

Tradigital Knowledge?

Indigenous Video Games, Intellectual Property Law and the
Protection of Traditional Knowledge



Gabrielle Hughes
Wadham College

Thesis submitted in partial fulfilment for the degree of
Doctor of Philosophy in Archaeology
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For Michelle

Msit no'kmaq

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Abstract

Using intellectual property law and video games made by, for, and with Indigenous communities, this thesis examines the challenges and opportunities for the protection of Indigenous traditional knowledges in digital spaces. Existing scholarship addresses the inability the various categories of intellectual property (IP) law (particularly copyright) as they currently exist, to provide adequate protection for Indigenous traditional knowledges. Digital media poses a similar challenge to IP law. These two categories of “challenges”—sometimes dichotomized as the ‘very old’ and the ‘very new’—are often discussed in opposition to one another, the former associated with demands for increased protections and limited access, the latter with demands for increased access to information and diminished IP protection. This dichotomy of ‘old’ and ‘new’ is likely based on an assumed incompatibility between Indigenous traditional knowledge and technological innovation. By situating Indigenous video games and the traditional knowledges they hold within an historical context of continual development and (ex)change, this thesis demonstrates that change and innovation do not contradict tradition as the discourse often suggests. The video games presented in this thesis emerge from traditional, local, and historical contexts, and demonstrate the ways in which forms of traditional knowledge such as storytelling, mythology, song and language, exist digitally. Through the lens of Indigenously determined game design, this research argues for the validity of what I have termed ‘*tradigital*’ knowledges — that is, the traditional knowledge in and of digital environments. It suggests that meaningful protection extends beyond the bounds of Western law and must include the support of intergenerational knowledge-exchange, skill-sharing and capacity-building which ensure the continued relevance, responsiveness and resilience of traditional knowledges.

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List of Acronyms and Initialisms

ABS	Access and Benefit Sharing
AbTeC	Aboriginal Territories in Cyberspace
ACTA	Anti-Counterfeiting Trade Agreement
BIRPI	International Office for the Protection of Intellectual Property
CBD	Convention on Biological Diversity
CCD	Convention on the Protection and Promotion of the Diversity of Cultural Expression
CONTU	National Commission on New Technological Uses of Copyrighted Works
DMCA	Digital Millenia Copyright Act
DSS	Developer Satisfaction Survey
FFM	Fact-Finding Missions
FOSS	Free open-source software
GIs	Geographical Indicators
IGC	Intergovernmental Committee on Intellectual Property and Genetic Resources, Traditional Knowledge and Folklore
IGDA	International Game Developers Association
IP	Intellectual Property
IPRs	Intellectual Property Rights
MET	Material Engagement Theory
NGO	Non-Governmental Organization
TKDL	Traditional Knowledge Digital Library
TRIPS	Agreement on Trade-Related Aspects of Intellectual Property Rights
UN	United Nations

UNESCO	United Nations Educational, Scientific and Cultural Organization
UNDRIP	United Nations Declarations on the Rights of Indigenous People
WGIP	United Nations Working Group on Indigenous Populations
WIPO	World Intellectual Property Organization
WRWT	When Rivers Were Trails
WTO	World Trade Organization

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Chapter 1

INTRODUCTION

Focusing on video games, made by, for, and with Indigenous communities, this thesis examines the challenges and opportunities for the protection of Indigenous traditional knowledges in digital environments. Existing legal literature addresses the inability of capitalist individualism and the legal structures it gives rise to—in particular, 'Western' intellectual property (IP) law—to provide adequate protection for Indigenous forms of cultural expression and traditional knowledge against misappropriation and misuse. While both traditional knowledge and digital media—to quote Daniel Gervais (2002), the 'very old' and the 'very new,' respectively—pose a significant challenge to copyright law, and intellectual property law more generally, they are often addressed as separate, if not wholly antithetical, categories, the former associated with demands for increased protections and restricted access, the latter, demands for wider distribution and increased accessibility.

This division is perhaps due to an assumed incompatibility between Indigenous traditional knowledge and technological innovation. However, by situating traditional knowledge within an historical context of continual cultural (ex)change, this thesis will argue that change and innovation do not contradict tradition, but rather, that traditional knowledge and innovation are one, articulated in this instance by Indigenous video games, which emerge from and participate in their unique cultural contexts as continued manifestations of and contributions to traditional knowledge. While these digital manifestations of traditions in many Indigenous video games rightly challenge inaccurate

boundaries between 'old' and 'new,' they also present a unique challenge to legal and government bodies. There is a potential risk that developments in law and policy would assign to each a different legal strategy and negate the authenticity of contemporary expressions of Indigenous traditional knowledge based on the premise that the material in question is either 'old' or 'new.'

However, while change is often acknowledged as an integral, if ill-defined, aspect of traditional knowledge, there remains, as many scholars have noted, a lingering inclination to associate traditional knowledge with the 'old.' Outdated and essentialist assumptions about the static nature of traditions and culture risk the promulgation and implementation via legal structures this misconception about the nature of traditional knowledge. In the absence of a clear, nuanced legal strategy to provide legal rights-based protections for Indigenous traditional knowledges, this thesis argues that Indigenous video games may provide non-legal protective measures for traditional knowledges through outreach education and the promotion of Indigenous knowledge and cultures by and for Indigenous Peoples. Additionally, they may offer a compelling rebuttal to the common misconceptions about traditional knowledge through their contributions to what I have termed '*tradigital* knowledge'—that is, traditional knowledge in and of digital environments, evidencing a harmony between the traditional and the digital, rather than their alleged contradiction.

In using Indigenous video games as case study, this research offers insight into the ways in which Indigenous creatives and communities view the relationship between technology and tradition, to understand what their concerns are, if any, on digitizing traditions, and how they would like to see their traditions protected and maintained in

virtual contexts. It rejects Gervais's binary and seeks instead to propose a protocols, policy, or legal strategies that are able to respond to the multivalent nature of Indigenous traditional cultural information and expressions which defy the narrow categories and expectations outlined above.

1.1 Research Question and Core Argument

This thesis examines the challenges for the protection of traditional knowledges in digital environments. It questions whether the expansion of IP law and its underlying logic for the protection of Indigenous traditional knowledge are the most effective or appropriate means for its protection. Through working with Indigenous video game developers and the Indigenous communities whose traditions inform and exist within these video games, this research argues that the top-down application of property rights law may further colonial oppression by extending the reach of 'Western' logic and imposing it over Indigenous practices, protocols, and governance.

I began this research in search of examples that would illustrate the simultaneity of the traditional and the digital. My goal was simply to garner evidence to argue for caution in advance of finalizing any legal strategy for the protection of traditional knowledges, and that it must first be understood that traditional knowledges are not relegated to some distant past, but rather grow with the people with which they belong. I entertained the possibilities of social media, blogs, YouTube tutorials, but found that I was increasingly pulled towards video games made by, for, and with Indigenous game makers. What I came to understand, over the course of this research, is that the protection of traditional knowledge means more than the creation or expansion of law to prevent or discourage misappropriation. Protecting traditional knowledges also means supporting the

culturally specific processes which strengthen and encourage the growth and development of traditional knowledge.

The core arguments of this thesis are made by addressing IP law through the lens of innovation in digital environments. This argument was informed through the analysis of Indigenous video games, through participant-observation in video game workshops and ‘play sessions’ at school, festivals, and conferences, and most significantly, through insights gained during interviews with Indigenous game developers.

As I will discuss in greater detail in Chapter 3, Indigenous video games may be broadly understood as works of digital interactive media structured by rules and actions. They are made by, for, and with Indigenous individuals, Indigenous-led teams and organizations, and Indigenous communities and nations. Indigenous video games offer a concise framework within which questions regarding the protection of traditional knowledge in the context of digitization can be addressed. They participate in the vast, virtual worlds of Indigenous digital media, replete with creative works, games, thoughts, and resources for and by Indigenous communities and creatives. They are often community-focused and collaboratively developed, either through in-depth consultation or, more often, directly by Indigenous communities. The games discussed in this thesis create immersive virtual landscapes inspired by and incorporating traditional values, teachings, and knowledge, as expressed in songs, oral tradition, traditional designs, and language. As Chapter 3 further discusses through the framework of ‘archaeogaming,’ video games may also be understood as both archaeological site and artefact, as they are at once the product of culturally mediated process—an artefact—as well as virtual,

participatory environments hosting culturally specific digital objects and player actions and interactions—the site.

This thesis discusses the nature of protection of traditional knowledge in these digital environments. Building on existing legal literature, this thesis addresses the gaps in protection for traditional knowledge under current Western legal frameworks, with a focus on copyright and IP more generally. However, this research, in the end, is not about law per se. Rather, this thesis seeks to address the notion of ‘traditional knowledge’ and ‘protection’ conceptually, and to understand what robust, non-legal protective measures look like in practice in the absence of a suitable, positive legal protection. This thesis argues that IP law is an inherently inaccurate tool, developed independent of the many diverse structures that govern traditional knowledge in community, and therefore often inadequate for the protection of traditional knowledge.

While there exists scholarship as to benefits of information and communication technologies (ICTs) for the protection of existing traditional knowledge through archives and labelling systems, there remains a lack of scholarship focusing on the emerging challenges of the new digital environments and materialities. My goal was therefore to understand the nature of traditional knowledges as they are expressed by or held in digital media. Simply proving that traditional knowledge can exist and be communicated by video games in digital environments was not the most interesting outcome of this research, in the end. Nor was the confirmation of the ill-suitedness of proposed legal protection measures for traditional knowledge. What is more interesting the understanding that traditional knowledge is responsive to digital environments, that protocols specific to the development of video games, and digital media more broadly, is

ongoing and fosters emergent knowledge. I will argue that this responsiveness, or change, must necessarily be considered when considering the protection of traditional knowledge—legally and otherwise.

1.2 Thesis Outline

To address the question of traditional knowledges in and of digital environments and implications for their protection, this thesis is presented in three parts. Part I is a conceptual and theoretical literature review, Part II presents the core data that informs the discussion, and Part III combines discussion with insights from interviews with video game developers and video game analysis.

Part I: Literature Review

Part I, which comprises Chapters 2 and 3, presents the literature review and core theoretical considerations, covering both the legal discourse and the emerging academic discourse on Indigenous new media and video games as cultural objects and environments. Chapter 2 lays the groundwork for later considerations of the protection of traditional knowledge. It first addresses the concept of traditional knowledge, with a focus on the definitions developed by the World Intellectual Property Organization (WIPO), discussing how traditional knowledge is currently understood in international law. It addresses traditional knowledge on a conceptual level and legitimizes the argument for its protection. With a focus on copyright law, it outlines the current gaps in protection under existing IP law, and presents the suggested protections measures, including the expansion of existing IP law, the development of a *sui generis* legal instrument, and the application of human rights as a framework to mobilize customary law. It concludes with a discussion on the intersection of IP, digital media, and traditional

knowledge, outlining the potential risks and benefits of digital media for the protection of traditional knowledges.

Pivoting from Chapter 2's focus on the law, Chapter 3 is media-focused, and introduces video games as objects and environments of culture. This chapter discusses the history of Indigenous new media and traditional knowledge in the context of "our tradition is to innovate," briefly outlining the historical context of development and (ex)change through which emerging concerns for the protection of Indigenous traditional knowledge can be understood. Within the framework of Indigenous new media, it introduces video game scholarship, providing the broad framework in which Indigenous video games may be considered manifestations of traditional knowledge in digital environments.

Part II: Research Design & Results

Chapter 4 outlines the research questions and methodologies. The ends and the means of this research are somewhat conflated; this research investigates the governance of traditional knowledges and communally held information, and the methodology and methods also necessitated navigation of appropriate information governance. The relationship between the means of the research and the arguments of the research will be discussed in this chapter through the lens of indigenous research methodologies, which are discussed in relation to how they were applied to the research design.

Chapter 5 is the first chapter to present the results of the research and introduces the video games and video game developers featured in Part II and III. It discusses Indigenous video games in three broad categories: games for learning, which are created with the aim of passing on teachings, songs, and language; games of experience, introducing video games that seek to bring the player into an immersive, often empathetic, experience or

share the game developer's perspective onto an event or topic; and finally, games of storytelling, which tell stories—both pre-existing and contemporary—through digital interactive storytelling. Following this, Chapter 6 focuses on the making of the video games presented in Chapter 5. This chapter discusses Indigenously determined game design. It focuses particularly on traditional knowledge and traditional protocol traditional governance as they are critically engaged and revised during the making of video games. While this chapter covers both independent game design and community collaborations, this chapter highlights in particular the video game workshop, as community-centered opportunities for the intergenerational development and continuation of traditional knowledge.

