games. I have always been a person who makes things. I enjoy prop-making, costume-making, sewing, sculpting, building structures, painting, drawing...

Luckily, I have been able to use these skills as part of my game-making practice with alternative controls. It’s been very useful to know about the materiality of things.

*The Desks of TAG Lab

I couldn’t think of an object that represented the role of collaborators in my process. Over the years, I’ve worked with many people in small teams (usually just 2-3 people) to make all sorts of projects. I’m very grateful to my collaborators — and each is listed on my games’ page next to the game(s) that we made together. I work best when I have other people to bounce ideas off of — and this is true even for my solo work. The reason I chose the Desks of TAG Lab as an artefact is because just sitting in the lab, amongst other people working, can lead to all sorts of conversations or collaborations, and the folk sitting there are usually willing to stop by for a quick chat, or, in the case of the talented programmers in the room, help me to answer particularly thorny coding questions. Even when working alone, talking about my work to others is very helpful. This is definitely a very important aspect of my process. Of my 30-ish projects, just 13 are solo endeavours.

So, a fair few of these objects are abstracted, or are strategies rather than physical things. There are definitely other influences I could talk about.

Community is definitely one of those things, in the form of MRGS, Pixelles, and TAG. I could also talk about the specific designers who had an impact on the way that I make games, or who made me feel like I had permission to make “weird” games any which way I chose — like Pippin Barr, who taught the Curious Games Studio (my first “formal” game design class). I could also talk about specific tools, and their affordances, and what they encouraged me to make, and what I learned from them. I will eventually talk about the three years that I spent my summers doing Critical Hit, first as a participant, then as an assistant, then as a co-director. These were definitely very formative experiences.

More on this as my autoethnography continues!

March 21, 2018

DISSERTATION: FIRST GAME UPDATE — PUPPETS, COSPLAY, MASKS

critical making, curious games, dissertation, Process Writing

Writing here as a record of what my process has been like of late in relation to this first dissertation game. The work is proving hard to get a handle on — for a number of reasons, I think.

So, lately, I've been reading about larps and I also just picked up and am about to read *Queer Game Studies*, edited by Bo Ruberg and Adrienne Shaw. Since what I have been absorbing reading-wise is larp related, it's perhaps unsurprising that I have had no trouble writing my latest larp once I settled on the topic. I completed a draft in just seven hours, and you can read that draft here: <https://jekagames.itch.io/queer-sleepover-witching-hour>

I have the materials that I need in order to experiment with making some objects for my latest game, but I am having trouble figuring out what I would like to explore in the game. The truth is, with everything that is going on in my personal life with my spouse's work, and my difficulties with living in Fort McMurray, not to mention that doctoral programs are not known to be stellar for one's mental health, I have been having trouble working at the same pace that I am used to. In January, I had to take a break because I was exhibiting burnout symptoms. The break seemed to work well, but I still haven't been able to return to my former pace of work, and although my symptoms are not nearly as bad as they were, I still am having much more trouble focusing than I am used to. My resilience is not what it used to be. I'm not who I used to be.

Maybe it will all get better if this situation ever resolves itself, but for now, I have to continuously remind myself to be kind to myself and not to rush the work. But I feel guilty not being productive and not making as much as I am used to (even though I've released like three games in the first three months of 2018 and have been doing plenty of reading, writing and other work – sheesh).

I've been having doubts about this game as a “puppet” game, and with the materials I've gathered, I find myself interested in maybe making a game with masks, or costumes. The problem with masks and costumes, I think, is that it is difficult to make something that will be “one size fits all” — because one size doesn't fit all. Nevertheless, I am considering the affordances of these different possibilities. One theme that is very present for me at the moment is mental health. It's a bit of a tired metaphor if I work it from the “masks” angle, so I would have to consider carefully what I want to say and how.

The puppets are causing me trouble possibly because of the relationship between puppet and audience, and the kinds of activities that puppets are used for. I want the interaction to be meaningful and supported by the digital components of the game. I find myself thinking of the Bird Game Collective's “Lovebirds” and how they made use of masks.

Amongst the materials that I have gathered to play with are three micro:bits, twenty-dollar microcontrollers developed by the BBC and brought to my attention by my colleague, Enric Llagostera. They are Bluetooth and radio-communication enabled straight out of the box, which is making me rethink my initial thoughts. I initially thought that the puppets would be easier to make and less likely to break if I had them interact with an environment that was wired up and close circuits using conductive material rather than having them wired up, since I didn't want to have to deal with strain on the wires and such. While that's probably true, I think that having interactions embedded in the puppets themselves probably gives me more interesting design possibilities. Maybe I should use a combination of both. I can also certainly find ways to protect the wires and avoid stretching them too badly.

Well, I wish I had some solutions and could get right into the making. I hope that this long, contemplative process will be well-worth it! I won't stop playing around with ideas, sketching, and trying to make stuff, though.

March 31, 2018

DISSERTATION: 50 GAME IDEAS WITH PUPPETS

critical making, dissertation, Process Writing

I am trying to decide whether or not to pursue this idea of a game with puppets, and so I have been doing my best to generate ideas. As I said to Rilla, my supervisor, the other day, it is hard to recapture what the idea generation process has been like on other occasions — whether ideas took time to form or whether they formed, whole-hog, when working on my own. Keeping in mind that I document fairly rigorously and do a lot of writing about my work, this already begins to show me the added value of the autoethnographic processes that I am employing for my dissertation. I can't imagine what it would be like to try to retrace my creative process if I weren't documenting so much.

I ambitiously started out this list with the notion that I would come up with 100 of these ideas, but I've been at this since Tuesday evening, and I honestly think that I have got what I needed from the exercise. So, instead, I shortened the number to 50. Even coming up with 50 ideas was very challenging. Sitting in front of the computer and trying to generate ideas without distractions was worse than useless. I had to have input coming into my brain from all sorts of different sources in order to come up with anything that I found interesting — but that also meant not coming up with ideas and playing/experiencing/doing other things.

And it is hard to keep a record of the hundreds of things that one might encounter in one's day to day life. In this case, I'm making a concerted effort, so I can say that I've consumed Korean boyband videos (BTS, specifically), I finished co-playing Wild Arms with Tom and have started Final Fantasy VIII, I had my tarot read by a friend and fellow academic, I have read a fair number of sad news articles related to a missing boy in Montreal, and to police brutality and abuses of the Canadian Justice system, I've played with my cat, listened to Welcome To Night Vale, pulled out my own Tarot deck for inspiration, as well as Rilla Khaled and Christopher Moore's Onkalo/deep time-related "We Should Just" card project, as well as Padgett Powell's Interrogative Mood, and I've done a heck of a lot of sketching.

Nevertheless, there are loads of blank spots here, and tiny tasks here and there, like grocery shopping, or answering emails, that are no doubt influencing my thinking. I guess even if I can't unearth the whole of this...I dunno, creative artefact... that I'm trying to preserve, I have to settle for doing my best, and not worry too much about the gaps. There will always be gaps, right? Like the gaps between un verbalized thoughts and impressions and language, for starters, or all the processes going on inside my head that are outside of the scope of even a dedicated autoethnographic dissertation, and what I might have dreamt and forgotten about during the night.

Well, without any further musing for the moment... Here are 50 puppet game ideas, with or without digital aspects, and without regard as to whether the ideas are any good, or whether they are “critical”:

1. a game where the embedded microbits on the puppet change colour and give simple (or not simple) behaviour cues for players to follow (possibly a mood change)
2. a game where players dress the characters up according to a specific set of rules that is reflected in play — possibly character roles, possibly something to do with gender roles
3. a game where you learn the basic rules and approaches to puppeteering
4. a game where you have to convince a small child that the puppet is a living and breathing entity
5. a puppeteering game where the first person to laugh loses a point
6. Coffee: A Misunderstanding, but with the puppets puppeteering puppets and trying to throw their voices
7. Rockband/Guitar Hero but with puppets and their actions and dialogue, or lip-synching songs
8. A Puppet Cooking Show where there are different connections and switches which are closed/open based on where you place the materials down.
9. A game about the uncanny valley but from the puppets’ point-of-view
10. A game where you reenact famous scenes from movies or moments in history, but with puppets.
11. A game with very flirty puppets who are trying to teach humans how to flirt
12. Puppets singing songs about gender from musicals (ie Mulan’s “I’ll Make a Man Out of You”)
14. A dress-up game where you have to dress the puppets according to a stereotype based on the available clothing
15. A game where you have to have awkward holiday dinner conversations and each player puts words in their puppet’s mouth that they might expect to hear from a particular diner (i.e. the racist uncle at Thanksgiving trope)

16. A game where puppets representing the able-bodied, ridiculously-athletic characters from video games talk about their invisible chronic pain and how they still can't stop performing if the players won't stop playing.
17. A game where puppets build a Utopia together & we get to see what players define their Puppet's Utopia as.
18. A game where some puppets are ocean creatures and some puppets are plastic from the Great Pacific Garbage Patch, and the plastic has to kill off the ocean creatures by convincing them to eat them (i.e. a plastic bag pretending it is a jellyfish).
19. A game about climate change denial where a digital thermometer slowly heats up and the players simulate the effects on their world through the magic of theatre, while others play politicians and other humans trying to deny that it is happening or that it is our fault. At the end of the game, everyone loses. The lobbyists and politicians are entombed with their piles of money.
20. A game about the idea that "infinite growth is the ideology of the cancer cell"
21. A game where humanity is on trial and there's no one left to defend it
22. The spiritual successor to Magical Girl Olympics, except it's Eidolon, Aeon, Guardian, etc, transformation sequences.
23. To recreate famous paintings with puppets.
24. Friends use puppets to do impressions of each other, highlighting their best qualities.
25. A game where you make a very padded puppet, convince your cat it is alive, and wrestle your cat with the puppet
26. a game about the anatomy of puppets
27. Puppets deconstructing 50 Shades of Grey together & talking about consent, BDSM, and kink
28. A game where humans are practically extinct and puppets must build a new society together. What is a puppet idea of Utopia?
29. A game where puppets are jealous of human agency and want to puppeteer/take control of them! Jinkies!

30. A game about Kpop fan culture where all the puppets are secret boyfriends (fanservice and perceptions and queerbaiting).
31. A game about queerbaiting in the media where the puppets perform typical queerbaiting activities
32. A game where a player tells a story about a dream that they had recently, and puppets reenact the dream, even the parts that don't make very much sense.
33. a game about negotiating consent between a puppeteer and the puppet– “you're going to put your hand WHERE?”
34. A puppet seance where the humans are spirits who possess the attendees
35. A Sesame Street rip-off regarding gentrification and social justice (& Oscar the Grouch)
36. A game where you use puppets to tell stories from your ancestors/grandparents.
37. Wipeout, but you're trying to contort puppets into the correct shapes.
38. A game where the Puppets can transform into other kinds of puppets to show their affective responses (like the double-headed doll I have from my aunt that has a happy side and a sad side).
39. Zombie Puppet Game: a game where the virulent PUPT Virus — an even more catching version of the IMPRV Virus, causes people to spontaneously become puppeteers. “Infected” players have to hide their status in creative ways to pretend they're not infected and then suddenly reveal their puppets to non-infected players to turn them into puppeteers.
40. A game where three people control 1 puppet, representing various forces in the world acting upon us humans when we “try to do the right thing”
41. A game about the similarities and differences between puppets and avatars.
42. Debate club, but with puppets.
43. Human Dressage for the Distinguished Puppet — Players play puppets leading the human puppeteer through an obstacle course.
44. Puppets doing their own action-movie stunts.
45. Puppet Hair Salon where the puppets cut hair in the same way that Cookie Monster eats cookies. The hair in question is wigs, probably.

46. A Larp game where the puppets are the human players' consciences and they always tell the truth about things the players might feel bad about, which everyone can hear, but must not acknowledge it directly in-game because it is meta-knowledge.

47. A game where everyone acts like the puppeteers don't exist and the puppets are regular-butt humans, except for one person.

48. A puppeteer-off where the humans have to puppeteer increasingly abstracted puppets, until they are puppeteering things like sponges and spatulas. Three judges.

49. A Giant Game of Chess where each piece is a puppet and the teams engage in puppeteered combat each time a square is challenged.

50. A game where the puppets gesticulate and act things out, and two other players "subtitle"/"dub" the conversation according to what they think is going on.

April 9, 2018

DISSERTATION: GAME IDEA – FLIP THE SCRIPT

critical making, dissertation, Process Writing

Coming up with 50 Puppet game ideas at the end of last month really did help unblock me creatively, and I think that I will be moving forward in making a game with puppets. I'm still refining the idea, but here are my rough notes about what the game might look like:

FLIP THE SCRIPT

“A game where a player narrates a negative interaction/experience that they had from start to finish. Then, the players act out this experience with puppets, deciding on roles among them. At any time, a player (any player) can “activate” a signal for “flipping the script” — this means that they want to interject with a redo of an action or statement with how they think it should have gone instead/how they wish it would have gone. The ‘flip the script’ button causes LEDs to light up (flashing rainbows, probably) on both the puppets and some kind of device that the narrator would hold. Together, action by action/sentence by sentence, the players improvise a “flipped script” version of the incident. At the end of the game, together, the players get to add to a Master document of ‘wishes’ for how other humans would treat them, deciding together on what their addition should be, or things they would like to see in the world. Inspired by Boal and Theatre of the Oppressed, improv inspirations from the “Shoulda said” game, and by Snafu Dance Theatre’s Snack Food Music show.

I’d use the micro:bits for the signal and for making the LEDs flash — maybe the signal for getting the leds to flash is covering them or something like that (since they can be used as light sensors), or maybe a puppet bringing its hands together for a certain amount of time (this could also be the case for the human narrator if the human wore gloves, but maybe they could just press a darn button). It probably has to be pretty instantaneous so that the scene can be interrupted quickly, but it should also be something that’s unlikely to happen accidentally. Maybe Arduino Gemma?

Because I want the game to be flexible in terms of content and length, and mostly improvised, I am finding less use for “puppets as controllers” than I thought I might. If the game were more “gamified”, then I could easily see ways of making use of the puppet’s mouth or hands or other aspects (like, for example, the ‘guitar hero’ puppets game idea from my list).”

More on this as it happens!

May 2, 2018

DISSERTATION: AUTOETHNOGRAPHY AND ANXIETY

autoethnography, critical making, dissertation, Process Writing, reflective games, research

It's been a little over three weeks since my last update, which is because I have been largely focused on reading and writing about larps and nanolarp design from a critical, reflective point of view. I finished a solid first draft of this paper last Thursday, and am letting it sit a bit before I write a talk and make slides based on it for this year's CGSA conference in Regina. The paper is sitting at around 9500 words...which is a lot more than I intend to keep, so rewriting and editing is a future challenge on the docket.