Part III: *Tradigital* Knowledge? Discussion & Conclusion

Part III presents the core arguments and conclusions of this thesis. Merging the questions outlined in chapters two and three with the information presented in Chapters 5 and 6, Chapter 7 seeks to answer the first part of this thesis's core question: can traditional knowledges exist in digital contexts? In order to answer this question, Chapter 7 first provides an overview of interviewee understandings of traditional knowledge, building on the definitions presented in part one of this thesis and emphasizing traditional knowledges as a process of continuous growth and responsiveness. It then considers the presence of traditional knowledge in digital environments, first as embedded within the game worlds themselves, then as applied and developed through the making of Indigenously determined video games, and finally, as they are enacted through the reciprocal event of play. The chapter concludes with two related but separate discussions on the ever-changing nature of traditional knowledge; the first addressing the falso

binary of 'old' and 'new,' and a concluding section arguing for the legitimacy of what I have termed *tradigital* knowledge.

After establishing the legitimacy of digital manifestations of traditional knowledges in Chapter 7, Chapter 8 will consider the implications for its protection based these new insights. It will first consider IP's framing of traditional knowledge, with regards to the nature of ownership and copyright requirements, contrasting them against the evidence presented in Chapter 7 on the nature of traditional knowledges. It will argue that ownership and many of the structures inherent to intellectual property law particularly ill-suited to the definition and subsequent protection of traditional knowledge. Before applauding Indigenous video games for their potential for the protection of traditional knowledge, Chapter 8 will then consider the possible detriments of digital media, building on the literature presented in Chapter 3. As I will contend in Chapter 8, however, this argument will caution that, regardless of the benefits of digital media for the continued development of traditional knowledge, digital media and *tradigital* knowledge cannot and should not replace the experiential, embodied significance of existing forms of traditional knowledge. Chapter 8 will conclude with a discussion on the possibilities that digital media, and video games more specifically, offer for the protection of traditional knowledge, providing remotely accessible, immersive, and engaging spaces for learning for community members living outside the bounds of community and across generations.

PART I

Literature Review

Chapter 2

INTELLECTUAL PROPERTY & TRADITIONAL KNOWLEDGE

In recent years, there has been a turn to protect Indigenous people's rights (Anaya 2004) in international law generally, and to address the current gaps in protection for traditional knowledges in intellectual property (IP) law specifically. In the past few decades, international law has started engaging with the lack of protection of traditional knowledge and related concepts. Traditional knowledge and related concepts have been discussed at the World Trade Organization (WTO), the United Nations Educational, Scientific and Cultural Organization (UNESCO), and efforts to address this gap included the 1983 Food and Agriculture Organization (FAO) International Undertaking on Plant Genetic Resources, which was superseded by the 2001 International Treaty on Plant Genetic Resources for Food and Agriculture, the 1992 Convention on Biological Diversity and its 2010 Nagoya Protocol¹ and the 2007 United Nations Declaration on the Rights of Indigenous Peoples.

The World Intellectual Property Organization (WIPO) has been exemplary in recognizing the lack of protection for traditional knowledge and seeking to remedy this, and has made ongoing efforts, often in conjunction with the United Nations Educational, Scientific and Cultural Organization (UNESCO), towards drafting an instrument for the protection of

¹ In full, the Nagoya Protocol on the Access to Genetic Resources and the Fair and Equitable Sharing of the Benefits Arising from their Utilization

traditional knowledge. Their efforts include the 1976 Tunis Model Law on Copyright for Developing Countries, the 1985 Model Provisions for National Laws on the Protection of Expression of Folklore against Illicit Exploitation and other Prejudicial Actions, the 1989 UNESCO Recommendation on the Safeguarding of Traditional Culture and Folklore, and more recently, the 2003 UNESCO International Convention for the Safeguarding of Intangible Cultural Heritage (from which both Canada and the U.S. abstained).²

This chapter considers the efforts of the World Intellectual Property Organization (WIPO) and its Intergovernmental Committee on Intellectual Property and Genetic Resources, Traditional Knowledge and Folklore (IGC), specifically as they have been key in defining ‘traditional knowledge’ and addressing the current gaps for its protection under international IP law, making considerable efforts towards defining and protecting traditional knowledge. It introduces the legal definitions of traditional knowledge and related terminology, addressing these conceptually with specific regard to the misconception that traditional knowledges are necessarily ‘old’ and outdated. It discusses the shortcomings of existing legal frameworks related to copyright and offers a critique of the suggestions for its expansion to encompass traditional knowledges, which currently are often ineligible for copyright protection. It also touches on the intersections between IP, traditional knowledge and digital media, within which Indigenous video games will later be considered.

² See appendix for select passages regarding the protection of traditional knowledge and intangible cultural heritage.

2.1 What's in a Name? 'Defining' Traditional Knowledge

This section provides a starting point to understanding traditional knowledge and focuses on the definitions generated and employed by the WIPO and related scholarship. These definitions will be addressed and challenged throughout the course of this thesis, with further critical engagement in Part III in the context of traditional knowledges informing Indigenous video games.

The Making of Traditional Knowledge

In the late 1990s, in recognition of the gaps in protection for what is now called 'traditional knowledge' in international IP law, WIPO commissioned nine 'fact-finding' missions (FFM) across various regions globally to identify the IP needs of Indigenous and local communities from the 'inside-out' as opposed to the 'top-down' (Recht 2009). As a result of these fact-finding missions, the Intergovernmental Committee on Intellectual Property and Genetic Resources, Traditional Knowledge and Folklore (IGC) was established, its work underscoring the shortcomings of Western legal paradigms to protect traditional knowledge. The term 'traditional knowledge' was presented in the resulting 2001 report, *Intellectual Property Needs and Expectations of Traditional Knowledge Holders*, as a 'consolidation' of the missions' findings. 'Traditional knowledge' is sometimes understood to be a 'subset' of heritage more generally (Gervais 2003). It emerged as a concept distinct from 'folklore,' which was determined to be too narrow in scope, and from 'cultural heritage' and 'cultural property,' which were determined to be too broad (Howell et al. 2009).

While various efforts had previously sought to define and protect these concepts related to traditional knowledge, the IGC's 2001 report and the many WIPO and IGC publications

that have since emerged clarified the nature, characteristics, and scope of various definitional frameworks for traditional knowledge, offering recommendations for its protection under those definitions. Broadly defined, traditional knowledge includes the “intellectual and intangible cultural heritage, practices and knowledge systems of traditional communities, including Indigenous and local communities,” and “embraces the content of knowledge itself as well as traditional cultural expressions, including distinctive signs and symbols associated with traditional knowledge” (IGC 2012).

Narrowly defined, traditional knowledge “refers to knowledge as such, in particular the knowledge resulting from intellectual activity in a traditional context, and includes know-how, practices, skills, and innovations.” WIPO’s narrower definition goes on to identify the context in which traditional knowledge may be located, “agricultural knowledge; scientific knowledge; technical knowledge; ecological knowledge; medicinal knowledge, including related medicines and remedies; and biodiversity-related knowledge,” as a non-exhaustive list of the many ways in which traditional knowledge may manifest itself (IGC 2012).

WIPO uses ‘traditional knowledge’ to encompass various qualities of knowledge, including all forms of traditional knowledge, traditional cultural expressions, and genetic resources (WIPO 2014a). It further defines traditional knowledge as including “the intellectual and intangible cultural heritage, practices and knowledge systems of traditional communities, including Indigenous and local communities,” which “embraces the content of knowledge itself as well as traditional cultural expressions” (WIPO 2014b). To give a sense of the breadth of the forms of expressions that are considered by the

international legal community, it is worth providing the definition offered in WIPO's Draft Provisions on Traditional Cultural Expression (2014c):

- (i) verbal expressions, such as: stories, epics, legends, poetry, riddles and other narratives; words, signs, names, and symbols;
- (ii) musical expressions, such as songs and instrumental music;
- (iii) expressions by action, such as dances, plays, ceremonies, rituals and other performances, whether or not reduced to a material form; and
- (iv) tangible expressions, such as productions of art, in particular, drawings, designs, paintings (including bodypainting), carvings, sculptures, pottery, terracotta, mosaic, woodwork, metalware, jewelry, baskets, needlework, textiles, glassware, carpets, costumes; handicrafts; musical instruments; and architectural forms.

WIPO has caveated that while this list provides an idea of the scope of traditional cultural expressions, it is left to Indigenous communities to determine for themselves what constitutes traditional knowledge and cultural expression for their Nations and communities (WIPO 2014a), recognizing the authority Indigenous communities have over their distinct knowledges and knowledge systems. As I will further discuss in Part III of this thesis, there may also be disagreement *within* Indigenous communities, with regards to who (both within and outside the community) should have access to and control over traditional knowledge, how this knowledge should be applied or passed on, and whether notions of ownership apply.

Of course, whether broadly or narrowly defined, it remains that knowledge of this nature is necessarily understood to be 'traditional,' a descriptor which has become the cause of considerable debate and consternation. The idea of 'tradition' historically emerged in direct opposition to the concept of modernity (Dommann 2008), which often results in the misconception that traditional knowledges are necessarily 'old,' outdated, or static. So prevalent is this misunderstanding that WIPO explicitly addresses the misconception

that ‘traditional’ necessarily equates to ‘old,’ and states in its description of ‘traditional contexts:’

“Traditional” means that the traditional knowledge or cultural expressions are developed according to the rules, protocols and customs of a certain community, and not that they are old. In other words, the adjective “traditional” qualifies the method of creating traditional knowledge or cultural expressions and not the knowledge or expressions themselves (IGC 2012)

Practices that have emerged as a response to post-colonial and contemporary conditions are often not considered ‘traditional knowledge.’ This is reflected in the comments in the IGC’s initial 2001 report, in which concern was expressed that newer, less specific and pan-Indigenous practices, like Powwows, did not constitute traditional knowledge. As one participant in the Canada and US FFM argued, “the contemporary Indian Powwow is a post-World War Two manifestation that has influence from 1890s Wild West shows. Today’s PowWows are a contemporary pan-Indian manifestation. We are fooling ourselves when we say that these are “traditional” dances” (IGC 2001, 116). This tension between what is authentically ‘traditional’ and emergent or ‘new’ traditions recalls Hobsbawm and Ranger’s notion of the invention of tradition; that is, the recent and often conscientious crafting of something that “appear(s) and claim(s) to be old,” bearing the markers of the ‘traditional,’ but in fact, has an origin that is recent and possibly manufactured in order to appear ‘traditional’ (Hobsbawm et al. 1983).

Highlighting a contribution from another participant in the Canadian and US FFM, the IGC 2001 report also notes that the connotation of ‘oldness’ and ‘irrelevance’ of the term ‘traditional’ has meant that “many indigenous people avoid the term ‘traditional knowledge’ because “traditional” implies that the knowledge is old, static, and passed down from generation to generation without critical re-evaluation, change or further

development.” This note continues to explain that this assumption implies a lack of scientific scrutiny and revision that characterize other “formal” and “systematic bodies of knowledge” that take into account empirical evidence and revision, risking instead classifying traditional knowledge as “cultural” and “antique.” In place of ‘traditional knowledge,’ this participant therefore suggested “Indigenous science” (WIPO 2001, 116), which although is sometimes referenced by Indigenous legal scholars and in related scholarship, is not officially used by WIPO.

The Classification of Knowledge

The distinction between ‘Indigenous knowledge,’ ‘local knowledge,’ ‘traditional knowledge,’ ‘traditional cultural expressions,’ ‘genetic resources,’ ‘ecological knowledge,’ or ‘cultural heritage’ (intangible or tangible), often exists in definition only. Indeed, ‘Indigenous knowledge,’ which can be understood as “local knowledge that is unique to a given culture or society, (...) the systematic body of knowledge acquired by local people through the accumulation of experiences informal experiments, and intimate understanding of the environment in a given culture” (Warren et al. 1993, 8), has only recently come under the purview of legal scholarship, having been more closely associated with anthropology until 1980s (Drahoš et al. 2012). ‘Indigenous knowledges’ were often employed in discourse regarding resource management, development and traditional agricultural practices in the 1980s and 90s, exemplified by scholars working in ethnobiology and the protection of ecosystems in Brazil, in collaboration, for example, with Kayapó community members (Posey 1983; 1984), in community-based resource management practises by Cree Peoples on Turtle Island (Berkes 1987), or enacted in the work of Māori political scientist and researcher, Aroha Mead, who has promoted biocultural conservation, sustainability, and Indigenous rights across disciplines. Indeed,

many of these scholars foresaw and highlighted the overlapping concerns from their disciplines with developing IP discourse (see, for example, Brush 1993; Mead et al. 1994).

Genetic resources—which include, for example, plant varieties, animal breeds and microorganisms—have also increasingly overlapped with discourse concerning IP and traditional knowledge. This is, in large part, because the IGC’s agenda in the late 90’s and early 2000’s was partially shaped by certain aspects of the Convention on Biological Diversity’s (CBD) (Dutfield et al. 2020, 464–466); namely, its third objective, which describes the “fair and equitable sharing of the benefits arising out of the utilization of genetic resources,” and in Article 8 (j) of the CBD, which states that Contracting Parties should “respect, preserve and maintain knowledge, innovations and practices of indigenous and local communities” and commit to share the benefits arising from their use with the appropriate community. The IGC’s goals were also informed by the WTO’s efforts to harmonize the CBD with the 1994 Agreement on Trade-Related Aspects of Intellectual Property Rights (TRIPS), which sought to establish standards for IP-related trade between WTO member states (Voon 2015; Dutfield et al. 2020, 466–467).

The above-mentioned categorizations of Indigenous knowledge and heritage often have more to do with the particular legal body’s framework as they identify their own conceptual boundaries, than with knowledge systems themselves. As Drahos and Frankel argue, “trying to confine traditional knowledge to a class of knowledge (...) or a class of people is very difficult.” They further argue that these limited ‘classes’ are “not necessarily related to the role that knowledge plays in a society, or even what constitutes knowledge, but rather it is to attribute rights, or ownership, to that class of persons,” and may not be representative of the value or qualities the knowledge holds within its specific

cultural context . For the Ktunaxa Nation, for example, ‘cultural heritage’ is used to describe “all cultural resources — tangible and intangible, animate or inanimate — that are important to contemporary Ktunaxa society and the continuity of Ktunaxa knowledge, identity, and traditions”(Bell & McCuaig 2009, 312). Bell noted the Kanai Nation’s description of ‘cultural property’ as encompassing their “‘way of life’ and ‘those things that are given to (them) for (their) existence.’ It includes ‘anything within the boundaries of the Blackfoot Confederacy,’ including ‘intellectual property’ such as ‘language and ceremonies.’” (Bell, Statt, et al. 2009, 223)

As Dutfield and Suthersanen note, the “fragmentation by which the productions of ‘exotic’ cultures can be placed neatly, for the purposes of engaging fruitfully with the rest of the world, into our commerce-driven legal categories pays no heed to a diversity of quite radically different world-views and cultural and spiritual values” (2020, 478). While defining and distinguishing between various qualities of knowledge may be ‘convenient’ for IP law, e.g., the use of acronyms and the distinction between ‘TK’ and ‘TCE’, forcing these conceptual bounds onto various forms and ‘classes’ of traditional knowledge may result in their inaccurate representation in international IP law.

While establishing an internationally recognized glossary through which otherwise unprotected ‘traditional knowledges’ may be protected represents significant well-intentioned efforts, the broad umbrella term does little to encapsulate the cultural complexity of the ever-changing processes of ‘traditional knowledge;’ nor does it necessarily represent the specific systems from which the knowledge in question emerges and to which it belongs. Battiste and Henderson (2000) caution against the temptation to neatly categorize the related and overlapping term, ‘Indigenous

knowledge,’ and directly point to the noun-based structure of European languages as incapable of capturing “Indigenous knowledge or Indigenous ways of knowing,” which is more closely tied to action and Indigenous verb-based languages. They do, however, offer the following common features of Indigenous ways of knowing, which may serve as a counterpoint to WIPO’s enumeration of traditional cultural expression:

1. Knowledge of and belief in unseen powers in the ecosystem;
2. Knowledge that all things in the ecosystem are dependent on one another;
3. Knowledge that reality is structured according to most of the linguistic concepts by which Indigenous (people) describe it;
4. Knowledge that personal relationships reinforce the bonds between persons, communities, and ecosystems;
5. Knowledge that sacred traditions and persons who know these traditions are responsible for teaching ‘morals’ and ‘ethics’ to practitioners who are then given responsibility for this specialized knowledge and its dissemination; and
6. Knowledge that an extended kinship passes on teachings and social practices from generation to generation (Battiste et al. 2000, 42)

Indigenous knowledge can therefore be understood not as that which readily conforms to existing IP categorization, but as a complex and intertwined system of beliefs, ethics, and ways of knowing based on knowledge systems developed relationally and intergenerationally.

In response to these considerations, I would like to touch on how traditional knowledge will be discussed in this research. Legal scholarship concerning the protection of traditional knowledge often abbreviates traditional knowledge as the more concise ‘TK.’ However, as Kelly Bannister cautions, labelling traditional knowledges in this way reduces them to a neat conceptual package which overlooks their depth and nuance (2009). Mira Burri-Nenova similarly notes that shortening traditional cultural expressions to ‘TCE’ creates an “artificially constructed shortcut” which may fall short in its ability to accurately represent the complexities of Indigenous traditional cultural expressions (2010b, 38). This research will thus address traditional knowledge and

related ‘categories’ of knowledge, such as traditional cultural expression, in full, and will be more specific in its terminology when possible and appropriate. I also often make reference to traditional ‘knowledges,’ in recognition of their plurality and diversity.

Conclusion

Protection under Western law requires some degree of definition and parameter-setting. Lawmakers must establish boundaries as to what is to be protected and how. However, traditional knowledge resists any simple or single definition. This has led to considerable debate within the IGC and from legal scholars, Indigenous and non-Indigenous, as to the nature of traditional knowledge, how it is to be understood and subsequently protected. There is, however, perhaps one matter on which legal scholars have recently reached consensus; traditional knowledge is not synonymous with ‘old.’ There remains, however, a lingering and widespread misconception of traditional knowledge as antiquated. The concern is that these misconceptions might affect the proposed protections for traditional knowledge. The concept of traditional knowledge, its longevity and protection, is complex. This section aimed to introduce working definitions and their shortcomings. These concepts will be further developed and redefined through the lens of Indigenous video games in the later chapters of this thesis.

2.2 “Why Can’t We Just Share?”

Upon one further matter most legal scholars will concur: that traditional knowledge is in need of protection from misappropriation and commercial exploitation, currently facilitated by existing gaps in international IP law. When exploring what role IP law should play, however, some raise concerns about the dangers of overzealous intellectual property laws stifling the creativity of artists and the free exchange of ideas; why can we

not all partake in one another's culture freely, creating an environment of open, innovative exchange? Kwame Anthony Appiah observes an emerging possessiveness from Indigenous and local communities over their heritage and knowledge. Co-opting the term from legal scholar Lawrence Lessig (2004), Appiah describes this need to protect and 'own in perpetuity' cultural heritage as 'property rights fundamentalism,' drawing a comparison between Lessig's discussion of Disney's ongoing claims to the ownership of Mickey Mouse with the demand from Indigenous communities to safeguard their cultural heritage from misappropriation. "Navajo Inc.," he quips, "All rights reserved" (2007, 130).

This alleged 'property rights fundamentalism' on the part of Indigenous communities promotes a culturally specific view as to how property, heritage and expressions of culture should be regulated. It also fails to recognize a history of manufactured inequality which willfully sought to sever Indigenous peoples from their traditional knowledges and to debase Indigenous agency and sovereignty, permitting non-Indigenous norms, values, and laws to dominate on Indigenous territories. This section will provide a brief overview of the assimilationist policies and practices which attempted to tear Indigenous peoples from their cultures whilst non-Indigenous groups assumed control and imposed their own structures.

Although initial encounters between Europeans and the Indigenous Peoples of North America were generally peaceful and mutually beneficial (White 1991; Saul 2009), as settler populations increased in number and foreign governments were implemented on Indigenous territories, Western-Indigenous relations deteriorated. Towards the end of the nineteenth century, Canadian and American governments introduced laws that formalized the colonial agenda and existing racism towards Indigenous Peoples. Bills

such as the 1876 Indian Act in Canada and the 1887 Dawes Act in the USA enforced comprehensive programs of assimilation, leading to the loss of cultural specificity (al Attar et al. 2009). This assumption of control over Indigenous Peoples was an organized attempt to 'save' Indigenous communities from themselves by enforcing 'Western' norms through government, religion, education, and law. Traditional structures, councils, and practices, such as the Potlatch and Sun Dance, were banned; entire communities were forced to relocate great distances to less valuable land; and Indigenous leaders were excluded from spheres of influence, such as government and law (Mathias et al. 1991).

In Canada, generations of Indigenous Peoples were violated through practices such as the sterilization of nearly 600 Indigenous women in the 1970s (Stote 2015), the removal of over a thousand Indigenous children from their families by social workers in the sixties, known as 'the 60s Scoop' (Fournier et al. 1997; Johnston 1983), and perhaps most comprehensively, through the residential school system. Known as boarding schools in the USA, residential schools run by Government and Church ripped over 150,000 Indigenous children from their families from the 1870s to 1996, subjecting them to physical, emotional, and sexual abuse, and prohibiting and punishing the use of their languages and the practice of their cultures (Anderson 2012; Macdonald et al. 2012; TRC 2015).

These genocidal programs (TRC 2012) developed concurrently with the nearly fanatical study, collection, and control of Indigenous cultural property and cultural practices by European settlers, explorers, and anthropologists. The above-described atrocities were in part justified by the incorrect assumption that Indigenous peoples were doomed to extinction and required Government 'assistance,' a theory conveniently suiting the

European expansionist agenda (Battiste et al. 2000; Hoxie 2001; Nash 2000; Stocking 1987).

However incorrect, extinction theories were supported by the visible depletion of Indigenous livelihood, brought on by new diseases, forced relocations and assimilation, and the near-frantic collection and control of Indigenous cultural property. Pseudo-scientific studies such as phrenology not only professed to prove the evolutionary inferiority of Indigenous Peoples (Baehre 2008), but encouraged the slaughter of Indigenous communities to provide 'specimens' for research (Deloria 1997; Hinton 2002; Horsman 1975). Fear of this 'inevitable extinction' led to the collection of cultural objects with fervour, ironically leading to a further depletion of the material evidence of Indigenous life and culture on Indigenous territory (Cole 2011). The resulting 'Vanishing Red Man' theory condoned the implementation of policies seeking to limit the agency and control the actions of Indigenous communities, thought to be in need of external intervention and study (Ferguson 1996).

Throughout the colonial period in the Americas and elsewhere, Indigenous people were deliberately disenfranchised as assimilationist policies sought to dismantle their ties to one another and to long held ways of knowing. Banning these practices was a deliberate suppression of Indigenous communities' capacity to 'transfer' knowledge from one generation to the next via the disruption of the structures that supported this transfer, seeking instead to supplant Indigenous systems of education, governance, and law with their Western counterparts (Smylie et al. 2009). Assimilation was an acute attempt to sever Indigenous peoples from their traditional homes, cultures, and families through forced relocations, residential schools, and bans on traditional cultural practices bearing

deep histories and structural significance. 'Western' assumptions about Indigeneity were superimposed onto and legitimized over voices from within Indigenous communities.

This is not to paint Indigenous communities as helpless victims of colonial oppression. Far from it: despite the above-described efforts, Indigenous Nations have persevered. Rather, this section addresses the asymmetrical distribution of power and privilege to represent and control that has historically favoured 'Westerners,' often to the detriment of Indigenous communities. As Mills (2003) recasts Foucault's discussion on the interrelatedness of knowledge and power: to control knowledge is to control power, and therefore, to be denied access to and control of information is to be denied power. This section therefore provides an answer to the question of "why can't we just share?", stemming from concerns regarding overly restrictive expansions in IP law: 'sharing,' trade and exchange must come from a place of equality, of mutual benefit, and it must be by choice. The following sections will therefore delve into efforts put forth by international legal bodies towards increased protection of traditional knowledge. These efforts are not intended to restrict creativity, nor to construct rigid barriers between communities, but rather aim to acknowledge a history of grievous inequalities, and endeavour to rectify a continued imbalance of power by addressing the ways in which intellectual property law has functioned to support 'Western' supremacy and colonization.

2.3 Intellectual Property & Traditional Knowledge

The concept of intellectual property (IP) describes "creations of the mind, such as inventions; literary and artistic works; designs; and symbols, names and images used in commerce," (WIPO 2016). Intellectual property may be protected by rights granted

through laws such as patents, trademarks, and copyright. There are significant gaps, however, in the protection for certain 'creations of the mind' that remain ineligible for copyright or other forms of IP protection, leaving many forms of Indigenous traditional knowledge exposed to exploitation and misappropriation. The international acceptance and enforcement of intellectual property law frequently excludes or sits uncomfortably with Indigenous knowledge systems and cultural expressions, to the continued disadvantage of Indigenous Peoples globally; it additionally functions to extend the above-described colonial conditions through the continued imposition of Western laws and norms (Nafziger et al. 2009, 629).

As Indigenous populations, in North America and globally, (re)asserted their rights through the 1960s and 1970s (Steinman 2012), these gaps in protection and incompatibilities between the values embodied in copyright and IP and those of traditional Indigenous knowledge came to be widely debated. Since then, national and international legal bodies have sought to create additional protections for traditional knowledges. However, as I have previously noted, traditional knowledges, as they manifest specifically within many diverse communities, are not inherently connected to IP or intellectual property rights (IPRs), but rather, "have become so by way of a number of international instruments and the determination of a large number of (mostly developing) countries" (Dutfield et al. 2020). Traditional knowledge has become a concern for IP law, because the dominance of IP law internationally has frequently, even if unintentionally, facilitated its exploitation. It has therefore been within international law fora that these concerns were raised.