I've been making some progress on my dissertation work since my last post. I have done some experimentation with the micro:bits that I ordered, and found that they do communicate in an easy, friendly way, as advertised.

I built code that displays a simple graphical pattern in LEDs when they receive a transmission from each other. This could be the signal for the "shoulda said" aspect of my first dissertation game. I also ordered a number of new electronic components: three Floras and a number of Neopixel rings that can easily be sewn onto textiles. I also made a sizable Fabricville order of different fleece materials for making puppets. This is reflected in the ads I am being shown on the internet, which have been asking me whether I would like to meet other single seniors in my area.

I have also bought a simple puppet pattern to give me an idea of what will be involved in making a traditional hand puppet. I feel confident in my ability to wing it, but that doesn't mean that one of these patterns won't turn out nicely, with a lot less effort on my part.

I've received updated ethics approval after submitting amendments regarding group playtesting!

I have also started to think about and draft the Background chapter of my dissertation. Though I'll no doubt have to add to it before my final dissertation, having a version of the background chapter seems like a good goal, especially since the other activity that I have been engaged in is a great deal of reading. In the past few weeks, that has taken the form of the larp research that I have been doing, but I am now reading Adrienne Shaw's *Gaming at the Edge*. A friend of mine has also recommended, based on a brief description of my planned dissertation game, that I read about Psychodrama, and loaned me a book with a chapter on it. Also, a project report about the followup to "Hybridex" has just been published about Hybrid games, and is just perfect for my background chapter.

The reason that one of the words in this blog title is "anxiety" is because I am feeling anxious about my dissertation. I understand that this is probably normal, but, I want to faithfully document these thoughts and feelings as well as I can for the autoethnographic process.

The first feeling, common to grad students and probably faculty members in academia everywhere, is that I am not getting enough done everyday. But, I know that I have been doing well, and doing a lot, on the whole, and making sure to take care of myself and others. I've done grocery shopping, gone to the gym, taken my cat for walks, cooked many sumptuous and delicious meals, and generally done a good job at those parts of being an adult human. I took care of my family and friends as well, being there for them emotionally, and finishing a first draft of two separate projects that I have been working on for about two years, with my father and my brother. I also wrote 9500 words in about two weeks. 9500 academic words! That's a lot — so it shouldn't surprise me that I'm feeling a bit tired, and haven't done as much writing on the Background chapter. The reading is going well, and it takes time to read — I have to remind myself of that as well.

The next source of anxiety is related to Tom's job, and unfortunately, there's not much I can say about that, except to say that some of my days have been spent helping him, and I have no regrets there.

The next feeling is the feeling of time pressure: if you know me, you may know that I occasionally call myself a reverse procrastinator — that I like to get things done long before they are due so that I don't have to worry about them. In planning my dissertation timeline, I wrote off January entirely and gave myself an additional two months for my first dissertation game project because I had a feeling that, with everything going on in my personal life, and with this being the first OFFICIAL PROJECT of my dissertation, that there might be some fumbling and stumbling blocks.

This brings us to what seems like a very important source of anxiety: designing the game itself. Generally speaking, when I make a project, I have the freedom to let the project be what it will be, take the time that it will take, and I don't have to worry that much about making an "amazing" game. I am feeling a lot of pressure, somehow, to make this first dissertation project the best game ever, and feel like somehow the scope has to be bigger than my usual work. But that's entirely not the point of these projects: I'm not studying whether the game that I make is any good, I am studying the process of making it and archiving it. I'm collecting data about the project and what people think about it. I'm studying my own game-making practice. I know that I will likely make better games, and I will likely make worse ones. I know that I also generally do my best work in small teams with other folks, and that for the most part, I intend these games to be solo. I know that I will be pushing against the limits of my skills, bettering myself, and learning entirely new skills.

Honestly, that's a lot of pressure to put on six months of work that will include so much of the other necessary parts of grad school, even if they aren't officially mandated: the reading, the writing, the preparing for conferences, the meetings, the interacting with the rest of my community. And yes, this all feeds into making this game, but at some point, I have to start making it.

Another problem with designing this game that I am having is that because I am putting heavy emphasis on the design of the physical objects involved, part of my brain is wary about working “for nothing”: I don’t want to start working on the physical crafting components, and have to scrap/restart them because the game has totally changed. Usually, that means I would just rapidly prototype with the cheapest available materials and be done with it. But that presents two problems at the moment:

— Fort McMurray is remote. I can’t just pop by the electronics store, the fabric store, or whatever other store to get more materials. There’s also no one or two-day shipping to Fort McMurray. If I need an object, I have to plan for it ahead of time.

— In this game, it feels like the interaction will only “feel” right and complete with the final objects because of their materiality. So, prototyping without a finished object is possible but presents some challenges for the imagination.

Another source of anxiety is working remotely in Fort McMurray: in addition to the difficulties sourcing materials, I am struggling with the fact that I am not in my usual creative environment. I have grown used to making things at the TAG lab, surrounded by other researchers, creators, and friends, and being able to casually discuss my project. I would much rather be working on these projects in Montreal.

...However, all of my crafting materials (and there is a lot of it) are up here in Fort McMurray, so popping back and forth to Montreal as I have been doing since the beginning of last year simply isn’t possible in this context. Or at least, it doesn’t feel very possible without a heck of a lot of money spent on checked baggage or shipping.

Thankfully, I should be moving back to Montreal soon. At the very latest, I am teaching a course in Winter 2019, and so I should be back in the city for my third dissertation project, at least.

This brings me to another very present source of anxiety or trepidation: Will this game be any good? Is “Flip the Script” a good idea? Won’t there be issues with constantly interrupting the play? How should I handle those issues? Should I make something a little less open with a little more story to it? Will this game be meaningful? Will it be reflective and critical? Am I taking advantage of the digital components enough? And, related to that: Am I running out of time?

Well...these are the things that are on my mind, and even just writing about them as been helpful. I hope this documentation will be helpful to future Jess as they write their dissertation. Certainly, the discussion about time limits, and the uncertainty about designing to spec and within certain limitations (that it has to be a game that explores physical-digital hybrid design, that it has to be made in roughly six months, that it should be about critical, reflective subjects) reminds me of my work with Rilla about critical game design, where a number of designers

designed according to a prompt that we provided (you can read our chapter in Game Design Research)

Your faithful autoethnographer,
Jess

May 17, 2018

DISSERTATION: PLANNING MY WAY FORWARD
 autoethnography, critical making, dissertation, Process Writing

Since my last update, I have spent a number of hours in design conversations with my spouse and my brother. These conversations helped me to greatly clarify what I should be doing to move forward with the design process for “Flip the Script.”

Talking to my brother in particular helped clarify what the design of the puppets ought to be like, regardless of whatever electronics wind up embedded in them. Basically, these puppets will all follow the “Project Puppet” pinhead pattern, and I will create accessories to make them customizable.

As we speak, I have a large plastic bag full of fleece, ready to be made into puppets, and I’ve got the pattern cut out and prepared. I hope to make the puppets in the next few weeks, before June 13th, when I will be leaving to come back to Montreal for three weeks with my spouse. During those three weeks, I plan to be working on a draft of my background chapter.

In these design conversations with my spouse and brother, I also talked about the rules. This clarified one of the problems I was having regarding interruption, and made me think that the game probably needs a few more steps of mediation to make it run smoothly — for example, letting the storyteller tell their story once all the way through, and then having the group decide on what the key moments that they would like to address in the retelling are.

So, here are my near-future goals for the game:

- Write out the Rules more formally.
- Make at least 3 puppets and some accessories for them
- Attach the NeoPixels to the Microbits and test
 (<https://microbit-micropython.readthedocs.io/en/latest/neopixel.html> — I have a different kind of NeoPixel, but I see no reason why this shouldn’t work)
- Figure out just how much technology/computational assistance is needed for the game beyond this.
- Figure out how the group’s coda/lesson/thoughts will be recorded at the end. Will there be a website? Will there be a twitter account?

More as it happens!

May 20, 2018

DISSERTATION: BUILDING HARLE THE PUPPET
critical making, dissertation, Process Writing

Yesterday, after roughly two days' work, I finished making the first puppet for "Flip the Script", so I wanted to drop a few notes about what the process was like:

— I thought I would be able to sew everything by machine, but a few different parts required me to whipstitch some fairly intense parts of the fabric — sewing the round faceplate into the puppet's face, sewing the neck to the body, and sewing the arms on. This made the process take so much longer than I expected, partially because I know how much wear and tear these puppets are going to face (so I may have been a bit overzealous with my reinforcing of the stitches).

— I couldn't find affordable reticulated/polyurethane foam for the skull and mouthplate of the puppet at first, so I instead used 6mm EVA foam. The resulting skull was quite blocky and firm, and pretty uncomfortable to handle. The mouthplate is very robust, and Harle's mouth hangs open unless it is being shut by a puppeteer. I eventually found thicker polyurethane foam at Wal-Mart (1" instead of 1/2") and I had to trim away at it with my scissors. For the next puppet, I am going to try and saw some polyurethane foam in half with an exacto, and see what comes of it. It will almost definitely be painstaking, but for what I need it for, it may do the trick.

— I bought ping-pong balls to use for eyes, and I compressed them inward in one spot to create an indented spot for the glue to hold and to make sure that the eyeballs would lay flat on the puppet's head. Unthinking, I applied hot glue to this spot, and to my surprise, it began to expand outward, far beyond the original shape of the ping-pong ball. I could have anticipated this if I had thought about the trapped air inside the ping-pong ball heating up and expanding, but alas, I did not. It was a bit of a mess, but I managed to clean everything up all right.

Throughout this process, which turned out to be a bit slower than originally anticipated, I began to think with the materials — which is exactly what I had been hoping to do originally. It made me realize that I didn't want to make generic puppets — I wanted to make characters that players could then choose as their assistants in the game. I like the idea of the puppets being actors or helpers to the players, rather than blank slates for them to project upon.

I have also been toying with the idea of having spots of velcro on the puppets where one can add accessories. I'm unsure about that for the moment. I am thinking that perhaps the electronics ought to be housed in vests/clothing on the puppets rather than sewn directly onto them.

Oh, I also found a number of tutorials doing exactly the sort of thing that I want to do with NeoPixels and the micro:bits (by which I mean, using NeoPixel rings with micro:bits).

On to the next puppet!

Your faithful autoethnographer

Jess

June 6, 2018

DISSERTATION: EARLY JUNE UPDATE AND NOTES ON LYING FALLOW
adventures in gaming, autoethnography, critical making, Process Writing, reflective games

I figured it was time for a little update from my notes and documentation!

So, since my last update, the project has moved forward considerably!

I also presented my Reflective Games research on a panel which I chaired at CGSA (the Canadian Games Studies Association) and had some great questions about it from other scholars, and had the chance to chair a talk by Kara Stone about Reparative Game Design and Time (in many forms — queer time, crip time, deep time). We got a lot of good questions and feedback, and I felt quite recharged by the conference.

To simplify things a little, beyond preparing for and presenting at CGSA, here are the...

Egh. As I opened the link to github with the intent of sharing my code repository, I found out about the news that github is being acquired by Microsoft, and I'm not too sure how to feel about that.

Well, at any rate, the code lives there for now, so here's a timeline of the progress since my last blog post, along with some short descriptions and pictures.

TIMELINE

May 20th-21st:

After finishing Harle, my first puppet, I got to work on a puppet that I came to call Avi. The names of the two colours of fleece that I bought from Fabricville were Guacamole and Chai Tea, and reminded me of the colours of the inside of an avocado. So, despite the fact that Avi looks a lot like a turtle, their look is actually avocado-inspired.

I was invited to an impromptu get-together at a friend's house, and I knew that I would have a lot of hand-sewing to do, based on Harle. So, I machine-sewed everything possible ahead of time, and brought my pins, fabric, stuffing, needle and thread over to this friend's house. I have found that I can watch, listen and speak while handsewing, and so while we conversed and others played board games, Avi's body came together. The next day, I added features like Avi's eyes and other details.

May 23rd-25th:

My friend Gina suggested that my third puppet should be a red dragon, complete with wings. I had been planning to use red fabric so that the puppets are each sort of in correspondence with CMY/RGB colour theory (Avi, while not Cyan, is both green and yellow). Since Drake was my third puppet, I felt confident enough to experiment with the design, particular when it came to character details. I had this vision of fringes and crests, and, measuring against the puppet's face, I free-handed a pattern on a piece of cardstock, cut it out, and used the same technique that is used to machine-sew the hands of the puppets to sew my fringes.

Yes, Drake is an obvious name for a dragon-inspired puppet, but I was also thinking of my Toronto friends who are huge Drake fans (in particular, the writers, artists and game designers).

May 26th-28th:

I spent the next few days working on Microbits/Neopixel code, and created a Git repository for this (not very reader-friendly but very small in size) code here.

I used the Microbits coding environment and their drag-and-drop code along with the Adafruit Neopixels package/library for the environment. It was astoundingly easy to get things up and running. I ran into a persistent problem using repetitive loops (like the While loop and the loop that allows you to repeat code multiple times) — the code couldn't be interrupted. That meant that I couldn't turn the signal off when I wanted to. That felt clunky, so instead, the LEDs animate a few times, and then continue to be their rainbow selves until the other button is pressed and they are turned off (this is something that I just updated yesterday, but didn't feel like I should separate from this section — it'll still get its own timeline entry!).

One major change was deciding to use one neopixel instead of two — basically, I didn't want to have wires hanging around everywhere and the one LED seemed sufficient for the signal.

May 28th:

Following that, I started to design vests to hold the electronics. While I could have embedded them directly onto the puppets, I felt that it would be better not to damage the puppets and also easy to develop an agile, changeable solution if the electronics were on something that the puppets wore instead. The vests are perhaps not the most aesthetic things in the world, but on the whole, I think that they look fine. I only had time to start the basics before having to pack and get ready for CGSA. At first, I thought of using my cat's harness pattern, but that seemed to take up too much fabric, and anyway, wasn't based on the same shape as the puppets. This gave me the idea of using the existing puppet pattern as a base. So, using the larger puppet back pattern, I slightly altered the shapes and left room for arm holes.

May 29th – June 2nd: I was at CGSA!

June 3rd-4th:

A whirlwind of staying up too late and sewing tiny vests for puppets! After designing the shape and ensuring that it worked, I had to design a pocket for the batteries (which I talked through with Tom), a way of making the Microbits buttons easier to use no matter a person's handedness/what hand they chose to put the puppet on, and decide on LED positioning. Tom helped me talk through the pocket decision, which due to the flexible positioning of the microbits (which are attached by velcro and can be repositioned), had to be in a specific orientation. Last night, I finished all three vests and they're all in working order.

June 4th: After finishing the vests, I tweaked the code, cleaning it up to reflect the single neopixel, turning down the brightness of the LEDs, and making it so that the second button turned the pixels to "black" or "off" instead of to the very-bright white setting.

And that brings us to now.

NOW!

I am ready to draft rules of play for the game, but I have started to do some reading to familiarize myself a little bit with the literature on psychodrama and on sociodrama (which may actually be more what I am aiming for — systems and the experiences of a group rather than necessarily individual experiences).

In terms of narrowing down the themes of the game, I have been thinking a lot about harassment, bullying, and microaggressions. This, I think, is the confluence of a few factors: some of my friends and colleagues have recently told me about harassment which they are experiencing, my own family is facing harassment and bullying, and I just watched Season 2 of *Thirteen Reasons Why*.

So, I'll be doing some reading and thinking before I sit down and commit to the rules.

On the Autoethnography side of things, I wanted to note the difficulty of tracing the influences on my thought process. This thought is based partially on this quote from a recent blog post by Pippin Barr about Translation Studies:

"One of the most difficult things about trying to actually talk about design is that it's so ephemeral much of the time. Even with the best will in the world and the determination to pause and reflect on your design work in the moment as you make decisions, it can be hard to think of how to even frame what you're doing, and thus hard to get words out. The most important thing

in that context is to actually know what you're trying to make, for which you can refer to design documents, artist statements, or similar. But even then it can be tricky to make the connections between some specific design decision and the high level statement of purpose."

To really note all the overheard bits of conversation, all of the media that I am consuming (willingly or not, whether it's the music playing in the grocery store, or an accidental glance at someone else's phone, or all the myriad things I might scroll past on social media) that might have an influence on my process, and still have this project be manageable in scope is...just not possible.

What I can do, and what I am doing is documenting, writing notes, and recording conversations when I can clearly say that yes, this is part of my design process. I am taking notes about the things that I am deliberately consuming and thinking about as part of this design process. But there is so much going on, and for both ethical and practical reasons, it can't all go in. So, the data is necessarily incomplete. I guess I have to make peace with that. I already have hours of conversation recorded.

On another note about productivity and scheduling: I was having a conversation with a friend and fellow designer this morning, and we were talking about what I'll summarize as the concept of "lying fallow" — I'm not sure if others have used this term before... I feel like the answer to that is yes. These thoughts are also definitely influenced by Kara Stone's CGSA talk, which is forthcoming as a paper, about Reparative Design. Increasingly, I am coming to recognize the importance of the times where a project is active but I am not working on it. This is something I think that I discussed in my writing earlier this year, in January and February, when I was experiencing burnout symptoms.

Now that this idea has had the time to lie fallow, all of a sudden, things are just coming together. It's a joy to work on it. It's a joy to talk about it. But it needed that time. And so did I — I think that, like a field that has given all it has to grow the previous seasons' crops, I needed to rest. I needed to be taking in information and thinking about the project without worrying too much about time. My past development cycles have definitely been about these bursts of activity, followed by refinement.

Having given six months to each game project (eight in the case of the first one, though I'm hoping to not need all of those extra months, in order to be able to build more of a buffer), and knowing that I also have to do things like writing and editing (for my dissertation, for publication) as well as teaching, and y'know, taking care of my physical and emotional needs, I know that my schedule is a lot. It can be difficult to feel okay about lying fallow, but ultimately, the past year has shown me that it is a necessity.

Your faithful autoethnographer,
Doing the best that they can,
Jess

June 28, 2018

DISSERTATION: FLIP THE SCRIPT! FIRST FULL PLAYTEST

adventures in gaming, critical making, dissertation, Process Writing, reflective games, research

Since my last post, I've been doing a lot of reading in order to revise an article for a journal. I also wrote a draft of the full rules for Flip the Script! The week before last, I got to talk about them with the Reflective Games Group, and run through some of the rules, which led me to rewrite my section on intersectionality. This week, we did a full playtest (which I recorded the audio for).

The playtest went well, on the whole, but I was astounded to find that the run time was two hours, and I will have to find a way to streamline that amount of time in the future. It's just too long to reasonably expect most festival players to commit to.

The major revisions that I plan to make other than trying to streamline the introductory parts is to try to use the LED interfaces in a different way. Squinky and I had criticized another puppet interface for just being buttons on the puppets' heads that did things in game, and it's true that this interface isn't as embedded into the puppets as I originally envisioned. The truth is that I didn't want to embed the electronics in places where I couldn't easily access them, in the end, and so we've got this current version where the electronics aren't even really sewn onto the puppets. And I've made my peace with that — it's a different game than what I thought it would be in terms of its use of technology.

But, at the moment, there was very little reason for players to use the technology, and players rightly suggested that maybe offloading more onto the tech and getting it more involved would do good things for the game. It was also suggested that maybe I could have my own microbit to send signals, especially if the meaning of those signals changed (like perhaps the players could switch roles, or a new character is introduced — maybe I could make each of these into a more formalized rule for each round, sort of like the way that the games change in "Whose Line Is It Anyway?" — I don't know why that specific reference comes to mind except that it's the same general concept each time, with specific rules for each individual game/scene. Another interesting idea that came up was what it would be like to play my other nanolarps using puppets instead of having the players play themselves.

It also occurs to me that I wound up using a blackboard to record notes from the session where all the players could see them this time, and that I will want to do that in the future. That means I'll have to get a carry-on sized whiteboard (possibly at the dollar store, possibly a picture frame with plastic or glass in the frame?) to do so in the future.

The subject that we wound up discussing in this game was the concept of the “good” migrant, explicitly asking “what does it mean to be a ‘good’ migrant?” To contextualize this, we were problematizing the idea of a good migrant while also recognizing that many nationalists and other people have expectations of what good migrants are, even if those expectations might be subconscious. We unpacked those in the context of apartment hunting.

I feel good about the playtesting, though, again, astounded that it took so long.

This is the statement that the players and I jointly came up with for our playthrough to release out into the world:

“Use what privilege you have to act in concrete, actionable solidarity.”

July 17, 2018

DISSERTATION: RHYTHMS OF WORK & PLAY

autoethnography, critical making, dissertation, playtest, Process Writing

The interesting thing about my dissertation is that I've managed to be both ahead and behind my schedule at the same time.

I expected to finish Flip the Script! at the end of August, and to start playtesting in September, but I think that the game is close to reaching its final form now (as I've done early playtesting and the concept works, but the design work I've done since then is to make better, more interesting use of the technology involved). In this period, I'm also supposed to be writing first drafts of my background and methodology chapters.

As I wrote the last time that I updated you all, I've spent a fair bit of time reading (and now rewriting). Last week, I spent roughly 6 or 7 ten-hour days completely rewriting an article, basically from scratch, for publication to include the requested revisions (after all, I read 19+ sources to better inform myself on the field that I am making a foray into). The sources turned out to be very, very helpful and gave me a lot to think about. I think the resulting article is many orders of magnitude better than the original.

So, now, having finished a draft, a fair number of generous people have agreed to read the draft. Since the revisions to the article are due on the 25th, I've asked commenters to finish reading for the 21st.

When I finished a draft on Saturday night, I felt drained, and I promised myself that I would take the next day off. Of course, when Sunday came along, having slept, and having already received some feedback, I immediately felt guilty and unable to really relax and take a break. This is an issue with graduate studies, but it's also an issue with modern work: many of us could literally always be working. It's exhausting, it's toxic, and I don't know exactly how to teach myself not to feel that way. I reasoned to myself that it would make more sense to gather more feedback and address it all at once, rather than rewriting as people were reading and commenting.

At the same time, while waiting for the comments, I find myself with some free/liminal time. I feel the need to keep myself thinking about the article in progress, rather than moving onto the background (lit review) and the methodology chapters. I think it would be difficult to switch modes. That leaves, then, playtesting my game. Although I am only scheduled to playtest it in September, my September is functionally gone: I will be away in Europe attending Ars Electronica and doing a bit of traveling from September 4th-18th, I'll be in Hamilton around the 20th, I'm giving a guest lecture on the 27th, and QGCon is happening on the 29th and 30th of September. That's basically all of September, gone — or at least, trying to schedule a playtest at an appropriate time for my game seems ill-advised.

The third factor in all this is what I have to give of myself in exchange for running a playtest, especially one for which I'm collecting Very Important Data for my dissertation. My games often require me to facilitate them — my knowledge, my (eventually acquired) ease with the patten and “game mastering” of a particular game are necessary to the game, especially when it comes to these physical-digital hybrids addressing intersectional issues. When I am at my most resilient, this is not an issue. I've spent eight hours at a time getting people to play a game about consent (In Tune), or facilitating play about emotional labour (The Truly Terrific Traveling Troubleshooter).

Was I just younger then (a few months ago)? Or was I just less tired? I think the truth is that there are issues facing my partner (and therefore both of us) that are weighing me down, taking up energy that I would rather give to my art. This affirms my belief that the whole “suffering for art” thing is bullshit — while suffering might give you lived experiences, it's a lot harder (at least for me) to make creative work when I am exhausted, or unhappy. I can't really speak much publicly about what is going on, but I know that it is well and truly sapping me.

So, this week, feeling guilty about not working, feeling unable to move onto other writing until I have settled this article, and feeling too exhausted to do the labour of actually planning playtests in the short term, I find myself trying to find better ways of working. I find myself doing the small things that I have put off. I find myself trying to recover and recharge, reminding myself that breaks and relaxation are essential.

Yesterday, for example, I revamped this website, added sections, reworked the games section to be more usable (rather than just a chronological listing of my projects), added more of a history to where I've showcased games, what I'm up to, and where I'll be in the future.

Yesterday, the thought also came to me, inspired by Pippin Barr, to use tinyletter to communicate with people who might want to play my games. The prospect of reaching out repeatedly to mailing lists full of people who may or may not want to hear from me felt exhausting, along with the work of trying to organize playtests, let alone running them when they require my continuous, present, attentive moderation. So, to gather potential playtesters, I made a tinyletter and shared it in my networks. I've been pleasantly surprised by the numbers so far — people are being very generous with their time (or at least their willingness to be contacted) for playtesting. If you're local to Montreal (and even if you're not), you can sign up for it here.

I'm also trying to just listen to my body and let myself rest. So far, since Sunday, the guilt has subsided a fair bit. After all, it is the summer. Once this article is done, I can move onto other academic writing and scheduling playtesters with the people who have signed up for my mailing list.

On another note: I wrote last time about the need to streamline Flip the Script! down from two hours, but I think that I was maybe wrong in that assessment. I know that two hours limits the

audience for the game, but since it is inspired by theatre, I think that, in fact, I just need to think of this like a performance that needs to be scheduled rather than something that I can have people play in loud expo halls and arcades. 90 minutes is pretty darn short (or at least, average) for something like, say, a tabletop RPG or board game, for example.

August 18, 2018

DISSERTATION: A GENERAL KIND OF EXHAUSTION, BUT ALSO HOPE

autoethnography, critical making, curious games, dissertation, playtest, Process Writing, reflective games, research

It's been exactly one month since I last wrote an autoethnographic blog post, and let me tell you, it's been some month. There's still plenty ahead too — I'll be traveling to Europe for Ars Electronica, Hamilton for a BTS Concert (yes, I'm a fan — it's astounding how many graduate students in game studies are and how many of us de-stress [not relax, but de-stress] watching their flashy music videos), Montreal for QGCon (which I'm co-organizing!), Worcester, MA for Different Games, New York for my nibling's christening, and home again in Montreal for Maker Faire.

From the end of July into the beginning of August, I continued my yearly tradition of participating in GISH (formerly known as GISHWHES). That finished August 4th, and I'll eventually post some of the items and videos that I made — one video even featured Harle, Avi and Drake as puppets from the 1950s!

From there, from the 5th onward, began a nightmare move that I still haven't seen the end of. To make a long story short, I have had to make insurance claims and the movers were very unpleasant. It's left me with a lot of work in addition to my already-hectic schedule, and it's pretty stressful. At times, it's been overwhelming. I'm chipping away at it bit by bit, though, and hopefully things will keep shaping up. There's still a lot of cleaning, renovating, painting, furniture-buying, furniture-building, and decorating to do.

I have run four playtests of Flip the Script in the past two weeks! It's a game that takes up a lot of energy, and I've decided that in the future, I think that the best that I can do is run it once a day. The game relies heavily on the facilitating role, and the facilitation itself IS heavy.

As you might remember about Flip the Script!, one of the debriefing and de-roling exercises that I do with players is formulating a statement that we'd like to put out of the world — it can be a statement of hope, advice, just something that the players would like others to know. I try to listen and facilitate this. There were four statements to come out of these playtests. I won't tell you which statement is in relation to what topic.

“Please be attuned to the subtle signs of our inner experiences and invisible struggles (and thank you for your patience).”

“Each ‘small’ drop in the bucket still eventually fills it and can make it overflow.”

“Be critical of the information you consume; be a good observer, be a good listener, and go deeper than the surface.”

“In recognizing each other’s humanity within rigid systems, there may be potential for unusual alliances and creative solutions.”

Some things that I’ve learned from the playtesting: the microbit and LED technology isn’t pulling its weight as much as it could, although it’s not horribly mismatched, it’s a facilitator-heavy game, I need to help players connect to their puppets by making sure that they interact with them early and often and make things up about them, and I need to carefully shape scenes by regeneralizing any personal anecdotes that people tell, and ensure that the scene is robust enough to support multiple playthroughs. That means carefully setting up the characters and potentialities/story seeds. Also, the way that the game goes and how much is disclosed depends very heavily on who is playing (but I knew that would be the case).

Player reception has been generally positive, and people seem to get something out of the game on an emotional level, even if it’s not a perfect game. I guess it’s okay that it’s not perfect.

What I think I am realizing is that I do need to be careful about how much emotional labour the next project demands of me, because these playtest sessions have been very rewarding, but also quite draining. Given the fact that there are many draining situations in my life at the moment (this nightmare move, everything to do with Tom, just the general stressors of being a grad student with many things to do, plus community organizing and the things that come with it). That means I need to offload more onto the tech and interface and game rules and less onto the facilitator. That’ll hopefully mean that playtesting will be easier, even if initially there’s more work to be done with the tech (which is not necessarily my strongest suit — but it’s always getting stronger!).