Emphasizing copyright law, the following subsections will provide an overview of literature regarding the gaps in protection for traditional knowledges and proposed protections under existing IP law. It will address the nature of the lack of protection for traditional knowledge in existing copyright law and outline the proposed protections to address these gaps — including the expansion of existing IP rights to encompass certain aspects of traditional knowledge, the development of a positive, *sui generis* protection, as well as the use of the human rights framework and the recognition of Indigenous customary law.

Copyright and Traditional Knowledge

Some legal scholars have suggested the application or expansion of copyright law to cover traditional knowledge and cultural expressions. Copyright is a bundle of legal rights offering protection for works meeting certain requirements. It grants the author(s) exclusive rights to their works and, furthermore, protects their reputation by protecting their moral rights. Seen in its historical context, copyright was conceived of specifically for the protection of intellectual production, developed to protect culturally specific ('Western') expressions of ideas (Howell et al. 2009). Principles developed in this context were then codified in the 1886 Berne Convention, now the most accepted copyright treaty globally (Ngenda 2005, 59). Copyright has since developed towards an increasingly commercial end, expanding and adjusting to provide a legal framework for international trade.

Although copyright law is the closest analogy to the set of rights many Indigenous communities are seeking for the protection of their diverse traditional cultural expressions (Nafziger et al. 2009, 28), its prerequisites for subsistence and inherent

structure make it ill-suited to the protection of many forms of traditional knowledge. This subsection will provide an overview of the central concerns raised on the disconnect between traditional knowledge and copyright law. In doing so, it will address some of the criteria a work needs to meet to be protected by copyright, discussing how these key tenets are ill-suited to the protection of traditional knowledges. These are: the idea/expression dichotomy, subsistence requirements (that which is required in order for a copyright to subsist in a given work, which will be discussed in greater detail in this section), the understanding of authorship under copyright law and the rules regarding duration of copyright. The concerns addressed below apply to a broader, international context, involving the harmonization of copyright law and intellectual property more generally, which has been criticized as in the internationalization of Western values (Burkert 2008; Ngenda 2005).

The idea/expression dichotomy is a fundamental principle of copyright law, and in essence distinguishes the underlying ideas in a work (which are unprotected) from the particular form of expression, which can be protected (Bently et al. 2014, 212). This principle has been seen as one manifestation of the balance copyright law seeks to strike between the rights of the author and the desire to maximize exchange and growth by preventing the monopolization of ideas. However, establishing a strict boundary between an idea and its expression can be complicated, especially for some forms of traditional knowledge, such as oral tradition and traditional techniques, in which the expression of an idea in a different way may result in the loss of its essence (Janke 1998, 4). Furthermore, the idea/expression dichotomy emphasizes access to information (Nafziger et al. 2009, 629), but the dissemination of certain ideas to inappropriate audiences may be antithetical to the potentially sensitive nature of the information

contained in the 'idea.' As such, the idea/expression dichotomy's emphasis on access is especially inappropriate for some forms of secret and sacred knowledge, which often have strict access regulations, within and outside community (Coombe 2008, 268).

There are specific subsistence requirements that must be met in order for copyright to subsist in a work, yet current understandings of these requirements can be discordant with some forms of traditional knowledge. For a work to be protected under copyright law, it must fall within at least one of the specified four main categories of subject-matter: literary works, dramatic works, musical works, and artistic works. While there may be exceptions (e.g., the Native American Graves Protection and Repatriation Act 1990 (NAGPRA) in the USA offers some protection for the tangible elements of traditional expression), intangible traditional knowledge, which is more closely associated with IP, is usually left exposed unless it falls within these categories (Nafziger et al. 2009, 9), which may not cover certain forms of Indigenous cultural expression, such as traditional techniques and designs (Hudson 2006: 56). There is also an originality requirement, which is especially unsuitable for forms of knowledge passed on intergenerationally; a touchstone of traditional knowledge (Howell et al. 2009, 236).³ Finally, copyright is formatted to protect knowledge or content only when it is anchored in material form. This fixation requirement is problematic for societies in which knowledge is transmitted non-materially, exposing it to misappropriation (Howell et al. 2009; Janke 1998). Thus, although WIPO's definition of 'traditional knowledge' includes both *content* and

³ For an in-depth discussion on how the concept of 'originality' as it applies within the context of archaeology, see for example Nimmer's research on copyright and the Dead Sea Scrolls (Nimmer 2001)

expression (WIPO 2014b), only works rendered into eligible tangible forms are copyrightable.

Even when subsistence requirements are met, issues may arise in relation to authorship. Although the term 'author' is not generally defined and is often simply understood to be the creator of the work (Harris 2013, xii), challenges arise in particular for collaborative forms of creation in which a number of different people may have contributed to the production of a work, but not all 'held the pen' — that is, not all were involved directly with the work's expression. Attribution to a singular author is problematic for knowledge and cultural expressions that are communally and intergenerationally held (Hudson 2006, 57). The philosophy of authorship in copyright law, with its focus on the person or people that originated the work, has been criticized as supporting a romantic 'Western' concept of the author as individual genius (Burkitt 2001, 7). This may be incompatible with traditional knowledge that is owned, safeguarded or shared intergenerationally by several or all members of a community, and which cannot be pinpointed to one author (Burri 2010a, 38). Thus, although some Indigenous work may be performed or executed by one individual, he or she is not necessarily understood to be 'the author,' but rather someone who renders or performs pre-existing and collaborative knowledge and practices (Hudson 2006, 57).

Attribution to a singular author is also problematic in terms of copyright duration as the allotted protection period (e.g., under Canadian law, the life of the author plus fifty years) is based on a linear understanding of time, which may be discordant with some Indigenous understandings of time as circular or cyclical (Schafer 1998, 314). This also does not provide protection for – or recognition of – intergenerational work. Protection

for derivative works is limited: it offers partial protection for intergenerational works (Moran 1998), but this requires that the original author can be located, and further, will only protect each successive work for the duration set for each individual author, instead of assigning ownership to the community as a whole. Furthermore, copyright's linear temporal structure disregards the many different cultural understandings of time and progression, which may be non-linear, and may reject 'Western' understandings of past, present, and future (Brown et al. 2012; Clifford 1988).

In summation, copyright law supports 'Western' understandings of ownership, fixation, and access. Although it protects the work of authors within the parameters it sets, gaps in protection have led to the misappropriation of Indigenous cultural expression by non-Indigenous individuals, who can take advantage of gaps in copyright protection. Keeping in mind the historic oppression and control of Indigenous cultural information by non-Indigenous forces, it is imperative that, in addressing the existing legal regimes based on 'Western' logic and values, new strategies do not reinforce outdated colonial assumptions about Indigeneity through the relegation of traditions to the past. This is particularly important when turning our attention to the risk of overlooking the validity of traditional knowledge in digital environments.

The apparent incompatibility of Western legal paradigms and Indigenous cultural expression has led to various suggestions for reform, including the expansion of existing intellectual property law to include provisions for traditional knowledge. Adjacent bodies of intellectual property law, such as designs law and trademark, may sometimes be available for the protection of designs and symbols, although the limits on their application must be emphasized. For instance, designs law applies only to the overall

appearance of *products*, and usually has some requirement of novelty – i.e. that the design is new and distinctive when compared with the prior art base (Janke 1998, 64). This is a problem especially for designs based on symbols that have been developed over generations in Indigenous communities. Consider, for example, the logo on the 2010 Vancouver Olympic flag, which consisted of a multi-coloured, five-piece design created by the Rivera Design Group in Vancouver, based on the Inuit symbol of the Inuit of the Inukshuk, as it is widely known.⁴ The mark has since been legally protected against further appropriation through the Olympic and Paralympic Marks Acts, despite its similarity to the Nunavut flag (see Figure 2.1), for exclusive commercial and non-commercial use by the Vancouver Olympic Committee (Scassa 2008). As former Vice President of the Inuit Circumpolar Council, Violet Ford, contends this appropriation (and “infringement,” in her estimation) “interferes with (our) economic self-reliance because we cannot market our products in the same way that companies that imitate our cultural expressions do”(de Beer et al. 2015, 7).

⁴ Whether or not what is represented on the Vancouver Olympic flag is indeed an Inukshuk has also been questioned. Peter Irniq, a former Nunavut commissioner who has built Inukshuk throughout North America, noted, for example, that ‘Inukshuk’ is a misnomer, as Inukshuks do not have arms or legs (CBC 2005).



Figure 2.1: "Ilanaaq the Inukshuk," Emblem of the 2010 Winter Olympics (left) & "Flag of the Territory of Nunavut (right)

Similarly, while trademark law provides protection to signs that identify the origin of goods or services, those signs must be registered and must be used to designate trade origin — as opposed to decorative use, for example (Brown 2010, 576). Canadian and American law also recognize and protect trade secrets, which is an additional body of IP law which extends to protect certain information, including formulas, patterns, plans, compilations, programs, methods, techniques, and processes, that are confidentially held within a selected group and are not made publicly available, allowing companies to withhold information from competitors and market their products based on restricted information (Harris 2013, 79). Gervais has suggested that geographical indicators are another sub-branch of IP which could potentially offer some protection for Indigenous traditional knowledge based on a system of authentication (2002, 938). However, this would require some measure of authentication to identify the rights holder, which is complicated by issues of government-recognition and complex membership and citizenship criteria for Indigenous Nations.

Generally speaking, IP conceptualizes the information it protects as commercial material, which may not always be suitable. Under trademark, patent law, or geographical

indicators, traditional knowledge would be appreciated only insofar as it is marketable to others, which may not accurately represent its value within a community. While some creatives and communities may wish to commercialize their cultural production in ways for which designs and trademark law is relevant (Carpenter 2004, 75), in many instances these regimes will be inapplicable – and sometimes even unsuitable, for instance for secret or sacred information which may be contained in traditional signs and symbols (Janke 1998, 70–72). In these cases, commodification of the cultural production is inappropriate, as commercial valuation contradicts the nature of the information.

Increasingly, there is a call for dedicated, *sui generis* legislation for the comprehensive protection of traditional knowledge at a national and international level. WIPO and the IGC have focused considerable efforts towards the development of such an international instrument (Recht, 2009, 239). However, there is uncertainty regarding how ‘IP-like’ such protection tailored specifically to traditional knowledge might be (Dutfield et al. 2020). International *sui generis* legislation will also likely be further impaired by universalizing understandings of indigeneity, often conceiving of Indigenous communities as a singular, homogenous group. How could such legislation conceptualize traditional knowledge? Although there is a clear need for the incorporation of Indigenous values into legal systems, the creation and implementation of such legislation is complicated on multiple levels.

2.4 The Problem with Property

The underlying argument for the above-listed incompatibilities between traditional knowledge and IP law is that the international acceptance and enforcement of copyright law frequently excludes or sits uncomfortably with Indigenous knowledge systems and

cultural expression, to the continued disadvantage of Indigenous Peoples globally. However, the expansion of copyright law to include traditional knowledge risks re-colonizing Indigenous values, lifeways, and legal structures through the continued imposition and enforcement of non-Indigenous laws in Indigenous territories (Marchetti et al. 2001, 139).

Copyright historically emerged to protect culturally-specific ('Western') expressions of ideas (Howell et al. 2009), with its core principles later codified in the 1886 Berne Convention. Since then, copyright has developed towards an increasingly commercial end, expanding and adjusting to provide a legal framework for international trade (Gervais 2002), ultimately supporting what are broadly understood as 'Western' conceptions of ownership, fixation, and access. For example, the IP ecosystem results in previously protected materials eventually ending up in the public domain. As Anderson and Bowery (2009) explain, the 'public' domain is yet another legal term which excludes the values of many Indigenous communities and seeks to make information freely available, which may be inappropriate use of this information. As the First Nations Information Governance Center explains, there is a plethora of illicitly collected and published information in the public domain that should not have been collected in the first place, and should not be freely accessible (FNIGC 2007).

Issues with property law have led to considerable scholarly debate, some arguing for the expansion of existing intellectual property rights to include Indigenous needs (Carpenter et al. 2009; Recht 2009; Cottier et al. 2004), others urging caution against the expansion of property law's underlying logic (Brown 2010). As noted at the beginning of this chapter, IP law and traditional knowledge are not inherently connected. Although legal

literature often refers to the many forms of traditions and expressions of Indigenous communities as ‘intellectual property,’ Bell and Napoleon (2008) emphasize that the term ‘property’ may not be appropriate or accurate, depending on the type of knowledge and the community with which it belongs. ‘Property’ may be a term without an equivalent in certain languages or may be a concept which does not exist in some cultures (Noble 2009a). It may also be a term the community rejects as an inaccurate concept for the representation of their traditional knowledge and their relationship with it, preferring instead the concept of ‘safeguarding’ (Bell & McCuaig 2009). Where the term property applies, specificity is generally desired; for instance, for the Blackfoot Confederacy ‘Nitsiitapii property’ may be more appropriate than ‘cultural property’ (Noble 2009b, 115), and perhaps ‘intellectual property.’ In all cases, communities should have the authority to define the language used to describe their traditions, knowledge, and expressions. This calls for the use of context-specific terminology whenever possible.

Property is not only an extension of the same ‘Western’ logic that has oppressed Indigenous laws, governance, and ways of knowing for centuries; the theoretical roots of intellectual property are inextricably connected to the history of imperial expansion and dominance. As Algonquin, Métis, Huron and Scottish criminologist Lisa Monchalin argues, rationalism rose in the sixteenth and seventeenth centuries, as the religious authorities which first justified colonial expansion and control in the fifteenth century were declining. Thus, “following the Protestant Reformation, colonizers needed additional and new legal and political doctrines to follow in order to justify their colonization of North America” (Monchalin 2016, 85).

As Monchalin further argues, John Locke's foundational work on property law was explicitly designed to justify colonial expansionism and deprive Indigenous Nations of their claims to territory. Drawing on Hobbes's theory of the civilizing influence of "positive law" over the untamed and 'savage' "state of nature" (which Hobbes claimed was evidenced by the Indigenous Peoples of North America), property law was designed and weaponized by John Locke to make the theft of land legally permissible. As Locke argued, the Earth should be claimed as property, and these property rights were acquired through labour. This radically differed from many Indigenous ways of knowing, such as that of the east coast Nation of the Passamaquoddy, in which the earth does not require improvement or ownership, but care and reciprocity. Without evidence of visible improvement, many Indigenous communities could not claim 'ownership' over the land as 'property,' and were forced from their territories (Tully 1993; Caldbick 1997; Arneil et al. 1996, in Monchalin, 85-92). This raises the question as to whether or not a legal framework rooted in the historical oppression of Indigenous ways of knowing can now be modified to protect that which it sought to supplant.

In addition to the problematic history and theoretical underpinning of the notion of property, expanding the logic of IP law onto traditional knowledge risks what legal scholar Herbert Burkert (2008) has called 'bad conscience lawmaking.' Laws passed and declarations made with the best of intentions to right the wrongs of the past and to create a more equitable legal environment may inadvertently reinforce the very wrongs they initially sought to amend. As Dutfield and Suthersanen explain, "IP rights are meant to protect or promote commercial interest in something. They are not useful as a means to block commercial circulation of goods. That is not their purpose. They insert knowledge, innovations and cultural works into trade" (2020, 479). While traditional knowledge

certainly can and often does participate in broader trade networks, this is not always necessarily their intended purpose. Why, then, co-opt a system designed to encourage a result that may not be desirable or appropriate?

As discussed in previous sections, there remain significant challenges regarding the nature and scope of protection – such as what will be protected, for whom, and how – which need to be addressed before the nuance of local contexts can receive adequate protection on a global scale. The unintended consequences of 'bad conscience law-making' are highlighted, for example, by the Indian Arts and Crafts Act (1990). While the Act attempted to prevent the sale of fraudulently labelled 'Native American' materials, this meant non-government registered Native Americans were also prohibited from selling and exhibiting their art as Native American. Through its failure to recognize community-determined membership and protocol, the Act reinforced structures that historically defined, controlled, and oppressed Indigenous cultures and identities (Sheffield 1997).

Human Rights Law & the Recognition of Customary Law

In light to of the above concerns, acknowledging the limitations of IP generally, or of an international IP-like *sui generis* instrument to provide adequate protection for traditional knowledge, there is an increasing call for the recognition of Indigenous customary law, and relatedly, the greater implementation of a human rights framework for the protection of traditional knowledge.

Recognizing the limited scope of IP law, some have argued for a more comprehensive approach, in which the protection of traditional knowledge could be recognized as part of an array of related protections through a human rights framework (al Attar et al. 2009),

under the 2007 United Nations Declaration on the Rights of Indigenous Peoples (UNDRIP). As Polymenopoulou argues, the challenges for the protection of traditional knowledge extend beyond the scope of IP law, and are related, for example, to “the destruction and exploitation of Indigenous lands.” However, because the issue of traditional knowledge has been siloed as an ‘IP’ issue, concepts and issues that are deeply intertwined within their local and customary frameworks (e.g. land and knowledge) are often addressed as separate issues on the national and international level. For example, “Canada recently passed a regulation that bans the wearing of headdresses in music festivals on grounds of ‘cultural ignorance.’ Yet, a year earlier Canada approved the passing of a gigantic pipeline project affecting indigenous livelihoods” (Polymenopoulou 2017, 89). Because of this unnecessary segregation of issues and resulting contradictory and siloed approaches, Polymenopoulou and others have argued for a more comprehensive human rights framework for the protection of traditional knowledges, as part of a larger campaign to recognize Indigenous rights and sovereignty (Beat Graber 2008; al Attar et al. 2009).

There are three articles in UNDRIP that have particular significance for the protection of traditional knowledge via the greater recognition of customary law: Article 3 states ‘Indigenous peoples have the right to self-determination’ which means the right to ‘freely pursue their economic, social and cultural development’; Article 26 states ‘Indigenous peoples have the right to own, develop, control and use the lands and territories (...) *This includes the right to the full recognition of their laws, traditions and customs,*’ and Article 33 states ‘Indigenous peoples have the right to promote, develop and maintain their institutional structures and their *distinctive juridical customs, traditions, procedures and*

practices, in accordance with internationally recognized human rights standards' [emphasis added].

However, UNDRIP was adopted a non-binding United Nations General Assembly declaration, and a State's decision to adopt such an international declaration does not impose legal obligations to implement it. Therefore, the adoption of UNDRIP does not require participating States to recognize Indigenous law, even though this recognition is a necessary step in the process of self-determination for Indigenous Nations. This means, for the most part, that countries must enact new laws that are consistent with their terms, and so international law can only serve as a reference point for conduct in common law property law (Janke 1998). Additionally, there is no existing precedent which previews how a legal system capable of reconciling the legal infrastructure of Aboriginal communities with the legal structures which govern non-Indigenous communities would function.

While the debate on the protection of traditional knowledge often occurs at the international level (Drahos et al. 2012, 5–6), the protection of traditional knowledge must be carried out nationally or regionally (Mgbeoji 2006). A means by which greater specificity can be employed in the definition and protection of traditional knowledge is the recognition and incorporation of existing Indigenous laws into a given Nation's legal system (Lajoie 2008, 3; Tobin 2015; Coombe 2001). Since relying on Western law is costly both in terms of time and money, many communities will use communally established norms, protocols and law, rather than relying on a less nuanced, top-down approach to determine the right course of action on a given dispute, rule formation and rule enforcement. This argument shouldn't be surprising to most First Nations in Canada, as

they have a strong history of legal tradition and government, and have long been arguing for the recognition of Indigenous laws by the Canadian legal system (Palys et al. 2007). For example, the Kanai Blood Tribe of the Blackfoot Nation has a fully developed system of knowledge protocol that they uphold within the framework of the community; transfer outside of this framework is considered 'illegal.' One member described this process of in-community transferral through ceremony as 'copyright.' As this member shared, "the traditional way is when things are transferred. Now you have a right to use them. And those songs, those bundles belong to the Blackfoot Nation." (al Attar et al. 2009, 342)

This approach may work within the framework of mutual dependency (Ellickson 1991) or shared values and respect for community government. However, it would be ineffectual in the case of misappropriation or misuse of traditional knowledge from the outside, in which the would-be perpetrator would have no obligation to obey community norms and laws, and suffer no ill-consequence or disadvantage should they decide not to.

Regardless of the approach (whether expanding or modifying current IP law, the creation of *sui generis* legislation tailored to traditional knowledge, the greater recognition of traditional knowledges within the scope of human rights law, or ideally, the recognition of Indigenous customary law outside the bounds of community), it remains that there exists no dedicated or effective protection for traditional knowledges in Canada and the USA. As the following section will discuss, the concern is particularly acute for digital environments, as they may exacerbate the risk of misuse of traditional knowledges.

2.5 At the Intersection of IP, Digital Media, and Traditional Knowledge

To set the stage for the following chapter on digital media, this final section highlights the intersections between traditional knowledge, intellectual property (IP) and digital media. Challenges inherent to the digital media format, which includes video games, may pose particular risks for the protection of traditional knowledge. Indigenous video games based on, containing, or expressing traditional knowledge risk being caught between two seemingly opposing efforts. The first comes from international legal organizations, such as WIPO, in their attempt to create 'formal measures of protection' to ensure the rights of minority and vulnerable groups, in response to existing intellectual property law favouring commercial growth and protecting corporate interests, often at the expense of local or Indigenous interests (Wilson & Stewart 2008: 9). The increased protections, guarded access, and the expansion of existing legal systems such as copyright stand in opposition to copyright's other 'biggest challenge' (Gervais 2002) in relation to digital media, in which the user community demands increased access and less protections. Indigenous digital media containing traditional knowledge, such as Indigenous video games, stands in the middle, at the intersection of the concerns of these seemingly disparate interest groups.

This final section will address copyright's application to the digital realm, considering the potential pitfalls and benefits that digital environments may bring to traditional knowledge. This discussion begins by providing a broad picture of the debate on IP and digital media. It highlights how, although the categories 'digital' and 'traditional' may be seen as incompatible, the often unseen commonalities between the two may provide opportunities for Indigenous cultural expression and traditional knowledge. This is particularly the case considering that the dominance of digital media often forces IP's

hand and shifts its norms. Finally, discusses the potential for digital environments to support ongoing efforts in IP law to create greater protection for traditional knowledge.

IP and Digital Media: The Broad Picture

At best, traditional knowledge and digital technologies are often seen at odds: two incompatible concepts with competing goals and values. At worst, globalization and its technological accoutrements have been accused of putting traditional knowledge in ‘mortal danger,’ with traditional knowledge therefore requiring “new forms of intellectual property protection to save it”(2009, 233). Addressing this anxiety with specific regard to digital technologies, Graber and Burri-Nenova explain, “new technologies, as the episteme of the globalization forces have often been singled out as a specific peril for (traditional cultural expressions) and as an inhibitor to their protection” (2008, xii). This is because those aspects of traditional knowledge that can be represented or archived digitally — songs, designs, patterns, or even footage of techniques and ceremony, to name but a few — are subject to increased distribution and uncontrolled access in digital environments.

Like traditional knowledge, digital technologies have posed significant challenges to copyright, and IP more broadly. Law strives to keep up with human progress (Abinava Sankar et al. 2008, 129), and copyright law has always done reasonably well updating to meet the challenges posed by various technological advances, such as television and broadcasting, without needing to make any major changes. Indeed, “copyright is the child of technology,” emerging from the replicability and distributivity enabled by printing technology (Rose 2005). Digital technologies such as digital file compression, the internet, software coding, personal computing, and increased communication speeds

facilitate the use, copying, modification and distribution of digital media at unprecedented rates, leading to legislative difficulties (Gervais 2002). As Sanders argues, the “dispersed and distributed contexts” that make up the interactive environments of Web 2.0 call into question notions of origin, originality and authorship (2016, 3–5), the very pillars upon which copyright rests. Cyberspace is “simultaneously expand(ing) and encroach(ing) upon a copyright holder’s space” (Dutfield et al. 2008, 236). Digital technologies facilitate rapid reproduction, distribution, and access to digital media, “cut(ting) out the middle man” – that is, facilitating high quality production at a relatively low cost, allowing creators to produce and share work directly without the need for a costly production studio. Digital files can be stored in virtual spaces, requiring very little or no physical space, and networking between creators and markets is direct and opposed to directed (Dutfield et al. 2008, 243).

The legal response to the challenges created by digital innovations has been to increase and expand existing intellectual property laws to maintain protections for rights holders in virtual spaces. The USA and Canada have been modifying and expanding existing IP law since at least the late 1970s to meet new digital challenges, with the 1978 National Commission on New Technological Uses of Copyrighted Works (CONTU) created by the United States Congress to appraise the applicability of existing IP law to developing computer software. CONTU recognized computer programs, including those expressed in source code and higher language, as literary works, thus meeting the subsistence requirement for protection eligibility (Abinava Sankar et al. 2008). Software and code continue to meet the fixation requirement, as they are listed under ‘literary works’ in the Digital Millennium Copyright Act 1998 (DMCA) in the United States, which reinforces existing intellectual property right regimes in digital works to provide increased

protection from novel threats of misappropriation online, and in Canada, by Bill C-11, the Copyright Modernization Act 2012 (CMA).