With Flip the Script!, I spent a lot of time agonizing over the game idea and getting it to a point where I felt good about it. Then, a lot of my time was spent making the puppets and their interfaces. The rules themselves also took up a good chunk of that time. I’ll have to see where the next project takes me, but I think I need to be able to run the next game even if I’m not feeling at 100%. Maybe that means bringing back a screen. Maybe that means bringing in Raspberry Pi and pre-recorded things. Maybe that means more quick, written rules.

I would like to work more with costumes and theatre, but at the same time, with toys and tiny worlds. I guess I’m thinking of wearables and board games, or even of something like Polly Pocket, or, for a digital reference, Gnog. I want to embed a narrative into the interfaces and have players spend time exploring and discovering that narrative through the interface. I am also feeling inspired by Ida Toff’s Promises project, which I think is vibrant and alive in a very satisfying way, even though it’s quite stripped-down. There’s a suggestion of life within the vibrations in the river rock-like objects that the player engages with.

On another note, playtesting made me feel oddly “on-track” for my dissertation projects. I feel like this project, even if it’s imperfect, is a success. I think it engages with complex ideas that are

coming through in the game, that the level of work that I put into it feels appropriate for a six month project, and I feel like I've accomplished something. It's a nice feeling, amidst all this turmoil.

September 3, 2018

DISSERTATION: PROJECT 02 START

autoethnography, critical making, dissertation, Process Writing

Sept. 1st marks the first day of my new physical-digital hybrid #gamedev project for my dissertation (second of three), and I woke up thinking “a narrative Bop-It game.”

My next thought was, better go write this GOLD down in a sweet tweet.

— Jess Rowan Marcotte (@jekagames) September 1, 2018

Yes! I have a few more playtests coming up in the fall with Flip the Script, but I’m onto Project 02, currently untitled for my dissertation.

This time, I want to push both the technological/programming side of things and possibly a firmer narrative. That might be a tall order for a project that I have to finish in a little less than six months, but at least, in these first few hopeful weeks, that’s what I’ll be thinking about.

The truth is, running Flip the Script! requires a tremendous amount of work for me, because the playthrough can go so many places. Even if it means making a shorter game, I think that I need to have more pre-determination.

At the same time, I would love to make an exploratory physical toy, that, when you play with the toy, things happen programmatically (possibly on-screen visualizations or gameplay). After all, that’s one of the ways that I emphasize the physical aspects of physical-digital hybrid games.

So, toy or story? Toy Story? I don’t know yet.

From September 4th-18th, I’ll be in Europe. I’m going in the first place because of Ars Electronica — ‘rustle your leaves to me softly’, my ASMR plant dating simulator project, made in collaboration with Dietrich Squinkifer, is part of Hexagram Campus’ Taking Care exhibit. (You can read about the exhibit [here](#) and [here](#).)

We will be there from the 5th to the 10th, and are then taking a few days to travel since we’ll already be in Europe. I am hoping that Ars Electronica will provide plenty of inspiration for my new project, along with the series of long train rides involved in making it from Paris (where it was cheapest to fly to) to Linz and back.

I am definitely aware that my programming and arduino skills might get one heck of a workout for this project. I’m apprehensive but excited.

More as it happens!

September 9, 2018

DISSERTATION: AUTOETHNOGRAPHY PROJECT NOTES FROM STEYR, AUSTRIA

autoethnography, critical making, dissertation, Process Writing, reflective games

[NOTE: These notes are transcribed, annotated but unedited, from a handwritten version.]

PROJECT 02 for my dissertation. Sept 9th 2018.

I was hoping to find inspiration for this project in my travels. Before I even left, I was sort of dreading this trip. I was feeling exhausted but still had so much to do. I didn't want to leave home and Tom because of all the work to be done, and also because we've been away from each other so long with no time to rest and just be in each other's company. The first 24 hours of this trip were stressful and restless, with trains to catch and a new country to navigate, with the knowledge that when we arrived, we still wouldn't be able to make it to the place we were staying [clarifying note: our train arrived at 11:17 but the last train to Steyr departed at 10:52]. The next day, we found out that the folks in charge of setup had been unable to get the project working, and when and how they told us this was a tad frustrating and unprofessional.

We fixed it.

Still, the frustration and exhaustion didn't go away, and in many ways we struggled to feel welcomed to this place.

This is the first place I've felt truly out of place as a trans person. I'm not on on any sort of supplement to alter my hormones, but i guess with a binder and short hair, I "tip the scale" into an uncomfortable place for these people. I felt stared at, and was worried when someone approached me on the train platform to ask how I felt about gay and trans people. It wound up being a friendly conversation, but the whole place feels fraught. So. Discomfort and alienation, even from the people we're supposed to be here with, is definitely a huge, present concern for me.

Yesterday was a bit better. We checked out more of the other exhibits, had to fix part of our installation that someone decided to fiddle with, and I had a long conversation with two older artists working in textiles. They've been collaborating for over twenty years (and they also totally thought I was a dude through most of this conversation. At least they thought I was a nice dude).

The installations that we saw and that discussion have got me thinking about this project as a narrative wearable project about being a stranger in a strange land. I am also thinking of the wearable as a living, alien guide. Maybe using defamiliarization and recontextualization with language. I'm definitely thinking of the work of Blast Theory and ZU-UK.

A narrative you can experience and carry around with you.

I'm trying not to let myself get too bogged down in how technically difficult the concept will be at first. I could see this requiring QR, GPS, radio coms...

I also really do want to think about Augmented Reality and also interactive theater/escape the room projects.

I'd like this to not need to be site-specific. At the same time, I'm only one person. I'm not sure I can keep track of someone wandering through a truly open space.

What if someone wanders off, or gets lost?

I don't want this to just be an app or a webpage people use on their phones. I want to highlight the interface. But phones come equipped with so much useful junk — the GPS, gyroscope, the QR scanner.

This is why I don't think I want to narrow the focus and worry about scope or tech yet.

I'm also thinking of the voice that the writing in *transgalactica* uses — sort of rueful, sort of hopeful, but jaded, a tad bitter.

I'm also thinking about time travel because of the Time Travel RPG I've been running. And again, that whole ZU-UK, Place des Alts [explanatory note: a recent TAG project that started out as a collaborative piece between ZU-UK and TAG] inspiration.

I was really inspired by the MIT Cillia project. I wonder if there would be a way to access that.

A pocket companion, guiding you through an almost familiar, alien civilization...

Actually, it's worth noting that I just finished Ursula K. LeGuin's "The Left Hand of Darkness."

I guess I could maybe limit the scope to certain parts of the EV building, 10th+11th floors.

Players could play different parts — some the populace of this alien, different time, a few others the time travelers. Maybe something like two rooms and a boom?

I think having audio communication through some kind of wireless device would be nice. I think having some kind of costumes (I'm thinking scarves) could be nice.

The scope of the playtesting immediately comes to mind as a concern, but I'll try to put that aside for now.

All of this makes me think that this might ultimately be that game about genderfeels that I wanted to make in some form.

October 2, 2018

DISSERTATION: ON QGCON AND COMMUNITY
autoethnography, critical making, Process Writing

I'm tired. Exhausted, in fact.

But I'm also energized, renewed, re-invigorated. For all of the ways that Ars Electronica was alienating, the Queerness and Games conference, which I co-organized and which happened this weekend at Concordia with the help of TAG and Milieux, made me feel like a part of a community.

One of our keynotes, Mattie Brice, talked about finding inspiration in performance arts, in the Happenings of the sixties, and, in its own way, I think QGCon is a Happening. It's a temporary space where the usual rules are in some way suspended. It's a space of caring, softness, kindness and vulnerability.

I'm not too sure exactly what I expected from the event, but it wasn't exactly this. I had a great time at the last QGCon in 2017, but this time, maybe because I was closer to the event, it felt like there was a real, tangible presence of...I don't even know what to call it... Hopefulness? Goodwill? permeating the space.

Organizing the event took a great deal of energy and labour, and I had to take on a lot as one of the local organizers. I wish I had been able to get more rest.

But nevertheless, while before I wanted to make a game about alienation, I think I want to make a game about feeling alienated and finding others who mitigate that feeling.

I've still got to sit down and design this project, but ideas are forming in my mind.

Rather than trying to find others for competitive reasons, maybe this can be a game about trying to find others so that you can be reunited, so that you can find community and hope in each other.

I'm reminded of a game that we showed at Princess of Arcade called Secret Agent Party. That's a game that requires a lot of players in a contained space. I wonder how I can make this game playtestable or workable with very few people present or very many people. Maybe I need to narrow the scope.

Maybe static objects can also be people in some version of the game and give you info, but in other versions, the static objects are being worn and carried by others. So that, if there are only a few players, the story is filled in from static objects that stand in as people with histories

(thinking of the programs you find in Transistor), but in a version with more players, those objects can then be on players who are also scanning you.

Thinking about the themes of Time Travel that I was working with, maybe it makes sense for there to be echoes or traces of people even if the people themselves aren't always visible.

Well, just some design thoughts inspired by QGCon and sleep deprivation (please don't worry — I've slept two solid 10 hour blocks since QGCon or more, even if I am still tired).

October 24, 2018

DISSERTATION: CHANGING STAKES

adventures in gaming, autoethnography, critical making, dissertation, Process Writing

The seven weeks since I began my latest design project, working title/codename “TRACES” have been busy, but I’ve already talked a bit about that, so I won’t go too far into it — first, Ars Electronica, then guest-lecturing, then QGCon, then Different Games, and then a family event in New York City. This, alongside further issues with Tom’s work situations. My apartment still needs to be painted, and we still have furniture to build, rooms to fix up, and boxes to unpack. One thing that I haven’t mentioned that took up a fair bit of time and energy recently is that I released an open letter talking a bit about Tom’s situation. You can read it here if you want to. There are times when this situation makes me completely unable to work, both because my help is needed, and also because it’s incredibly stressful. So I want to be sure to note that, for autoethnography purposes.

All of that means that I haven’t had a lot of breathing room to focus on the project — but things are moving ahead, little by little. Technology is on its way. I have started to write the game’s story and script. I am thinking about aesthetics, and rules, and context. I’ve been doing a lot of thinking about time travel — I’ve run two sessions of my time travel RPG with my usual RPG night group, and am aiming to run a third one soon. I’ve also started to read Ryan North’s *How To Invent Everything* (which is a guide for stranded time travelers to recreating modern amenities and “civilization”). My spouse and I are watching (re-watching, in my case) *Altered Carbon*. So yeah, I have been thinking a lot about the future and about time travel.

I thought consuming this media about time travel and thinking about the rules of the technology of this world, linked to the thinking about societies and gender that I’ve been doing in relation to *The Left Hand of Darkness*, would be all the “research” that I needed to do for the writing. But I should have been reading about fascism, bigotry, the darkness of human history.

I wanted to tell a story about my transness and feeling undervalued and underappreciated in a conservative country’s art world context, feeling alienated by people who were supposed to be peers. I wanted to tell a story of hope and community, even if just as the backdrop for a society that did value the characters in question. But now, the stakes have changed. The real-world ones.

It didn’t happen overnight, and maybe they haven’t actually changed as dramatically as all that. But the facts remain that a major world power (the United States) and a neighbour to my country, who is currently electing conservative leaders all over the place, is trying to legislate transgender and intersex people out of existence, based on pure bigotry, ignorance and hatred. This is just the latest in a series of exhausting, dehumanizing events in the United States. Fascism never went away, really, but it just keeps rearing its head in government-mandated ways and somehow each moment feels like that’s as bad as this administration can get. And

somehow people keep normalizing these new situations, or somehow believing that there are “two sides” that have equal validity and a right to be heard.

So.

This game...might not be what I thought it was going to be.

November 4, 2018

DISSERTATION: LEARNING NEW TECHNOLOGIES

adventures in gaming, autoethnography, critical making, dissertation, Process Writing, research

Just a quick update so that I have a record of what I was working on yesterday. I spent around seven hours fiddling with the near-field communication tech and trying out different programming. It turns out that there is a lot less detailed guidance for the recommended Adafruit libraries than one would hope — and the alternate libraries are often deprecated, don't work nearly so well with my physical technology, or just don't quite do the thing that I want them to do. To make matters a bit more complicated, my chosen NFC tags don't work with newer phones, which was one of the ways that I was testing, and, without additional apps, the NFC for phones is really only designed for very specific uses (actually activating email, the phone, a webpage), or so it appears. So, just generally not a lot of guidance for using NFC for what I intend to. Generally, people seem to program them on their computer and use them on their phones, or they don't care about what the actual message on the cards say? Or, if they do, the projects don't clearly indicate the steps for getting there.

When I program a tag and read it on the reader with my current library (PN532), however, there doesn't appear to be a function to a) just have it be a string of text and b) to read what the tag actually says.

The library itself has almost no clear documentation, just example projects.

So, it's got me thinking about alternate ways of handling the issue (like just using the unique ID of each TAG without actually putting a message on it to trigger a program). But I also need to be able to translate what I'm getting from the monitor into actual triggers for the arduino to talk to a javascript app.

I was talking to Tom about this yesterday: I want to be independent and handle the tech myself this time. It's not that I mind collaborating with others, but because I am largely self-taught when it comes to all the tech that I use, I need to prove to myself that I'm able to do it, or something like that. It seems a bit ridiculous putting it into words, but that's the feeling that I have. Maybe the truth is that I just need to ask for help because the documentation just isn't there. It was frustrating to work for that long yesterday and not have a lot of concrete work to show for it. Or maybe the documentation is out there somewhere and I'm just not finding it.

That's all for now!

November 22, 2018

DISSERTATION: I'VE BEEN TIRED!

autoethnography, critical making, curious games, dissertation, Process Writing

Well, sportsfans, I'm keeping busy and working away on my dissertation project and a whole whack of other things.

Since the last time that I wrote, I've participated in a lot of events, which is the primary reason why I haven't been able to write too much here. In between the events, I've just needed time to recover, work on my code, and do my chores.

Speaking of code, you can now find the repository for my working-title project Traces here.

What I have discovered after a lot of effort and working with Node JS and etc is this:

— Johnny-Five doesn't not play well with this NFC shield. I could either get my little LED light to blink using a node server command or I could get my RFID shield to read my NFID tags, but not both. People have been asking for support on this from the johnny-five developers since 2015, but obviously it's a labour of love and it just hasn't happened.

— I will have try to use websocket and serialport instead, although I remember there being some issues with serialport and one of our previous projects. Alternatively, I will have to try and make everything happen through the Arduino board (this is not ideal for audio or for using multiple com ports).