The enforcement of copyright law tailored for cyberspace on a country-basis hardly seems appropriate or effective, given the inherently transnational nature of the internet. Gervais argues that intellectual property regulation for digital media — and especially the Internet — should ideally be uniform worldwide (2002: 929). However, the international context is more complex still. Intellectual property is notoriously difficult to enforce on the Internet, as it is difficult to strike a balance between the enforcement of copyright and internet privacy (see e.g., *Voltage Pictures LLC v, John Doe and Jane Doe* 2014, in which Voltage brought a claim regarding piracy of copyrighted materials in a peer-to-peer network, and the IP rights of Voltage were favoured over the privacy rights of the individual).

In an effort to regulate information-sharing online, WIPO has led the creation of two 'Internet Treaties.' The first is the WIPO Copyright Treaty, dealing with the expansion of copyright to include digital media, with Article 4 extending protection for computer programs as literary works (WIPO 1997). The second is the WIPO Performances and Phonogram Treaty, which deals more specifically with performer and producers rights with regard to sound recordings (WIPO 1996). However, international treaties like the WIPO Internet treaties are not self-executing; although countries may choose to incorporate WIPO's policies under national law, this does not guaranty coherent, 'global' IP enforcement.

Such internationally harmonized enforcement nearly came into being with the Anti-Counterfeiting Trade Agreement (ACTA) (Mercurio 2012; Bitton 2012). Article 27 of

ACTA pertained specifically to virtual threats, specifying that the function of the treaty was 'to permit effective action against an act of infringement of intellectual property rights which takes place in the digital environment.' (ACTA 2011: art.27). Problematically, ACTA did not address the scope of protection or clearly define what specifically would constitute intellectual property infringement in virtual environments (indeed, nor do CONTU, the DMCA, the CMA, and the WIPO Treaties). Thus, the extent of enforcement may have required intrusive monitoring and surveillance and would likely have resulted in stifling creativity rather than fostering it, negating the original intent of copyright. Concerns about ACTA were so widespread, public protests in the affected countries saw ACTA overturned (Dür et al. 2014).

As evidenced by the resistance that ultimately prevented ACTA's conclusion, legislation seeking to expand IP rights in digital spaces has been met with considerable backlash from the user community. There is an increasing demand for greater access in virtual environments, forming an open online community for the exchange of ideas (Meese 2010). Perhaps the most substantial proponent of increased online access is the free culture movement (Lessig 2004), which encompasses the sub-movement, 'copyleft'. Whereas most copyright holders use copyright to restrict use to gain profit, copyleft uses copyright law to increase access to software, creating free open-source software (FOSS, 2014). By licensing the copyleft material, the author ensures that the software code remains free for use, distribution, replication, modification, and the creation of derivative works, so long as all subsequent uses, copies, modifications, distributions remain under the same license. In this way, this work and all derivative work remains free (as in freedom to access, not as in without cost) by ensuring the source code remains freely available. Thus, 'open source' software, or 'copyleft' software, is not free to use

unrestricted, but uses copyright law to ensure the spirit of open access is carried through in each derivative work (de Laat 2005).

This transition from seeking permission from rights holders to assuming permission and sharing benefits is not only coming from liberal movements. Multinational companies such as Google (especially through its Google Books platform) are adjusting the premise upon which copyright operates, shifting it from 'permission based' to a 'benefit-share model,' in which the author's consent is assumed and any subsequent profit is shared (Fitzgerald 2011, 24). This trend in copyright towards assuming consent in return for commercial profit may prove especially detrimental in cases where the misappropriation may be harmful to the community, and in fact, may prevent the author from producing further work (*Milpururru and Others v Indofurn Pty Ltd and Others; Bulun Bulun v R&T Textiles Pty Ltd*). Additionally, the public domain is seemingly boundless online, the Internet between a one-stop shop for all materials that have fallen into public domain.

Video Games and IP

Considering the focus of this thesis on Indigenous video games, it is worth mentioning that video games hold IP. In their 2013 paper on the legal status of video games, WIPO defined video games as "complex works of authorship containing multiple art forms, such as music, scripts, plots, video, paintings and characters that involve human interaction while executing the game with a computer program on specific hardware" (Ramos et al. 2013). Video games, as understood in IP law, are "an electronic or computerized game played by manipulating images on a video display or television screen," online or offline (Grosheide et al. 2014, 1). This is done through programming, by creating software code (which is protected as a 'literary work' under Canada and US IP law) and interaction with

this code on an interface, which can be hosted on various platforms, such as gaming consoles and computers. Video games can be protected by the law through copyright, protecting the creations which include the creative expressions within the game itself, as well as related game paraphernalia (e.g. representations of game characters on merchandise). Additionally, trademarks can protect the brand (e.g. Pokémon), patents may protect a game's hardware, and other fields of law may be involved, including employment, contracts, and trade secrets (Gard et al. 2017).

As I will discuss in greater detail in the following chapter, the dynamic, multimedia and interactive nature of video games is what makes them such an appealing case study to explore the nature of traditional knowledges in digital environments. Yet, in addition to the general 'threat' that increased access and distribution in digital contexts many pose to traditional knowledge, the norms of the gaming community may present a additional, more specific set of challenges. In fact, certain conventions inherent to gaming culture may bolster the threat of the misappropriation of the traditional knowledge present within a video game. Video games tend to expand beyond the bounds of a given game, with elements of IP often reproduced in fan art, on blogs and online fora (Gard et al. 2017). 'Modding' — that is, the modification of a video game's behaviour or appearance through alterations to its code, is a common and often welcome practice in the gaming community (Champion 2013; Christiansen 2013; Majewski 2017). The implication is that traditional knowledges present in video games may face the challenge of the accepted practice of modification, in addition to the risks identified above, around access and distribution in digital contexts.

The Benefits of Digital Media

These elements contribute to the developing tensions for copyright in digital spaces and illustrate how such tensions may exacerbate existing concerns regarding the gaps in IP protection for traditional knowledge. Digital media and virtual environments are forcing changes to IP generally, and copyright specifically, which are causing a rift in the user/creator community. This change could likely result in the expansion and harmonization of existing laws to enforce protections for rights holders in digital spaces but may also result in users finding new ways to create increased access to information online. Either way, it may at first appear that Indigenous communities seeking to protect information that would be inappropriate for dissemination or disclosure to non-initiated individuals are at a disadvantage, having to either cope with heightened, unrestricted access, or to extend the reach of 'Western' values through the increased and elaborated application of copyright law.

As noted earlier, technology and tradition are often considered to be at odds, and this is especially the case when it comes to copyright. Digital technologies allow information to be reproduced easily and infinitely and distributed rapidly, leading to massive amounts of readily accessible information. On the other hand, WIPO generally discusses traditional knowledge as something to be stowed away and protected with limited accessibility, and so the aims pursued for the digital realm seem contradictory to those pursued for traditional knowledge (Burri 2010a, 34). However, digital media may also present opportunities for Indigenous communities and for the protection of traditional knowledge. Copyright specifically, and IP more generally, have often proven inadequate protective measures for both digital media and traditional knowledge. Whereas traditional knowledge may have been ignored or dismissed as a 'niche' issue, the

increasing ubiquity of digital media is forcing the reconsideration of some the foundational tenets of copyright and may cause fundamental changes that could benefit Indigenous communities.

Although tradition and innovation are sometimes seen as antithetical, there may exist parallels between these phenomena; Gervais observes a commonality between the two categories of 'very old' and 'very new,' in that they are both "wreaking serious havoc in the intellectual property system by forcing us to confront both its limitations and its inadequacies" (Gervais 2002, 954). Digital media, unlike other technological advance before its time, may necessitate a paradigm shift in copyright, challenging the most fundamental components of its infrastructure (Gervais 2001, 929–932). These components of copyright most challenged by digital media are the idea/expression dichotomy, subsistence requirements, and communal authorship — as in traditional knowledge.

First, digital media is forcing the reconceptualization of the idea/expression dichotomy (Lea 2008). Although copyright is dependent on the apparently inherent difference between the two, software often merges the idea and expression. In many cases, the expression of an idea in a different way, i.e. by using different code, results in the change of the idea itself (Abinava Sankar et al. 2008, 129–132). Not only does digital technology call the defining line between the idea and its expression into question, but it also poses new questions for what types of expressions meet subsistence requirements: digital content is "freed from the need for a tangible medium" (Burri 2010a, 35), existing somewhere between tangibility and intangibility. This is also true for some forms of Indigenous cultural production, in which cultural property ('things') and intellectual

property ('ideas or knowledge') may be indistinguishable from one another (Brown et al. 2012, 309).

As technologies continue to develop, this may cause concern for the fixation requirement, as the existing subsistence categories (artistic, literary, musical, and dramatic works) and related fixation requirements may prove insufficient scope for developing forms of media. Indeed, Mellor and Janke have argued that the changing understanding of material form in the Copyright Amendment (Digital Agenda) Act (2000) in Australia, which updated copyright law for digital forms of expression, may be co-opted for Indigenous Australian works like body paint (2000, 73). Finally, online communities such as wikis and fora are authored by many in an ongoing and collaborative environment, pushing well beyond the bounds of joint authorship to produce content in which it is difficult to discern the unique contributions of each writer (Kierkegaard et al. 2010). In some ways this echoes the calls for the recognition of Indigenous communal ownership.

In addition to the possibility for digital media to 'force' copyright's 'hand,' it also brings other potential benefits in terms of access to and control of information for Indigenous communities. Online fora, for example, may enable connectivity, and greater transparency and collaboration with regards to the management of traditional knowledge usually held in university and museum archives. This is evidenced by, for example, the Reciprocal Research Network, a partnership between the Musqueam Indian Band, the Stó:lō Nation/Tribal Council, the U'mista Cultural Society and UBC's Museum of Anthropology, in which partners connect online to conduct collective research on Northwest Coast Aboriginal cultural heritage (Brown et al. 2012).

Greater connectivity over digital networks may also bring solutions to disputes on the use of cultural expression and traditional knowledge without requiring conventional legal action. As a preventive measure to circumvent a potential infringement or misuse, the 'Licenses and Labels' system developed by Anderson and Christen (2013) is one such initiative. It provides a series of labels which a community selects for the relevant cultural property, to provide information on how they would like to see it treated, i.e. 'Males Only,' 'Public,' or 'Initiated Community Members Only.' While this system is not legally enforceable, Anderson notes it is meant to appeal to that 80% of visitors who wish to respect the wishes of the community and use cultural property and information in sensitively. This system is applied to museum collections, but also in online content, and is a demonstration of the potential usefulness of digital tools and non-legal measures to create a bespoke protective measure for traditional knowledge.

Another possible boon of digital media is the use of digital archives. A well-known example is India's Traditional Knowledge Digital Library (TKDL), a repository classifying and translating published literature concerning India's traditional plant and medicinal knowledge, devised as a bulwark against international biopiracy and misappropriation. While the TKDL does not grant patents itself, it functions to prevent predatory patenting of traditional knowledge by documenting their existence in published texts digitally in advance of their misappropriation and exploitation. As the original texts are often written in languages that are not widely-spoken internationally, such as Sanskrit, Urdu, Tamil, or ancient languages that are no longer spoken, the TKDL translates these texts into five "international languages" (English, Japanese, French, German, and Spanish) thereby making them accessible to patent examiners at six main international patent offices (Kidd 2012; Thomas 2010). Working in conjunction India's global bio-piracy watch, this has

proven an effective step towards the protection of traditional knowledge internationally, with more than 35 million pages available to international patent offices (WIPO 2011).

2.6 Conclusion

This chapter has introduced the concept of traditional knowledge as it is understood and defined by the World Intellectual Property Organization and offered expanded definitions beyond the scope of IP. It addressed the concerns raised over the prospect of overzealous intellectual property laws, under which overly restrictive protections on traditional knowledges could stifle creativity and the exchange of ideas. It has outlined the debate on IP's imperfect fit with traditional knowledge, highlighting the ways in which IP law has often, however inadvertently, facilitated the exploitation of Indigenous traditional knowledge by more powerful actors, by failing to protect works that do not meet the criteria for protection. The discussion has focused on the gaps in protection under copyright law, as well as IP more generally, and the solutions proposed within the scope of IP law for the protection of traditional knowledges as they are conventionally understood. It has noted the limited application of IP law for the protection of traditional knowledge, and introduced other dynamic solutions, including the development of *sui generis* legal frameworks, specifically for the protection of traditional knowledge.

To set the stage for the exploration of traditional knowledge and innovation in the next chapter, this chapter concluded with a discussion of the intersection of IP, digital media, and traditional knowledge. This focused on the perceived threat posed to traditional knowledges by digital media, which may risk exacerbating the current gaps in protection and facilitate uncontrolled access and rapid distribution. Yet, this section concluded with an overview of the possible benefits digital media could bring to the protection of

traditional knowledges. This section will take further importance in the latter parts of this thesis, as many of the findings regarding the nature of traditional knowledge in digital environments directly contradict the theoretical underpinnings and inherent assumptions built into the fabric of copyright law specifically, and intellectual property law more broadly.