Okay, so my last post was written on a Sunday. Then, there was a week of work from there, where I did some writing and a lot of code troubleshooting that I don't have a lot to show for. On the 8th, I did a Costco run with one of the organizers of GAMERella in preparation for, you guessed it, GAMERella, which happened on the 10th and 11th.

I made a game that weekend with Narf and Catherine called "TAMAGAMEWORKER", and it's about unhealthy working conditions in the game industry. You have to try and take care of a tamagotchi gameworker named Tama, while they try to balance their basic needs alongside demands from work and other spheres. You can check it out here – it's not perfectly balanced and you may have to install "Noto Sans" for the fonts to display properly (I haven't gotten around to doing web fonts for it yet). I did the programming, most of the art except the tamagotchi animations, the annoying music, and I helped edit the writing. Catherine did most of our writing and Narf helped with programming, did the Tamagotchi animations, and helped Catherine with syntax for the JSON file.

Then, this past weekend (and when I say weekend here, I mean covering the period from the 16th-19th), was the Montreal Mini Maker Faire followed directly by the Maker Cultures conference and symposium. It was four days straight of very intense, long days.

On Friday and Saturday, I was exhibiting. I didn't realize how tired I was 'til after — it can be really hard to take a break and have someone else watch your booth when you're the only one who knows what needs to be done and, as the Gamemaster, your skills are a big part of the experience. It was helpful to have to explain Flip the Script! (the game I was showing) to so many people. I was also on CTV Montreal with the project — you can check out the video here (although unfortunately it misgenders me).

On Sunday, it was a day of talks followed by dinner with the presenters, and Monday was a day of workshops and trying to help define this area.

One very serendipitous meeting from this weekend was with Tess and Karen Tanenbaum from UC Irvine. We had met at QGCon in LA two years ago, which Tess was kind enough to help me remember by saying “we haven't seen each other since...” because I had total face blindness. The Tanenbaums have done some really cool work with — surprise! NFC! That includes a storytelling NFC glove, so I definitely plan to engage with their work as I think about Traces.

Yesterday, Tuesday, I took the day off and went to see Burn The Stage in theaters. I slept in, I ate ramen, I bought art supplies, I watched a movie, I cuddled kitties, I played video games, I wrote with Tom...It was glorious.

And that brings us to today. Today, I worked on some other tasks needing my attention regarding my work as student rep and some other administrative things. I also had the chance to practice Japanese with a dear friend. She is very patient with me — with all that's been going on, I haven't had much chance to practice. Oh, and I got a new night-guard and had it adjusted.

I jokingly told my friend today that maybe the reason I was working so much with Time Travel themes (in the tabletop RPG I am running for my friends, for example, and with this project) is because I never seem to have enough of it and I want to make more of it.

As the Pixies say, “I've been tired! T-I-R-E-D spells it, spells it, spells it”.

So I'm trying to be cautious, take the time that I need to rest, and keep on keeping on.

December 13, 2018

DISSERTATION: ON CONTINUING TO BE TIRED
autoethnography, critical making, dissertation, Process Writing

Thought it was time that I wrote another autoethnography blog post.

Since the last time I wrote, I've been slowly plugging away at a variety of tasks that aren't directly related to my dissertation research. What I am coming to realize, I think, is just how much external factors affect my ability to work creatively or work on code. Yesterday, for example, I tried to do some creative writing after a meeting and spent a good deal of time staring at the screen instead. Then, when I decided to try to switch to coding, I could feel my body physically saying "nope, nope, nope" — it felt like my brain and body could anticipate what would happen if I were to code right then — the slog of working through something that I would either have to interrupt and possibly lose the thread of for next time, or that I would get caught up in and skip out on other responsibilities for (such as the roast lamb dinner I was planning for last night).

I am getting other work done, such as finishing the syllabus and course pack for the course I am teaching next winter, and writing a co-interview article with Kara Stone, and choosing the abstracts for full articles for the issue of First Person Scholar that I am editing, but that tiredness that I mentioned before is omnipresent. The threat of burnout seems to be constantly just at the periphery of my consciousness. I find myself taking long breaks, but still not feeling refreshed by them. I have had unexpected bodily aches and pains too — a bulging disc in my back giving me more pain, requiring me to apply heat to my back and return to doing strengthening and stabilizing exercises and stretches from my physiotherapist, a constant returning sinusitis causing debilitating headaches just behind my eyes, and the most awful cramps — for which I applied more heat.

The biggest pressures that I am feeling related to my dissertation work are measuring the time that I have left allotted to this project against my abilities and the work left to be done. There are still prototype portable sensors to build and figure out, there's still a lot of programming to do that is currently outside of the scope of my skill — but only just outside — that I really should be asking for help with (but everyone is busy, eh?), and there are the sculptures themselves to build.

Unfortunately, there are so many factors outside of my dissertation and currently outside of my control that are contributing to this stress, and it's also very difficult for me to do creative work while I am stressed. Some things are within my control if I make the time for them, and that would make me less stressed, but it also will take up time that I feel I should be spending working on my creative project. I could really use a long break, where I don't do anything related to work, but if I take that long break, it feels like I'm just eating into my time. There seem to be

more days where it is difficult to work than there are good days, especially when it comes to work that I am only accountable to myself for.

Tom has been a big help, particularly for things that have just felt like a total slog (changing all my Harvard citations into MLA for the syllabus, for example, and gathering all the articles for the course pack).

Even making these records of process make me feel guilty when I'm not doing them, but the truth is that I haven't been getting all that much done. I've solved a number of important programming issues, but there's still a whole lot more, and I've written about half of the script for the game, but there's still, again, a whole lot more.

I'm happy with the work that I have, but I wish that I could be more efficient and faster. Everything is a tradeoff: if I want to make a nutritious meal, that means going home early from work, or working from home. But when I work from home, because of all that's left to do to set our place up, I am distracted by the mess and everything that needs my attention there.

Ah, and I shouldn't leave this out for future Jess: last Thursday, we found out that our dear friend Serge Mercier, who I wrote about in my Master's dissertation, was on his deathbed. Tom spent Thursday evening contacting people to let them know, and then we spent Friday taking Serge's son to be with him at the hospital before he passed. We were there until about 10:30, then took his son home, and Serge died that night. Then, I woke up another day this week to a text message from my mom letting me know about a funeral that morning for a family friend that attended her church – someone I had known my whole life. So, that happened. Maybe those things also have to do with this state that I am in.

Finally, of course, the issues with Tom's work continue. You can read a bit about them at rcmpaccountable.wordpress.com if you like. It continues to be draining and stressful. Come the end of January, Tom will have been on sick leave for a year because of this, and he has been actively fighting these issues since September 2017. Before that, things hadn't yet bubbled up from under the surface. It seems that there are still years to go on this issue.

I guess autoethnography can mean disclosing some pretty uncomfortable things. It makes perfect sense to me that this would all be affecting my creative process, but I can see no alternative but to keep going, and keep doing the best that I can. I'm doing my best to rest, but I am worried that teaching next semester will only further eat into my time. Still, I know that it will be valuable experience, and frankly, I have to think about saving money for when my SSHRC runs out and because of the uncertainty with Tom's work.

January 8th, 2019

DISSERTATION: EXTENSIONS, BURNOUT, AND WELCOMING 2019

autoethnography, critical making, dissertation, Process Writing

Time for the first substantial update of 2019!

The first thing that I have been meaning to bring up is that I will likely have to extend this second design project past six months, strictly speaking. Having lost most of September to travel and QGCon, I was still hoping to be able to finish in five months to stay on-schedule with my ideal timeline for the making and writing of this here dissertation. But the truth is that while I was able to get a decent amount of work done in October and November, I involuntarily took almost all of December off, and I still haven't quite managed to get back to work on my creative projects.

It's not that I didn't get anything done in December: I finished my syllabus and made a course pack for the course that I am teaching this winter, I made some last edits to my paper for Game Studies, which came out on December 31st, I've been working on materials to help organize future QGCons and have a record of the roles and responsibilities involved, working on conference submissions, updating my CV, and writing an interview piece between myself and another queer designer where we ask each other questions that I think is really pretty awesome. That's on top of the usual holiday commitments and slowdowns. Not to mention that I have been cooking a lot more home-cooked meals, which is part of that invisible second shift that we don't really talk about: my laundry is done, my bills are paid (thankfully), and I am working on all sorts of neat things...except for my creative work.

There are a number of factors here: my physical health, my mental health, and Tom's work situation... which is a coded way of talking about the on-going harassment by process that he is facing, almost a year and a half after they first tried to bully him into resigning. On both December 20th and December 24th (the day before a commonly-celebrated holiday across the world), the RCMP dropped more work with strict deadlines onto our heads. These deadlines failed to take into account that everything is closed during the holidays, and practically everyone is on vacation, so there has been information that we've needed that we just can't get as easily as under normal circumstances. And even if I didn't want to prioritize this, the truth is that it is hard to think of much else.

On the health fronts: I have been sick off and on for the past two months with respiratory illnesses, colds, at one point I think a mild flu? I was socializing with a very sneezy five-year-old at one point who clung to me like a limpet, so, that's just the way the cookie crumbles. I think that I may have a deviated septum or other issue that is leading to frequent sinusitis and headaches. It's on my list of things to check out.

Speaking of which, the reason why it's still on a list might have something to do with the situation described in this article.

Honestly, I have never identified so much with an article about millennials or probably anything else. I feel this in my soul. And if this article is to be believed, I'm not the only one. I constantly feel at the edge of burnout, and I note exactly the kinds of behaviours written here — optimization means that it can be really hard to make time for things that have a low payout, or seem like they do, especially if they're otherwise stressful for me. It can take me months to make a needed appointment, and I honestly just don't have that much time for bad news or to be slowed down by issues that'll require addressing them and then healing from them. I have a bone spur in my thumb that I had an appointment to deal with before we left Fort McMurray — but in Fort McMurray it was easier to say no to things because I would just not physically be in the same city that things were happening in. That left more time for things like doctors' appointments.

On a similar note: I have whitecoat syndrome when it comes to taking my blood pressure taken, but in order to verify that, I was, again, in Fort McMurray, supposed to get a 24-hour monitor to verify. Since it makes me anxious, and since I had to leave Fort McMurray, that's another thing I haven't done yet. But, then again, I only just became eligible and received a Medicare card for Quebec, so that's the excuse there.

Not to mention that, because of dysphoria and trans issues, I would really, really like to get top surgery. But the research exhausts me, and so does the idea of being out of commission for potentially months. Plus, since I haven't been going to the gym regularly (too busy with everything in my own career plus the RCMP issues), I feel like I'm not in a good place for a surgery. They say that the healthier you are going into surgery, the easier the road to recovery will be. So I do want to get into better shape before I think about surgery.

All of this is of course a recipe for disaster — I have to admit that I have been ignoring these health concerns because they don't feel like emergencies. But then, they will turn into emergencies. I know that. I know that as much as anyone quoted in that millennial article knows that they need to register to vote or whatever other thing they're putting off on their to-do list.

...anyhow, what this means is that it is really difficult to be creative right now. And even things that aren't strictly creative about the project feel pretty difficult. But I'm doing my best to work on it. At this point, it feels like this isn't just about the ebbs and flows of creativity — this is about what late capitalism does to art, what it is doing to people. How come even the most "successful" of us can't have a damn rest? It seems like we're all just a step away from burnout.

So. I am hereby granting myself an extension until at the very least April for this project. I still feel strongly about the project — it feels big, meaningful, and like it is pushing me artistically. That excites me. I want to give this project the time that it needs and deserves

February 2, 2019

DISSERTATION: CREATIVE CHECK-IN

autoethnography, critical making, dissertation, game jams, Process Writing

In tracking my creative work closely, I am learning a lot about myself and how I work. I hope that eventually that data can be generalized to others, although that's not my goal. At the very least, I can propose hypotheses. Here are some thoughts.

1. Most importantly, the more stressed and unwell that I am, the harder it is to feel able to do creative work, both in terms of scheduling and prioritizing it, and actually accomplishing it when I finally do sit down to work.

In December, I opened and looked at my script a good half a dozen times, but I was stuck. I was too worried about other things (primarily, things related to Tom's work situation and precarity). While being busy has gotten in the way of my creative work in the past, finding the time to get down to work was always the challenge.

2. Enjoyable, challenging work balanced with breaks and personal time can be fulfilling fuel.

Sure, I am now adjusting to teaching for the first time and managing other commitments that I have made (opportunities to publish, to edit/give feedback to others on their work, to collaborate on design projects), but I enjoy that work for the most part. It affirms (in most cases) my confidence in my own abilities, even though I may have the occasional doubt. Doing work that shows me my own capabilities helps me fight impostor syndrome!

But I also definitely need to build in more breaks and rest into my schedule. Yes, sometimes that means choosing between taking the time to cook a larger (time-consumption-wise), healthier, homecooked meal or eating something fast. It's a balancing act. I also still need to find ways to fit more exercise into my schedule. But it also means actually taking a break and actually letting myself do nothing, take naps, stay at home, and, y'know, read a book, play a video game, regardless of whether there are chores that are left undone for a while longer. I am trying to get better at balancing all of this. I suspect it's something that I'll struggle with for the rest of my life, especially with my tendency to overcommit (which is prized and encouraged because it makes me so *productive*).

As an example of how skewed these priorities can get, I finally managed to make myself a doctor's appointment and attended it to deal with some issues that I had started investigating in Fort McMurray. I had to cancel my Fort McMurray appointments when we moved here, and I only got a Quebec health care card in early November. So, yeah, it feels good to have those balls rolling.

3. Recognizing and naming burnout, and taking as much of a break as you can from the things burning you out seems crucial.

I feel like I keep having these mini-burnouts — I have the evidence of them and their mounting severity every time I write one of these posts. I'm not an expert on this by any means, but after not even attempting to work on my dissertation project for the past few weeks, I have felt able to do creative work and I find myself excited to work on my dissertation project once more.

4. It is easier for me to work with someone else. I find it easier to get past blocks and prioritize working when I'm working with at least one other person. This is born out by how many solo projects I've released versus how many team projects, I think. At least right now, having a lot of creative control is important to me, so I like working in small groups on all aspects of the game. Maybe that will change with experience.

I'm also trying to get better at asking for help (even with individual projects) and letting other people take over tasks in groups that I'm working with. One of my problems is feeling like if I ask for something, I'm being a pest or taking up other people's time, but I think I am fairly generous with my own time, so I am trying to ask for help in ways that I feel are fair and respect people's boundaries.

—

Speaking of that creative work, I participated in Global Game Jam 2019 with Squinky this year. We decided to scope really small and made a queer dressup game called "Mx. Dressup: Squinky and Jeka's Outfit Creator for Dapper Queer Millennials", which you can play here: <https://squinky.github.io/mxdressup/>

Squinky and I designed the game together, then Squinky focused on the programming and I focused on the art assets. Taking a whole weekend just to draw cute clothes was so relaxing. I gave myself permission not to think about anything else. We scoped small, so whatever assets I was able to get done, that was what went into the game. It was really, really nice.

And now, as an extra surprise, my brother is in town, and Tom is teaching him to drive (with the occasional backseat help from me — I can't be the accompanying driver because I'm probationary, but I am allowed in the car, so I can give a different perspective and whatnot).

That also means that my brother and I are doing our best to get Icosahedral (which is a working title) into fully playtestable shape, as final as we can get it. We've been working on the project off and on since April 2017, which is pretty amazing. We've already done some playtesting with an earlier version and it went really well. But now, it's time to think about the numbers and whether other people can run it, and the usual business of playtesting. It feels great to be back at it! I think we'll have a playtestable version ready real soon, and I'll be sending out calls for playtesters.

Time, scheduling and how busy I am is always a concern, but I am doing my best not to worry about the dissertation project. I feel like my thoughts about it have slowly matured inside of me, and I am excited to get back to it. That's far different from feeling like I was banging my head against the wall in December and early January trying to get something done. I will be trying to prioritize working on it more now that I've had the chance to get used to my new schedule a bit. Of course, Tom's situation could throw all of my plans out the window at any moment (yikes).

Now then, here's hoping I can manage to make more progress on my second dissertation project!

February 18, 2019

DISSERTATION: TIME MARCHES EVER FORWARD BUT NOW SO IS MY PROJECT

autoethnography, critical making, dissertation, Process Writing

Just dropping a note to say that work on Traces is going well — I'm actually hoping to have something playtestable for the very beginning of March, so I'm busily working away on all fronts — I'm soldering components for the scanners and screens, installing software on raspberry pis, writing code, thinking about sculptures and recording audio, thinking about displaying the script on tiny screens, thinking about the aesthetics of the controllers and how they'll all fit together... There's a lot afoot.

It's exciting to be in a thick of it, even though I'm keeping a hectic pace. I would love to have something finished in time to playtest at Arcade 11 — that's currently my goal. I would be right on track for six months with this project if I finished by then, which is kind of incredible given the delays and difficulty I was having with it earlier.

Squinky helped me with some programming last week. I also had to figure out how to work with the Uno clones that I bought (the Metro 4 Express from Adafruit), which didn't work as expected out of the box. I had to write in a new board definition in one of the libraries I'm using and disable a different library that didn't play well with it (the servo library). Squinky also helped me get audio working.

One on-going concern is that I have a 4-line LED screen, but I have to be careful about the max number of characters it will display because it will simply cut text off. I will have to write something that trims the dialogue to the right character length and then shows the next bit of dialogue at an appropriate pace. That will probably require some massaging. I'm sure it's possible, but I think I'll likely need help figuring it out. I'm currently waiting on USB backpacks for the screens that should arrive tomorrow so that I don't have to fiddle too much with the wiring and can control the screens through one of the serial ports.

I was recently chatting with Enric Llagostera, who helped me to challenge my assumptions around what the controller could look like. I had given a lot of thought to what the objects the player scanned would look like, but other than wanting something functional that won't overheat the components, hadn't given thought to how the scanner would look beyond that. I had thought that I wanted a very raw look, that showed the components and looked sort of future-hacker-Shadowrunny. I'll be trying to rethink that while, again, not overheating anything and not interfering with the functionality of the boards and such.

I also have to do some thinking about the dimensions and designs of the objects — they do have to be a certain distance away because of the range of the scanner (I don't want the tags to interfere with each other). But I also don't want the objects to be too huge, necessarily. I am

thinking it could be cool for some of them to be installed with either suction cups or double-sided tape, so that I can vary how I position them in the space.

Well, I'm going to keep at it! Here's hoping I manage to get it all done.

March 14, 2019

DISSERTATION: PLAYTEST CRUNCH

autoethnography, dissertation, playtest, Process Writing, Uncategorized

I have an unsurprising confession to make: in the time since my last blog post, I crunched to get a version of TRACES ready for playtesting at Arcade 11.

You can follow the traces (ha) of my digital programming crunch here:
<https://github.com/jekagames/traces>

Between each commit, I was working with all the different broken processes unless I was sleeping.

The other physical object-making crunch that I engaged in is evident on instagram.

Everything took longer than expected. There was a lot to do to get the project ready — and the fact that each task took longer than I expected it to — each and every single task — was a constant source of stress.

The documentation for each of the libraries that I was using was incomplete, poorly-written, or assumed knowledge that I didn't have (or was never meant to be combined in the ways that I needed). They're usually open-source of course, and I appreciate that people have other jobs and other work, but when your constructor uses the same name for the variable and the data type without explaining, that's really difficult to parse (looking at you, socket.io).

For the installation of certain things on the Raspberry Pi, I got it to work once and I'm not sure why it worked, because it wouldn't work again on the other machines even though I followed the same instructions. So, instead, I cloned the card. I'm a bit nervous about when I have to update the code and the audio files and such. I hope it'll go okay.

My 3D models would look fine in theory, but would have physical limitations or issues when I actually printed them. I had to redesign one particular object something like 4 or 5 times — and wait in between each re-design to print it to see what problems arose.

So, I expected to have around a week to build certain parts of the project and instead wound up with 24 hours. What a mess.

I am very, very grateful to the people that helped me — by volunteering their voices, by helping me with programming, by physically building things with me.

Right now, that's these folks (quoted from my credits):

“VOICE ACTING

System Voice – Natural Reader (modified)

The Handler – Jess Rowan Marcotte

Object 10 – Ash Cheshire

Object 09 – Thomas Deliva

Object 01 – Gina Hara

Object 05 – Enric Llagostera

Object 02, 08 – Jordan McRae

Object 03, 04, 06 – Lukas Rowland

Object 07 – Dietrich Squinkifer

3D-PRINTED OBJECTS

Jess Marcotte (20×4 LCD cover, Arduino Uno Case top)

brandroid64 (Brandon Bowles) (Customizable Raspberry Pi 3 (A+/B+) Case)

djminnesota (Dan Johnson) (Arduino Uno Case bottom, modified by Jess Marcotte)

SPECIAL THANKS TO

Enric Llagostera and Dietrich Squinkifer for their help with all of my programming questions and for helping me debug.”

Some of that will change, though, now that I have had the chance to playtest. I have some internal playtest notes, both physically written down and that I took of my general impressions after the playtest.

Obviously, the sculptures that Tom and I made in 24 hours are not the final sculptures. I actually spent a fair bit of time calling around and contacting Molded Pulp product companies to try and find more of the kind of molded pulp that I had from our dishwasher (that I turned into objects for the game). It turns out that most local packaging companies do not make molded pulp products. One company only made 2 products, which they sold by around 20 000 units at a time: 4-cup holders and egg cartons.

So. I went to a caterer’s store and bought molded pulp takeout containers and plates in a variety of shapes. The nice thing is that they’re compostable, so I feel okay about using them for that reason since I imagine there will be waste/mistakes (though I will be painting the final sculptures). I do have a few leftover shapes from the products I had. I’ll try to work them into what I make.

So. That’s on my list. Making molded pulp takeout container sculptures. Nice.

The next thing on my list is finishing 2 more controllers to accompany the first one that I made fully. I managed to make 2 for playtesting — one that I had fully finished and one on a wooden form that Tom helped me make. So, that’s something I still have to do.

Then, from there, I want to try and further synchronize the text that's displaying with the audio. I think that means adding another database entry and passing a variable into it in milliseconds that also changes when a specific object from the database is called, and for me to individually check how fast the text needs to display compared to the speaking voice of whoever voices a particular object.

That brings me to two very important other items: first, it seems that some of the voices were a bit distracting to players, so I will likely have to re-record those. Certain voices may also need to just be a tad louder.

Second, it seems like some of the objects are overly didactic, leading to an overly didactic impression of the game. With some playtester advice in mind, I will be thinking about whether I should cut certain objects, about whether to add or change certain stories, and whether to shorten certain parts (like in the introduction — I think I will cut a bit out from there).

This project really changed gears in November 2018 and became more about the rise of fascism in North America, in some ways. I think that I need to return to my goal of telling the stories about trans people (particularly nonbinary trans folk) in our times. The rise of fascism is a part of that, but I think there's a little too much of it in there right now, which is why it's coming across as didactic. Also, I was trying to write from the perspective of people coming to the past to study it — so I guess the didactic tone in that way is part of that. But I guess I need to bring it back to the characters and personal stories.

There's a lot to do! But I do think it's worth taking the time to do it before I move on to the final project.

April 10, 2019

DISSERTATION UPDATE: PLUGGING AWAY AT IT

autoethnography, critical making, dissertation, Process Writing, reflective games, research

Still working away on TRACES!

Yesterday, I edited the rewritten objects (2,5, and 7) and reached out to people to voice-act them. Some of those folks will only be available as of April 19th, so I'm back to working on the sculptures again. I've got two left to make and honestly, I need a bit more inspiration.

Today, I had an impromptu conversation about the project that I didn't record (because it was impromptu) with one of TAG's visiting artists, Jonathan Chomko. We talked about the goals of our respective projects, and, talking aloud, I identified three "pillars" for TRACES:

The first, as I wrote about when I started the project, is "Alienation" — which is one of the feelings that got me started thinking about this project in particular. The second is "Exploration" (and speculative fiction, exploring the space, etc). The third is "Recognition", but as in, recognizing yourself in the game, or identifying in some way with the game (this one being aimed at other queer and marginalized folk).

Alongside that, I want people to feel like they're doing something sort of covert, and like they have to watch what they do in the space.

I also expressed my worry that the game will somehow wind up feeling like an audio museum tour (I really hope this is not the case) because of the scanning of sculptures and accompanying audio. I think the kind of audio and the objects in question will prevent this, but it is something that was briefly brought up at the Arcade 11 playtest. I don't find the comparison flattering.

So I kind of want to bring in more "game-y" rules. Maybe some kind of way to track what audio has been collected (my nightmare) would work, but I don't think so. Maybe some kind of reward? Maybe some kind of rule for how to behave around the objects? Maybe something else? Possibly I need to help players get into character more? I'm looking for low-cost (timewise and difficulty-wise) ways of making the players more involved.

Maybe I'll get the chance to talk this over with some other folks at some point in the near-future.

Meanwhile, here's hoping I can get two more sculptures ready to paint!

Here's what the task list for the game is looking like:

- Finish and paint sculptures, add RFID tags to them.
- Record and edit Audio for 3 re-written objects

- Amend the JSON dictionary for the game
- Measure timing for the text and speech in the game and adjust those variables accordingly (hopefully it'll be similar within one object).
- Update the Raspberry Pis with the new code and audio files and hope they don't break.
- Playtest!

May 13, 2019

DISSERTATION: PLAYTESTING TRACES AND ACT 'NORMAL' THIS WEEK!

autoethnography, critical making, dissertation, playtest, Process Writing

I'm happy to be able to say that tomorrow and Thursday, TRACES, along with its companion larp, ACT 'NORMAL', will be playtested this week!

It's been a hard road since September 1st — I easily lost three productive months (September, December, January). Technically, May is the 9th month since I started TRACES. I am hoping the next creative project goes more smoothly and fits more neatly into the 6-month timeline that I have planned for it. Actually, I am hoping to be able to use this last project to end up back on track in terms of writing the dissertation component of this project.

We will see if that happens — at this point, I think that I have to accept that doctorates are hard, doctorates while dealing with systemic issues doubly so, and that they take time. I have to be careful about how I plan my time in order to avoid burnout (I really came up to the edge of it during this project around December and January, largely because of issues related to Tom's work). Learning to take a step back and limiting my involvement with the things that I do not have energy for is an important lesson.

Meanwhile, I have seventeen players lined up to play this week. That's amazing! And I think it's plenty of data for my purposes, although there will certainly be future playtests if I can manage it.

Some of the challenges around playtesting this game are that, ideally, it would be played in a crowded, busy space. The challenge with that is not wanting anything to break or go missing, or to get in trouble for playtesting publically where I'm not allowed (since I will basically gaffer-tape the sculptures in various positions where they won't damage any paint). Getting the space that I did get is not going to be possible as often as I would like — it's unusual for a solo project to be allowed to use the space in that way.

I guess that brings me to the Companion Larp for TRACES, which I wrote in order to try and solve the issue of not having a crowd to play in. In a nutshell, I am asking people to play characters/caricatures of people they would expect to meet in 2019.

What else should I be recording for posterity in this post? A lot of the records are in github, in the version history of documents I've been writing.

I guess I am just, at this point, overwhelmed with how much care I have for this game. I really feel like I've put myself out there in a way that feels vulnerable and exciting.

Oh, I guess it's also worth mentioning that the "final for now" version of the Escape Room that I have been helping with is up and running as of today.

I have no idea what I'll make next, but I haven't stopped collecting the molded pulp paper forms when I get the chance. I've got some excellent ones that Marc and Gina gave me recently. For now, I'm focusing on doing the best job that I can playtesting and documenting this game that I care for so much.

May 24, 2019

THE TRACES TRAILER IS OUT NOW!

autoethnography, critical making, dissertation, playtest, playthroughs, Process Writing, research

Hey folks,

After last week's playtesting, I spent this week working on this trailer for TRACES! I am so excited to be able to share it with you!

Photos forthcoming once I get the chance to edit them!

I learned so much this week — got a better handle on Lightworks, learned how to do some basic colour correction in Resolve...

Soon, I'll have to move on for now from TRACES to my final dissertation project. I have been trying to think a bit about what I'll be making, but so far, it's still wide-open!

Happy watching! I still have to figure out how to add subtitles on Vimeo — I'll be working on it! It's important to me to have the video be as accessible as I can make it. I just have to manage my bandwidth right now.

June 12, 2019

CGSA 2019 RECAP

autoethnography, dissertation, Process Writing, research

Hi folks,

So, I just got back from CGSA (the Canadian Game Studies Association) in Vancouver, BC, which I followed up with some hiking and sightseeing on beautiful Vancouver Island. The conference was pretty excellent, and the past week has been extremely relaxing and good for me. (I'll post my CGSA talk and slides eventually.)

Now, though, it's time to get back to my dissertation work, and to be honest, I am a little worried — by now, I'm supposed to be three and a half months into my new project, but I'm not. As I've mentioned before, there are a lot of reasons for that. I lost the first month of project 02 to exhibiting and traveling in Europe followed by running last year's QGCon. I lost December and January (months four and five) to burnout from the RCMP work that I was helping Tom with, as well as to getting ready to teach in January... And then, I needed two and a half or so extra months to finish TRACES.