Chapter 3

VIDEO GAMES & INDIGENOUS NEW MEDIA

Beyond the efforts introduced in the previous chapter, which highlighted the capacity for digital environments to archive, preserve, or provide additional information regarding the stewardship protocols for traditional knowledges, this chapter builds on the benefits of digital environments, introducing Indigenous new media, and video games more specifically, as objects and environments of cultural heritage.

To better understand the nature of Indigenous participation and innovation in digital environments, this chapter is presented in three sections. The first section expands on the challenges of digital environments introduced in the previous chapter and addresses the limitations of digital media in terms of the dominance of inaccurate representations of indigeneity in digital realms. This question of increased access to inaccurate information online is accompanied by a discussion of the limited access to digital environments that face many Indigenous creatives and communities—known as the digital divide. This is followed by a discussion on Indigenous new media, in order to situate Indigenous video games within a history of continuous development and cultural (ex)change, addressing the perceived division between ‘old’ and ‘new.’ Finally, within the broader context of Indigenous new media, this chapter considers video games specifically for their particular qualities as modes of communication, culture, and connection.

3.1 The Detriments of the Digital

In considering what Indigenous new media, and more specifically Indigenous video games, are, it is important to understand what they are not. This section will discuss the common pitfalls and limitations of digital media. Further to risks of shifting IP norms and the challenges of increased reproducibility, distribution, and access posed by digital environments introduced in the previous chapter, digital media often functions to exacerbate misrepresentation and misappropriation of Indigenous Peoples and culture, doubtlessly fuelling the perceived divisions of old versus the new, civilized versus uncivilized, novelty versus traditional, or intellectual pursuit versus traditional practice. These concerns will be reviewed below, with specific regard to misrepresentation in mainstream video games. In appraising the detriments of increased access to inappropriate or inaccurate information, it is also necessary to address the barriers to accessing digital environments facing Indigenous communities. This section will therefore conclude with a discussion on the digital divide and the disproportionate impact this has on Indigenous communities' presence and influence in digital environment

As the previous chapter introduced, colonization and its accompanying assimilationist practices posed a considerable threat to the stability of traditional knowledges by willfully hindering the structures through which they are upheld, revised, and transmitted from one generation to the next. Suppressing Indigenous systems of education, governance, law and healthcare, and superimposing Western norms and systems in their place, resulted in multigenerational "information poverty," (Edwards 2020) creating of vacuum in which inaccurate knowledge and representation of Indigenous Peoples emerged. Representations of Indigeneity have historically been

dominated by non-Indigenous makers. There exists a wealth of new media created by non-Indigenous producers for popular consumption, containing, addressing or (mis)appropriating Indigenous materials with or without consent Wilson and Stewart (2008, 19) have termed this 'mainstream Indigenous media,' which often reinforces the shallow and often detrimental Indigenous stereotypes discussed below.

Media Myths and the Privilege to Represent

Accessible representations of Indigeneity have long been dictated by non-Indigenous voices. The aforementioned 'Vanishing Indian' trope is one of many stereotypes promoted through art and academia, altogether creating through the dissemination of various media what has been termed the 'Imaginary Indian,' an empty canvas upon which Europeans settlers projected their hopes and fears for the 'New World' (Francis 2012; Crosby 2002). The romanticized 'Noble Savages' and 'Indian Maidens' of the colonial period, as propagated through the paintings of Paul Kane and Benjamin West, or the photographs of Edward S. Curtis, continue to dominate representations of Indigenous culture in contemporary mainstream media. Film, television, and literature support idealized and often antiquated portrayals of Indigenous culture, including Disney's perfect Pocahontas, the 'primitive savages' in Country Western's like *The Magnificent Seven*, or Karl May's beloved *Old Shatterhand*. Friend or foe, Indigenous characters are typically one-dimensional embodiments of uncorrupted instinct, gentle or barbaric; the apotheosis of a primordial purity long-lost to their more advanced 'Western' co-stars.

Over time, mainstream media has created and maintained convenient, narrow, and inaccurate categories into which Indigenous peoples are slotted: primitive but pure, modern but abhorrent. These 'media myths' constitute for many an 'authentic'

representation of 'Indian culture' (Prins 2002). These 'serious truths' fabricated through 'unequal exchanges' between colonizer/colonized, observer/observed, are problematically and necessarily situated within and informed by the culture of the observer/representer (Clifford 1988). For Fabian, this is achieved through the extraction of information and creation of an artificial temporal distance between the 'knower' and the 'known' (Fabian 1990, 754), what he calls 'allochronism,' the 'denial of coevalness' (Fabian 1983, 36). Denial of coevalness, a term used to describe the reality of a shared time and presence, stratifies and legitimizes representations proffered by (distanced) observer as 'authentic,' and never the Indigenous/observed. What emerges from these culturally situated, temporally distanced observations are anachronistic, static representations of Indigenous culture, removed from time and space, and promoted as the 'authentic' version of Indigeneity. In order to understand the many complex truths of Indigenous culture, the privileged position from which dominant representations of Indigeneity are permitted and subsequently crafted must first be acknowledged, challenged and dismantled.

Despite the proliferation of images of Indigenous Peoples in Western media, the dominance of Western-determined representations of Indigenous peoples has therefore not led to greater visibility of Indigenous peoples, but rather, has contributed to the erasure of Indigenous identities, replacing Indigenous presence with inaccuracies and untruths. Like Mill's (2003) argument on the interrelatedness of information and power, Gerald Vizenor argues, "the simulation of the Indian is absence of real natives—the contrivance of the other in the course of dominance" (Vizenor 1999, vii); the absence of accurate and informed representation is indicative of a larger power imbalance.

The hegemony of play

Video games tend to follow the same normative trends as other forms of dominant media. This has much to do with who is making them. Most mainstream video games are produced in Canada, the United States, and Japan, and are generally reflective of the dominant cultures of those countries. Over the years, this has resulted in a gaming 'elitism' defined by the standards of a "predominately white, and secondarily Asian, male-dominated corporate and creative elite that represents a select group of large, global publishing companies in conjunction with a handful of massive chain retail distributors"(Ford et al. 2007, 309). The result has been video games which tend to dehumanize and alienate what are perceived to be "minority" players who, in fact, make up the majority of the player-base—women, various age groups, and people of various racial and ethnic backgrounds—catering instead to the expectations of "self-selected 'gamers'" (Ford et al. 2007, 306).

The intersections of 'play' with digital technology has meant that video games, at least in their earliest years, were reflective of the cultural perspectives of those who had access to those spaces, which has resulted, as many recent critics of gamer culture have noted, in "insular and homogenous" community of gamers, "the same small group of people creating the same game for themselves" (anthropy 2012, 7). As Goldberg and Larsson argue, until very recently, "video game production has been prohibitively expensive and time consuming." This has provided big-budget, triple A companies "a virtual monopoly on production, sales, and marketing." The video game industry and the 'gaming culture' it both creates and panders to, for the majority of its existence, has been dominated by 'Triple A' games—video games with high production budgets, made by large production companies with the aim of a high profit— have reinforced the "cultural identity of the

‘gamer’ (...) showing little concern for identities other than the prime demographic of young, white, Western male” (Goldberg et al. 2015, 8).

While the number of women playing video games in the USA, Canada, and globally, is indeed on the rise and now nearly equal to men (see Figure 3.1), women and ethnic minorities remain largely underrepresented in video game development. As the International Game Developers Association (IGDA) summarized in their 2021 Developers Satisfaction Survey (DSS), 61% of game developers identified as male (see Figure 3.2). It is worth noting, however, that this percentage was significantly lower than in their 2019 survey, in which males represented 71% of respondents. With regards to racial and ethnic representation in the video game industry, a majority of 75% of video game developers identified as White/Caucasian/European—again, lower than the 2019 DSS, in which 81% of respondents identified as such. These results indicate that while there has recently been some change with regards to diversity in game development, there remains an overrepresentation of those identifying as male and as White/Caucasian/European in the video game industry (IGDA 2021, 11–12).



Figure 3.1: Gaming Audiences by Platform (Age, Gender, Interest, and Frequency). GWI Report, 2020.⁵

⁵ This 2020 survey drew on GWI Gaming's online research among 19,488 internet users aged 16-64 and covers Australia, Brazil, Canada, France, Germany, India, Indonesia, Italy, Japan, Mexico, Philippines, Spain, Thailand, UK, and USA.

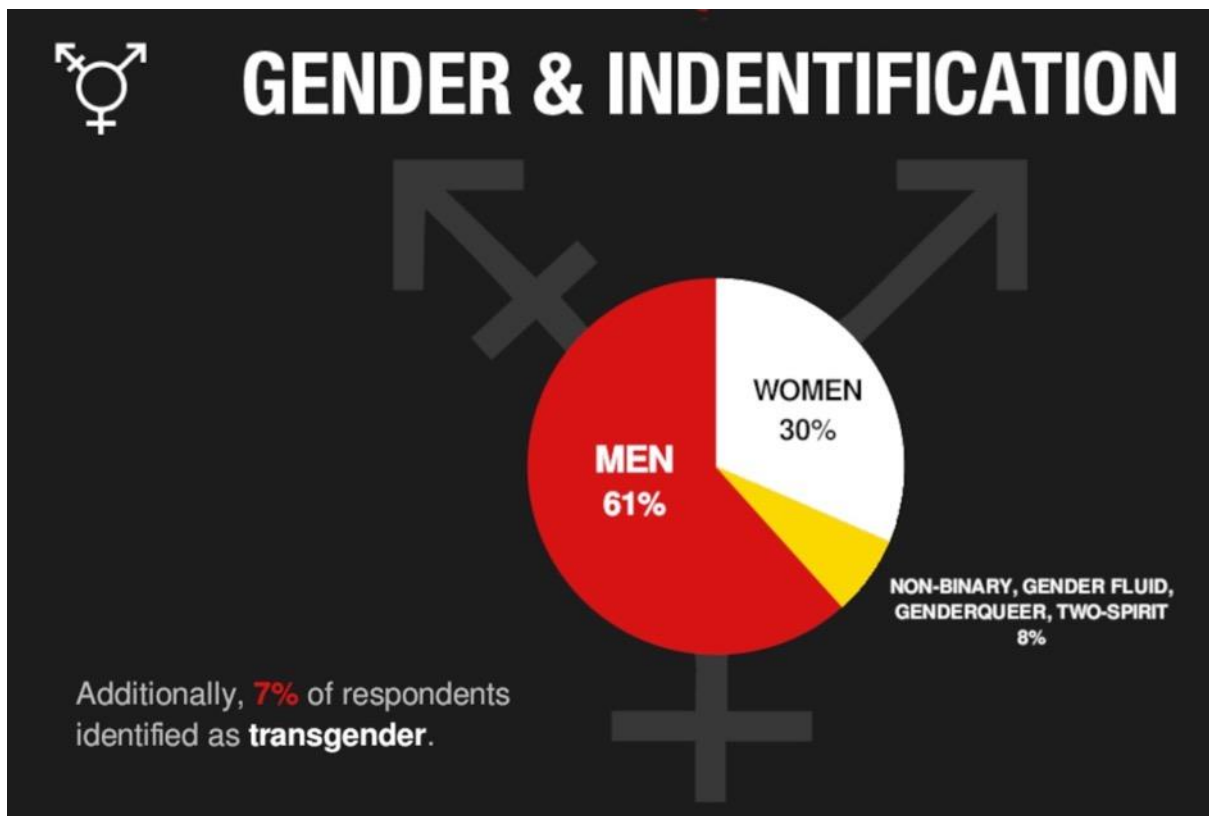


Figure 3.2: Game Developer's Gender Identification, Video Game Industry. 2021 Game Developer Satisfaction Survey, IGDA (International Game Developer's Association)⁶

The dominance of certain values and perspectives to the exclusion and suppression of others in video games, is identified by Bernie de Koven as the 'hegemony of play.' This has resulted in a larger, pervasive gaming culture, experienced both individually and societally, 'infused' with "values and norms that reinforce that industry's technological, commercial and cultural investments in a particular definition of games and play, creating a cyclical system of supply and demand in which alternate products of play are

⁶ The final sample for the 2021 IGDA Developer Satisfaction Survey consisted of 803 responses, collected from February 15 to April 12, 2021, across thirty-four countries (of which the USA and Canada represented the majority of respondents at 39% and 12%, respectively).

marginalized and devalued” (Ford et al. 2007, 306). Despite efforts to diversify and make technology accessible, existing hierarchies are often duplicated and reinforced in various ways by new media (Ginsburg 2008, Srinivasan 2006).