I could have opted for a less-finished prototype, but I felt a strong connection to the project, and I really wanted to make it as "finished-for-now" as I could. I am very, very happy with the end-result of the project. But it took time.

That's time that I didn't use for Project 03, or for dissertation writing. Now, I know (and so do you, if you look back on this) that I have been writing this entire time, but I haven't been writing formal chapters.

I'm happy that I did use my CGSA presentation to write a few thousand words about archival practices. I think it's a good initial first go with some strong thoughts, and I did get some suggestions for who I should be reading/looking into from the audience, including: Dene Grigar from U of Washington/Vancouver, Wendy Hui Kyong Chun, Jennifer Douglas (who writes about the subjectivity of archivists and on documenting workspaces and personal libraries at the NYC Public Library)... And I was reminded of a few sources that I should definitely be citing, such as Donald Schon (inescapably awesome work), and Barr, Khaled and Lessard's MDMA work (I don't know if it's formally published somewhere now?). Adrienne Shaw's *Encoding and Decoding Technology* sounded liked something I'd be interested to read, as well as Kat Holmes' *Mismatch*.

John Sakloske brought up questions of ephemerality that I didn't agree with but will certainly have to address. Raph's Delete Jam (happening tonight) also brings these questions up, philosophically and affectively.

All this is to say that I am not sure that I am on track to finish writing or to defend by May 2020. I will try to finish my next project in three months, but I don't know that I will. From there, I have to write about 50 000 words, which, honestly, isn't too bad, but I know that I have a lot more to say than that, and that this will all need editing. I also have a lot to analyze in terms of materials. I have to get many hours of audio transcribed in order to analyze it with grounded theory. But I think I will have to only include a sample of that in my dissertation as an appendix.

Right now, I haven't been as in-touch with Rilla, my supervisor, as I would like. Since she's on maternity leave and the work is still plugging along, I guess that's okay, and we've already talked about what would happen if I didn't finish on time (the answer is pretty well just to remember to save up a little money so that I can finish at the end). Money is a bit of a concern because Tom hasn't yet found a full-time job (he's doing some worthwhile part-time work in the meanwhile). My budget is in order but it depends on Tom being able to pay his half of the bills. He's still also working on the various complaint files that he still has to have a part in.

So, I'm trying to figure out what this project is about. This morning, I was thinking about themes like connection/intimacy, as well as interpretation. I was thinking of electronic motion and vibration. They're two areas that I haven't done a lot with yet that my peers, like Ida and Squinky, have been doing neat stuff with. One idea that came to my mind as I was half-awake was a game where you have to interpret the motion of a digital/electronic device. More on this to come! One concern that I have is that I wanted to try out a game with clearer outcomes and win/lose conditions than the previous one, and this direction doesn't seem to be going that way. I don't want to rest on my laurels! Another concern is that working with the technologies that I did for TRACES involved a lot of trial and error and programmatic problem-solving that was more difficult and time-consuming than I anticipated, so I wonder whether it would be better to work with a technology that I already know.

More as it comes!

June 25, 2019

DISSERTATION: PROJECT 03 HAS STARTED!

adventures in gaming, autoethnography, critical making, dissertation, Process Writing, research

Last week, I managed to break through and figure out what I want to do for my third and final dissertation project! It's a suitcase game where you have to unlock a variety of small boxes, encounter messages from previous players, and leave messages of your own about particular themes/prompts/topics.

Now that I've come up with my concept for my last project, I am researching whether something like this has existed before. There are definitely "escape rooms in a box", but these are largely cardboard boxes with items that you then take OUT of the box and use to solve the puzzle. The box itself seems to matter very little — and I think that's an affordance that could use more exploration.

What makes this challenging as a constraint is that there isn't going to be a lot of physical space or surface area to work with. But I think that as long as I colour-code things and clearly signpost the connection between the clues and the boxes, it'll be fine.

So today is a day for researching. I'm immersing myself in escape room literature, looking at Escape Room boxes, guides and philosophies about designing escape rooms and types of puzzles. It's fun! It's exciting — and that matters a lot when you've been feeling burnt out. The fact that something feels right and good is nice.

Recently, a peer of mine (Scott DeJong) who saw my design sketch about the new project recommended looking into Scott Nicholson's work with Escape Room boxes in classrooms, and I'm now noticing that his work also comes up from Escape Room designers, which is neat! Scott came to my queering game controls panel at CGSA a few years ago and his insights were really interesting.

There's a lot of puzzle advice out there, both generally and specifically for Escape Rooms, and I am definitely already breaking the rules because I am using such a constrained space, so I will have to play up other aspects like colour-coding (for example) to clearly signpost what goes with what.

I'm about to go down some rabbit holes... See you later!

July 10, 2019

DISSERTATION: THE ESCAPE SUITCASE IS STARTED!
autoethnography, critical making, dissertation, Process Writing

Well, it's been a while!

Yes, I finished reading the Puzzlecraft book, and it was helpful for conceptualizing the kinds of puzzles that I want to put into this game.

I also decided on the number of puzzles: three multi-step puzzles. At first, I was looking at five or more, but I realized that I am hoping for each puzzle to take 5-10 minutes to solve and for a total playtime of 30 minutes, so that meant thinking about how much I could realistically expect players to do. Each individual step won't take so long, but figuring out the clues and what they have to do will hopefully take enough time to be satisfying without being frustrating.

I don't want to spoil anything about the puzzles, so I won't write about them here, but there are three distinct ones and I'm decently happy with the "hybrid" aspects, which was something I struggled with before. The question I found myself asking was "why does this need any digital components" or, alternatively "why does this need physical components?", but designing some aspects of the puzzles settled that for me.

One current challenge includes finding the right suitcase (but Enric has offered to show me a few that he has been collecting! Yay!), although I may make one myself out of wood because of the high degree of customizeability that would give me.

Another challenge, though I think I've nearly solved it (maybe!) is the narrative framing of the game. What's the point and what are these puzzles about thematically? I want them to make sense. I think this is a game about "Opening Up" with a friend/to a friend/getting a friend to open up. Maybe. More on this as it develops.

So, I'm almost ready to start building prototypes. I've ordered some materials, including some locks, and a tiny touch screen, the new Raspberry Pi 4, some other stuff... It would unfortunately spoil some of the puzzles if I told you more about the materials, I think.

More as it comes!

August 16, 2019

DISSERTATION: A FLURRY OF UPDATES

autoethnography, critical making, dissertation, Process Writing

Really, this should be three blog posts, but maybe I'll just fold it all into one. It's been a while since I had the chance to write (over a month) but I haven't been idle! There are three major things I want to write about that I feel are especially relevant to my design practice and what all I've been up to, and a few minor things.

First, I had a surgery that was supposed to happen in July delayed at the last minute until this Monday, the 19th of August. This is probably a good thing — it means I am missing out on certain things (like, for example, giving a talk at MUTEK and going diving on one of my favourite shipwrecks) but it also meant I was in decent shape for things like Arcade, where I most recently showed TRACES. That went really well — it was a perfect test case for an actual party, and although I couldn't interview everyone who played afterward, I did have a notebook for people to write comments and feedback in, and I encouraged people to write if they wanted to. So, I did collect some data at the playtest both through my own observations and through what people chose to write. The feedback is incredibly encouraging and heartening, and was also consistent with some of the common threads in the previous interviews regarding where people thought the design could be improved.

I've also been plugging away at the design work, and I have most of the design sorted for two out of the three multi-step puzzles I intend to include in the escape suitcase. The one that I don't have sorted is the one using conductivity and sequence puzzles. I think the other two just need to be built, basically, and I'll eventually have to get part laser-engraved for at least one of them.

I have plans to meet with Tom's mom to design the suitcase. She is a hobbyist woodworker and has made some very beautiful pieces. In the past, she's helped me build a treasure chest for my nibbling that we filled with costumes. Now, I have access to a gigantic woodshop at Concordia if it turns out that I need it, but in this case, I am valuing the chance to spend time with a loved one over working with big tools in a shop that, while friendly, is also still a bit alienating. Or, if not alienating, not what I want to deal with at this time. Honestly, everyone I've met there is very friendly, but right now, my executive functioning is such that arranging the meetings with the technicians, having to make technical drawings, and all the rest, sounds like a bad time. But, good to know that they probably have every tool that I need if I do need access to something extra.

From July 27th to August 3rd, basically, right after Arcade, I participated in my yearly creative reset button, GISH, and oh wow. I did a personal best on number of solo and team items! Our team completed 222 out of 227 items! I did things like learning how to make a deep fake, making a video game, and learning how to silk screen with serratia bacteria (which wasn't a requirement for the item). Actually, the bacteria item was one of my personal favourites.

serratia bacteria portraits of Jonas Salk

The goal was to make a bacteria portrait in a petri dish of Jonas Salk, the inventor of the polio vaccine, and to tweet it at Melinda Gates thanking her for her work helping to vaccinate children. I contacted Alex Bachmayer, from the Milieux Institute, and I found an enthusiastic collaborator. Alex taught me about lab safety in the biolab, about how to prepare agar plates for bacteria, about how to paint using *serratia*, both freehand and with stencils, and then how to print on fabric with them...to make Jonas Silk (a pun we both found deliciously bad). It was really lovely to get to know Alex and to hit this item out of the park.

The other item that I learned a lot from was the Deep Fake, which was supposed to be Misha Collins complimenting Trump — I tried it two ways almost simultaneously. I had a friend, Drew, do an impression of Misha Collins for the voice, but then realized that Drew's hair and jaw didn't look like Misha's, and that the deep fake would only replace the face. So I had Tom lip sync to Drew's impression, then replaced Tom's face. The two ways part comes in here: I tried a software running on my own computer and an online server. I had no choice in the end but to use the online server — with more time, I think I could have trained the deep fake software I was using, but it was GISH, and there were other items to do. On my computer, Tom's face was replaced with a blurry rectangle. On the server, I trained the thing three times before I wound up with our final version.

Other than that, I played and beat an escape room with my brother and Tom while in Toronto for a top surgery consultation, and got some ideas for my game about what I'm doing right and what else I could be doing. It was a fun one that I would recommend — the puzzles weren't super integrated into the narrative and it wasn't that immersive, but the puzzles were fun, fair and the right level of challenge. If you're curious, it was the Wild West room at the Mississauga location of Escape the Six.

The next day, Tom and I, who haven't been able to take a vacation this summer for a variety of reasons, spent the day at Niagara Falls. We did the Hornblower tour, which brings you right up to the Horseshoe Falls, visited Niagara Glen, hung around in the city a bit, and then took off to St. Catharines for one of the best Italian meals I've ever had — top three for sure. It left me feeling recharged and inspired to do some dissertation chores I've been putting off, like scanning forms and that sort of thing.

QGCon is also coming along! We announced our dates yesterday — May 23rd and 24th, so I'll be spending my wedding anniversary running a conference. We also announced that I'm this year's lead organizer! The team is really lovely and we're doing great things together. I'm looking forward to it.

I don't know how the next little while will go, because I've been pretty good about my rule of taking evenings and weekends off — I am definitely much more productive and recovering from

the burnout I've been experiencing, but Monday is deviated septum surgery day, so who knows when I'll be feeling up to making a wooden suitcase or working on game design. I'm also teaching again in the fall, so while I think I'll be fine, scheduling-wise, it's possible that teaching-related emergencies might come up.

Here's hoping I'll still be on track to finish the dissertation by the spring! There's a good chance that I won't be, but I'll do my very best!

September 9, 2019

DISSERTATION: HOPES AND ANXIETIES
autoethnography, dissertation, Process Writing

Well, it's been three weeks since my last blog post, and things didn't quite work out how I thought. This post will detail some feelings about that, about what happened instead, and what I've been up to with my design work. I also have some feelings that I wanted to capture about this final game project and what will most likely be the last year of my PhD.

First of all, my surgery was cancelled, again, meaning that I missed out on speaking at MUTEK IMG for no reason, but I did get to go scuba diving. To be honest, having the surgery cancelled again was really hard. It took a lot of mental preparation to be ready for what would be, by all accounts, a shitty recovery period. I have a lot of anxiety around breathing and having a blocked nose (remember this — it'll figure in a later story). This surgery was eventually supposed to make it so that my nose wouldn't be blocked so often, so that was what made my stress about that worth it. There were no other possible surgery dates in August, and I am teaching September through December, so I couldn't reschedule it. Now we'll have to see for December.

I've met up twice with my woodworking in-law (who decided that they would rather not be named in publication) and we have a solid plan for the suitcase. It will be personal-item sized and made of wood. We bought wood at Home Depot and made a few initial cuts. We are meeting again soon to start putting some of the pieces together. In the meanwhile, I managed to finish a laser-cuttable file for one of the puzzles and get it laser-engraved at Concordia's Digital Fabrication Lab. They were very friendly and helpful, and the whole project cost me less than 3\$. Pretty awesome. I also have some extra wood in case I want to laser-engage other things (and I just might).

laser-engraved puzzle panel

In between those two meetings, I went scuba diving on the Keystorm and on the American, two wrecks in the St. Lawrence near Ogdenville, NY. This is where the breathing part comes in. I hadn't been deep-diving in a long time, and I wanted to take it slow to get back into practice. I was feeling sore and a bit uncomfortable in my equipment, which hadn't seen use since June. So, I told Tom that I wanted to take it slow on the wreck. A third person volunteered themselves to our team, and although I felt awkward about it, I didn't say anything. This person was also bringing along a camera — what fun! They are an experienced instructor and I have been diving with them before during the children's camp certifications. I had always found them a bit impatient with the kids, and they had had trouble keeping track of the kids in the past. They wanted to hit the water and were impatient to do. So I felt rushed. Then, we descended on the wreck, and they took us down the "wrong" side — the dark side of the wreck. There was a hulking, 256-foot steel freighter looming above me on my left side, its underside completely featureless. This buddy rushed along, taking us to our max depth of 110 feet. I felt winded, I felt

like I was having trouble catching my breath. I tried to breath slowly, because a single tank of air doesn't last all that long at 110 feet. I felt myself starting to practically hyperventilate, which then led me to think that I wouldn't have enough air to make it back to the surface if we kept this pace and I stayed down there. I was slowly starting to panic inside, and I couldn't slow my breathing. This third buddy was nowhere to be seen, and Tom was not as near to me as I would have liked, probably looking for our buddy. Tom found me and asked me if I was okay, and I wasn't. I contemplated doing an emergency ascent — but I would be skipping a lot of safety stops and might very well give myself the bends. I think I was still pretty close to making that decision — my breathing just wouldn't slow. Tom grasped my shoulders, looked into my eyes, and signaled for me to breathe slowly. My mind latched onto his presence, and I did my best to slow my breathing. I told Tom I wanted to start going up slowly and leaving, and we slowly started to ascend. Around 70-80 feet, I started to feel better, and I felt that I could continue the dive.

Nitrogen Narcosis can be terrifying.

For those of you who don't scuba dive on the regular, Nitrogen Narcosis is a condition whose effects are usually noticeable 100 feet deep or more underwater. Everyone gets narc'ed — there's a physiological effect whether one notices it or not. It's often described as "the drunkenness of the depths" and that's apparently what it is like — being drunk. It can have a greater impact on you if you're tired, dehydrated, or otherwise just feeling off. That day, it caused me to fixate, like a drunk person who can't stop telling you how they're "so drunk right now." Because I was feeling rushed and probably did legitimately need to go more slowly, I fixated on my breathing. It was really, really scary, and one of the first times that I have felt the effects of narcosis so keenly. I know that it was narcosis because as soon as I started to ascend, I felt better. Sure, 100 feet is also at a greater pressure than higher up, and that might also have helped me feel better, less squeezed. I remember feeling squeezed by the water pressure at 60 feet, my first time that deep when I was certified for open water diving.

So, we came back up (with plenty of air) and Tom and I tried to discuss the situation with this buddy, but they seemed almost willful in their refusal to acknowledge that anything was wrong or that they might have done something wrong. I was mad. I still sort of am. It's stuck with me, these past few weeks. Also, our second dive with this person that day was little better. They barely checked in with us and went off on their own without paying attention to where we were frequently. I will never dive with this person again if I can help it. I didn't feel able to make a scene on the boat — this was the first time we were diving with these people, and they couldn't have known what really happened under there, so I was worried we would come off as unsafe amateurs. So I kept it polite.

Anyhow, since that incident has been preoccupying me, I guess I thought that it might belong here.

In between sessions building the suitcase, I've been plugging away at the puzzle design (not as frequently as I would have liked to) as I got ready for the start of the semester. We took labour

day weekend off and just did social activities the whole weekend — that was awesome. The semester started, and I had my first class on the 6th. So far, so good. TAG released its statement of values and code of conduct last week, which I worked very hard on and am glad is finally out in the world. I'm going to skip over a whole lot of feelings here about what has been happening in the games industry these past few weeks, because it's very complicated and draining, but many people are feelings empowered to come forward about abusers. There's a lot that comes with that, and it's hard for a lot of my friends, and for me.

The last puzzle is still giving me some trouble. I know how I want it to work mechanically, but I want it to feel integrated with the questions and themes that are being explored in the suitcase. Each of the other puzzles does this fairly well, I think. Although there's no "theme" or "genre" for the suitcase, no fictional frame that the puzzles have to line up with, the questions being asked inside of the boxes that are opened when the puzzles are solved are thematically linked to the solved puzzles. So.

I still have a lot of physical crafting and arranging to do, plus the design of that last puzzle (along with programming it). There are a few small programmy things to do for one of the other puzzles, but this last puzzle is the main task. Is it overly complex? I don't know. I have a choice to make between trying to get the other puzzles and their programming and physical crafting finished, or trying to work out this one. Maybe it'll fall more easily into place if I take some time away from it.

I've also been working on securing a whole lot of logistical things for QGCon, and that's going pretty well, although it's a lot of work. We got to announce our keynotes and our CFP and CFG! Avery Alder and Dr. micha cárdenas are our keynotes.

Time pressure continues to be a source of anxiety— I want to finish my PhD in a timely fashion, and of course, the longer this last game takes, the less and less possible that feels...At the same time, finishing will be a big step. I keep on getting asked what I want to do when my PhD is finished, and frankly, I think that what I want isn't possible. I want a decent job with decent benefits and pay where I keep getting to make these weird projects and other creative work in small teams. I want to be able to afford to go on vacation and retire. I want to make weird feminist art games. I want to stay in Montreal where my family and friends are. I would someday like to have a house. Isn't it strange that those seem like such huge asks under the current conditions we live in?

So. I'm feeling a little bit glum. Everyone I know is overworked, and I can't stay in Academia — not without sacrificing things that I am not willing to sacrifice — unless the perfect position comes along. It...all feels a little out of reach. Not to mention that there are so many other things wrong with the world, like climate change and fascism. Apparently another recession is coming, too.

So here I am, working on finishing my PhD

September 23, 2019

DISSERTATION: ESCAPE SUITCASE PROGRESS & CHALLENGES

autoethnography, critical making, dissertation, Process Writing, research

I thought I'd write a little update to say that the physical making of the escape suitcase is going pretty darn well. I'm very happy with the look so far. The structure of the box itself is done, and the outside parts are done (but not stained and the hardware isn't on). Next, we have to plan and make the inside of the box (I'd list some parts but I want to avoid spoilers for the solutions).

What makes that a bit difficult is the fact that I still haven't managed to finish that last puzzle. I talked about it at the new design group that's forming at TAG, I had some conversations with Tom about it, and still, I'm having a hard time getting into it. The general advice seems to be to try and change my frame of reference/point of view — either in terms of the puzzle type, or the theme, or the interaction. That's what I'll be trying my best to do today.

For my good friend Gina's birthday, we played an escape room yesterday — we won! The one thing we got stuck on was...maybe a bit unfair given the horizon of expectations that the escape room genre sets up, and the positioning of the clue in the room, along with some red herrings, which in the end required us to revisit a puzzle. We had to ask for a hint on that one! But from there, it was pretty smooth. It was on the whole a very well-designed room but, I have to say, the thing that I am trying to avoid in this last puzzle, which is feeling that there's a kind of disconnect (or only a shallow connection) between the puzzles in the room and the narrative was definitely present. It's definitely hard to design puzzles and narratives that fill fit those puzzles without being stilted, but I think it's a worthwhile goal for escape rooms, and for my project.

Okay, time to try designing this puzzle once again!

September 30, 2019

DISSERTATION: FIDDLY ELECTRONIC BITS AND PLANNING

autoethnography, critical making, dissertation, Process Writing

This is just a small update because it's the kind of thing I'm likely to forget in hindsight. I just spent about two and a half hours on the internet and on the Adafruit website figuring out a way to make my patches more visually appealing and provide more feedback. There's still going to have to be some work to do to get all these wires to behave, but hopefully I can manage something compact and safe (I'll be using lithium ion battery packs for part of this). I'm especially concerned about shielding the lithium ion batteries.

Generally speaking, my plan is to sandwich a few things together. I'm hoping to make a flora power neopixels and a small vibrational motor. I have to handle where to place the LEDs and the motor and where to run their respective wires, then where and how to shield the battery while maintaining access to the flora (maybe some kind of slit in the material). I also have neopixels that I want to shine through part of the material. Then, there's the wire to actually turn the patches into buttons, which has to attach into the conductive thread at the back. It should work out fine but there may be some trial and error.

Meanwhile, the box is nearly done, though I may need to add holes to accommodate some of this hardware... We have to make lids for the inner boxes and assemble everything with the hardware. We also have to make a handle for one of the outside puzzles. From there, most of the puzzles are already done and ready to go except for this last one, which is more involved. I have some re-writing and adjustments to make to the prototype of the puzzle, which I plan to try and do today, and I have physical crafting and embroidering and arduino programming to do in addition to the program that will display all this text and cycle through it. I thought I would want to do this with a visual/WYSIWYG program like Construct 2, but it might be easier to just have the RPI boot up and start the program if it is javascript-based.

I'm off to try and rewrite the last puzzle to make it a bit more of a riddle! We'll see how it goes!

October 21, 2019

DISSERTATION: WHEN RECHARGING IS THE BIGGEST PROBLEM

autoethnography, critical making, dissertation, Process Writing

Well, it's been a while since I wrote, and working title "escape suitcase" is moving — a bit slowly, maybe, but still, it's moving.

One thing that I am noticing is how much the fact that I have to slow down to physically make things gives me opportunities to think about the design of the project and let things percolate.

I am also noticing, importantly, the limits of my ability to document. Documentation is great until it's getting in the way of the work, so I have had to make some compromises about recording design conversations, for example, because I'm in a room full of flying sawdust and it would be silly to ruin a recording device that way, or to make someone listen to a saw blade and then discuss whether we have to cut it more before turning the sawblade again. So, where documentation was getting in the way of my ability to do the work, I either didn't document or delayed documentation. Some parts are lost, but it's still way more than we usually get from the design process, and there's already so much lost as my brain continually works out small problems or thinks about the project without my volition.

A problem area that I wasn't expecting is power sources for my theatrical light-up and vibration patches. So far, the tech works fine when plugged into my computer. I bought batteries that should be able to do the trick, but the tiny USB LiPo charger that I bought on Adafruit just isn't cutting the mustard. So, instead, I bought a larger charger (after doing some research, and at great expense), but while it has ports on the balance boards for 2S (2 cell, essentially) through to 6S LiPo batteries, it does not have 1S ports.

So. I bought batteries. Too small. I bought new batteries. Couldn't charge them (or so I thought at first, because they just weren't being supplied enough power). I bought a charger. Still can't charge my batteries.

I am currently testing a non-ideal solution with the tiny Adafruit USB charger. It turns out there's a spot at the back that you can solder closed to make it give 500mAh instead of 100... That'll be 5 times faster but still mean 5 hours (I'm guessing?) for charging 1 battery. For now, I'm returning the charger I bought and will keep looking at solutions, including buying more batteries and maybe a different charger.

We're into the fiddly bits of the project, like whether to cut wood 2 millimeters in one direction or another to hide certain secrets better, or into designing cases for the various boards that need to be screwed into the suitcase. That stuff, though occasionally time-consuming, given the 3D modeling and printing involved, is going fairly well.

So, finishing the actual suitcase (sanding and hardware, maybe drilling a few holes for power supplies) is still on my task list, along with soldering and making these conductive patches, finding a solution for the batteries, finishing programming for one of the puzzles, and writing the rules/frame for the game.

Oh, I also wanted to mention something really nice that happened! TAG now has a design conversation group that meets every Wednesday — which is also really nice but not what I wanted to mention. At a previous week, I had mentioned my intent to use a kind of web-based Konami code for one of the inputs I was building, and Pippin had offered to help if I ran into trouble. So, the next week, because I am very busy with teaching and a SSHRC Connection grant, I hadn't had the chance to make much progress. Later on that day, Pippin talked to me and had made a small, stripped down version of the program that I needed! It kind of felt like someone bringing you a coffee when you're tired or sending you a card when you're feeling down. I really appreciated it, and it reminds me of how important community and friendship is, even when working on ostensibly solo projects.

That's one thing about these projects: I worked on them in three very different ways, from being isolated and alone in Fort McMurray on Flip the Script!, to wanting to forge ahead alone and be as independent as possible for TRACES, and needing to learn to ask for help, to recognizing for this untitled game just how much having people to turn to while making TRACES mattered, and making collaboration a clearer part of this project, knowing from the start that I wouldn't be able to do an adequate job of all the woodworking alone.

Back to the title of this post: recharging my physical, Lithium Polymer batteries is one problem that I've been having, but it also definitely refers to the feeling of being overwhelmed by work right now, and not wanting to burn out again, like what happened while I was working on TRACES. It's not the dissertation that I'm pushing too hard on, though! It's stress from other areas — teaching, writing grants, planning a conference, my spouse being in the market for a new job but also being close to burnout himself, continued nonsense with his old employer... Anyway.

I am trying to be really careful, but there is definitely pressure to overwork: my students need feedback and need my time to be able to continue their work, QGCon attendees and team members are relying on me to try and get as much funding as possible, and there's time pressure to finish my PhD because my funding will end in the spring. I'm saving what I can, but since my spouse is currently on Unemployment Insurance, there's some worry there too.

January 8, 2020

DISSERTATION UPDATE: THE F*KING BOX!**

autoethnography, critical making, dissertation, playtest, Process Writing, research

It sure has been a while since I wrote a dissertation blog post. The last time I wrote was right before October 25th, when my students' project proposals were due, and I had to give detailed feedback to almost 70 students so that they could complete final projects (which I also had to correct). I'm feeling a lot less overworked and a lot better now, although I am still very busy.

I've been doing a lot of documentation through photos and through posts on Instagram and Twitter (which I've also been screenshotting). I couldn't do as many design interviews because of the activities I was doing with the person I was collaborating with involved a lot of loud power tools and silent working, punctuated by problem-solving. And there were a lot of finicky things.

I did however keep talking about the project at the lab's weekly design meeting whenever I could.

In a nutshell, October through November was mostly all about physical crafting. With the puzzles designed and mostly programmed (although there have been tweaks here and there since then), I had to buckle down and do things like designing and embroidering conductive patches (with lots hand-sewing), and finishing up the box, besides the hardware. This also involved sanding and staining.

From there, toward the end of November, most of my energy went to my students and preparing for my deviated septum surgery (which finally happened December 9th). With almost 70 students, getting all the grading done between November 29th and December 9th was certainly an adventure.

The good news is that the project is finished except for a name and a carrying strap, and any fixes I do to things that arise in playtesting (and some already have, like some errant shapes that I didn't realize were there). We finished the box just before New Years, and toasted the completion on New Years Day with a shot. I realized that I might be a designer because I enjoy problem-solving and working with all of the issues that we encountered, whereas the person that I was collaborating with was more frustrated with the process.

Since then, I finessed a few things (used steel wool to smooth the box a bit, and wrapped wires with gaffer's tape, for example), and sewed a cover to protect the case.

I am really pleased with the results of the limited playtesting I've done so far (4 playthroughs with a total of 8 people in various configurations, 2 groups of 2, 1 group of 3, and one solo

player). Based on the experience of the solo player, I've decided that, as I thought might be the case, 2-3 is the sweet spot for the number of players.

I am next bringing the suitcase to QGCarnival, where I hope to play a few rounds. It's QGCon's official fundraiser!

After that, everything is likely to stall for a few weeks as I am scheduled for top surgery on the 16th. I hope to get a little bit of work done (getting the audio transcription stuff going) but I will need a lot of rest.

So, I've got playtesting to do this semester, and then need to write my dissertation, I'm leading the QGCon team, I'm getting top surgery, and I'm helping to plan an exhibition over the summer. That's a lot less than last semester, even though it's a lot! Oh, and I may apply for a conference or two. I really want to apply to CGSA if I can find the time this year.