This results in an elitism, both with regards to perspectives represented and pandering to in the video game industry, which often excludes other identities and perspectives. “The industry rarely recognizes members of (minority) groups as gamers.” (Shaw 2012). Lisa Nakamura has ardently cautioned against the utopic view that digital media are free of the stereotypes and racism of the ‘real world,’ and often reproduce what she terms ‘cybertypes’—“the distinctive ways that the Internet propagates, disseminates, and commodifies images of race and racism” (Nakamura 2002, 3), and furthermore, risks facilitating ‘identity tourism’—that is, the often-gamified assumption of an identity that is racially, ethnically, socioeconomically or sexually different from one’s own for the purposes of virtual exploration (Nakamura 1995). While identity tourism can indeed encourage empathy for different perspectives, allow for the safe and anonymous discovery of one’s own identity,⁷ or the unabated participation in spaces that may otherwise be inaccessible,⁸ cyberspace remains an environment overwhelmed by exhausted stereotypes of Indigeneity, and therefore, identity tourism in these spaces tends to reinforce stereotypes, rather than instill greater understanding and empathy. In his postcolonial analysis of board games and video games, Mukherjee (2017) analyses how they often mimic the same tired stereotypes, narratives and scenarios as other

⁷ See, for example, Weinberg on the exploration of different genders and virtual ‘bodies’ online as a means to discover one’s own gender identity (Weinberg 2015).

⁸ See, for example, Daniel on cyberfeminism and the self-exploratory nature of identity tourism for girls and self-identified women on gender and race in non-hierarchical internet worlds (Daniels 2009).

media. Mukherjee's analysis primarily centres on games of empire building such as *Civilization* and *Age of Empire* which encourage players to engage in colonial expansionism and subjugation—land grabs, the exploitation of resources, and the oppression of peoples. Often, experiences of oppression are 'gamified,' with harmful over-generalizations present in other forms of media are simply regurgitated in video games.

Portrayals of Indigeneity in mainstream video games range from the generic and shallow, to the severely racist and sexist. Depictions of 'Indian Braves,' such as *Killer Instinct's* (1994) Chief Thunder, a menacing tattooed man with face paint and a headdress, or *Mega Man 6's* (1993) Tomahawk Man, a cartoon blend of Indigenous stereotypes wearing a headdress and wielding an axe (that is, in fact, not a tomahawk), dominate Indigenous representation in gaming culture. Depictions of Indigenous women in video games tend to be similarly generic and hyper-sexualized, with characters like *Tekken's* (1994) Michelle Chang, *Tekken 3's* (1997) Julia Chang, *Darkwatch's* (2005) Tala, or *Banjo Tooies's* (2000) Humba Wumba, sporting feathers and headbands.

Perhaps the most profoundly offensive is the treatment of a nameless Indigenous woman in *Custer's Revenge*, a side-scroller originally released in 1982 by Mystique for the Atari 2600 and re-released online for download in 2014. The player controls General George Armstrong Custer, an American historical figure known best for this loss at the 1876 Battle of the Greasy Grass (Battle of Little Bighorn) to the Lakota, Northern Cheyenne, and Arapaho. In the game, which was heavily protested following both the original and 2014 re-release (Plunkett 2011; Wheeler 2014), Custer, erect and naked save for a hat, boots, and bandana, must dodge arrows to reach the right side of the screen, where he 'wins' by raping a naked and tied Indigenous woman. As Janice Acoose declares, these

harmful representations have directly contributed to the continued violence that Indigenous women experience (1997); indeed, a 2012 study found that the objectification of women and violence towards women in video games resulted in an increase in “rape-supportive attitudes” for male participants (Simpson-Beck et al. 2012). In light of the 1181 missing and murdered Indigenous women in Canada (Dean 2015; Government of Canada 2016), these representations are especially harmful and trivialize the immense pain suffered by Indigenous women and their communities.

Within this context, what Appiah has flagged as “property rights fundamentalism” (2010, 130) may be better understood as an attempt to bring some balance to spheres of power and representation historically dominated by ‘Western’ values and objectives, to the detriment of Indigenous communities. It is important to keep in mind the many ways in which the deliberate disruption of Indigenous cultures and the simultaneous control of representation was part and parcel of a system that justified genocidal policies on the basis of the ‘primitive’ image propagated by misrepresentations of Indigeneity. Addressing this legacy of inequality must include creating social, political, and legal climates which foster and support a diversity of Indigenous values, languages, and cultures.

The Digital Divide

The continued monopolization of Indigenous representation by non-Indigenous media upholds colonial mechanisms of control and oppression. It is therefore immensely important for Indigenous peoples to have the means and opportunities to represent themselves on an increasingly global stage, and to participate in the ever-expanding ‘Indigenous’ global industry (Wilson & Stewart 2008, 4). The lack accuracy and diversity

of representations of Indigeneity in video games is tied to the absence of Indigenous peoples making video games (LaPensée 2011). This applies to digital media more generally, as well. The conditions fostered by colonization served to support present-day inequalities as well. One of the clearest ways this manifests with regards to access and power in digital environments is the digital divide. Although new media is a useful tool for Indigenous-led content to reach vast audiences, assert digital presence, and express the opinions of those whose voices are often absent in mainstream media, digital space is not without its flaws. In order to ensure that Indigenous communities have the means and opportunities to engage and innovate digitally, it is important to address new media's shortcomings; namely, the barriers to access facing those already categorically disadvantaged, termed the 'digital divide.'

Reducing the digital divide to a matter of access to a computer and network oversimplifies the obstacles facing those already in positions of poverty and vulnerability (Ginsburg 2008). Van Dijk and Hacker (2003) address the digital divide as a four-tiered problem, including: 'Psychological Access' (lack of experience due to fear of technology or disinterest); 'Material Access' (in which the user does not have access to a computer or network connections); 'Skills Access' (lack of necessary skills needed to access digital realms, whether that be to lack of education, lack of 'user-friendliness'); and 'Usage Access' (lack of opportunity to use—no time, no space, etc.). An individual may encounter several of these barriers at any one time, most often, those living in poverty and the elderly (Van Dijk and Hacker 2003; Rennie *et al.* 2013). This is a significant statistic for

Aboriginal Communities in Canada and elsewhere,⁹ both because of the role of Elders in many Aboriginal societies and because of the high-poverty levels in many Aboriginal communities. In remote Canada, composed of predominantly Aboriginal communities, internet is expensive and slow, and in many cases still, unavailable (O’Leary 2014; Akkad 2013). The result is that Indigenous individuals and communities, those already systematically isolated and disadvantaged, continue to be excluded from developing spheres of influence in the information society.

While the relatively low cost of digital media may put Indigenous creators in more direct communication with recipients and in better control of content, it may also increase the risk of misappropriation and misinformation. Digital material is highly mutable and easily distributed widely and rapidly (Cameron 2007, 67). This means sensitive or inappropriate information posted by an unauthorized user has the power to circulate immediately, and be accessed and easily reproduced by other users. Métis lawyer Chelsea Vowel (2012) warns that this anonymous access provides the power to post information about Indigenous histories, cultures and communities, without the user necessarily having the authority or correct information. She cautions that this contributes to the already vast amount of misinformation and misrepresentation of Indigenous peoples and makes it more difficult for Indigenous peoples wanting to learn more about their heritage to find accurate information. Indeed, in 1999, misinformation online very nearly had legal ramifications for the Mi’kmaq community of Miawpukek during a land claim hearing at the Provincial Court of Newfoundland, in which a map identifying traditional Mi’kmaq

⁹ In their 2013 study of remote Aboriginal Australia, Rennie *et al.* (2013) cite that as of 2013, only 20% of Indigenous households had internet access, compared to 60% in non-Indigenous households in Australia.

territory posted on a Mi'kmaq-run website was submitted as evidence against the legitimacy of their land claim (Prins 2002, 72).

Despite efforts to diversify and make technology accessible, existing hierarchies are often duplicated and reinforced in various ways by new media (Ginsburg 2008, Srinivasan 2006). Although 'cyberspace' is sometimes heralded the 'new frontier' (Carlson 2013), an uncharted land of opportunity, a blank 'terra nullius' free of the social hierarchies that burden 'real world' social spaces (Lewis 2005), in practice, it may reinforce existing social hierarchies. Many of the technologies available once thought to be relatively neutral, carry with them expectations of commercial marketability and heightened access to information, that may reflect 'Western' values and expectations (Christie 2008), and are not appropriate for some forms of sacred and secret information. While commercial profit and increased access are not necessarily undesirable qualities for some kinds of traditional knowledge and cultural expression, it is crucial to reflect on the ways in which technology may 'recolonize' when applied and enforced carelessly (Landzelius 2006: 2).

Although this thesis focuses on the potential benefits of technology for Indigenous communities, the drawbacks of digital technologies are important to keep in mind as research progresses. The video games introduced later in this report have proved useful tools for culture revitalization, youth education, and Indigenous advocacy in public spheres, however, as this section has explained, new media is not a cure-all for any community. Rather, technology and networks need to be made available with proper educational support so that Indigenous communities have the same opportunities as any other user community to engage in digital spaces.

The issue of multidimensional barriers to access—that is, the digital divide—remains a concern for Indigenous communities. However, it is important that the dialogue about very real barriers to access and technology’s potential cultural biases does not lead to technophobic arguments that see technology as essentially detrimental or ill-suited to Indigenous communities and their respective traditions (Putnam et al. 2005; Becvar et al. 2009). The digital divide is an issue for Indigenous communities not because there is an inherent discord between Indigenous peoples and technology, but because Indigenous communities in Canada and the United States, and indeed, globally, are statistically and systematically among those who fall on the losing side of the digital divide. While some forms of traditional knowledge, such as the secret and the sacred, may be inappropriate for digitization, this is for Indigenous communities to decide. It is important that efforts towards protecting Indigenous communities do not become patronizing and prescriptive, thereby denying the agency and self-determination of Indigenous communities. The solution to the digital divide is not a sweeping rejection of technology, but a careful consideration of how digital technologies can be harnessed to benefit and empower communities.

With this in mind, the following section will address the predominant arguments against the legitimacy of Indigenous innovation as tradition. Likely spurred by the aforementioned ‘media myths’ disseminated by mainstream media which support a particular brand of ‘authenticity,’ these criticisms lament the apparent contamination of Indigenous culture with and by ‘Western’ culture, fearing a loss of authenticity and tradition caused by the incorporation of new technology. Deviations from what the dominant culture decides is authentic—in this instance, Indigenous innovation in technology and more specifically, video games—must therefore be ‘inauthentic.’ I would

submit that the digital divide, in hampering meaningful Indigenous participation in those environments which increasingly shape the contexts of vital human interaction, is an extension of information poverty. The following section first introduces Indigenous new media, contrasting it to representations of Indigeneity in mainstream media. Drawing on theories of hybridity and cultural (ex)change, it will then consider the development of Indigenous new media, not as an 'inauthentic,' technological anomaly, but as one of the many developing uses of media by Indigenous communities.

3.2 Indigenous New Media

It is within this historical framework that the protection of traditional knowledge, digital heritage, and Indigenous new media must be discussed. The dominance of non-Indigenous representation of Indigenous peoples has doubtlessly contributed to the perceived division between traditional and contemporary realms. Misrepresentations have contributed to misunderstanding of the nature of traditional knowledge as it responds to contemporary realities. As Métis scholar, Emma Larocque argues, this amounts to "intellectual genocide," as it:

demands that Indigenous peoples remain 'traditional,' that is, fixed and frozen in time; and when they change, they are charged with 'assimilation' (even when assimilation is forced)—one way or another we are consigned to irrelevance, a modern version for the Vanishing Indian! (...) Meanwhile, the western world, which has more than liberally taken from the Indigenous (both materially and conceptually), acts as if it has neither been acculturated, indigenized, hybridized nor colonized by its own colonial globe-trotting. (LaRocque 2015, 17)

Despite the above-described conditions, however, Indigenous communities have survived and continue to engage and innovate in tradition. Indigenous new media is a testament to this survival, witnessed through the continued production and re-

imagination of Indigenous culture and identity through various media (Landzelius 2006). They participate in what Chippewan scholar Gerald Vizenor terms 'survivance' a contraction between 'survival' and 'resistance' (Vizenor 2008). Indigenous New Media provides consumers with diverse, accurate, and respectful representations of Indigeneity, not only offering an alternative to those found in mainstream media, but often actively confronting the inherent racism behind these representations, thereby challenging existing hierarchies of 'Western' dominance (Alia 2010: 32).

New media comprises television, radio, film, and digital interactive technologies such as websites, video games, wikis, and social media, creating the broad umbrella of interactive communication technologies in which Indigenous new media participates. Wilson and Stewart define Indigenous media as "media produced by and for Indigenous people, usually in their own languages and for internal consumption," in which control of information and representation is determined by Indigenous communities and creatives (2008, 18). Although the following sections will address the context of Indigenous new media generally, the focus of this research is digital media from the immersive, interactive environment of 'cyberspace'—that is, "the websites, chat rooms, bulletin boards, virtual environments, and games that make up the Internet" (Lewis et al. 2005, 30), and most specifically video games.

Faye Ginsburg notes that the global circulation of media through spaces like the Internet is fostering a "nascent but growing transnational network of Indigenous media makers and activists" who are "attempting to reverse processes through which aspects of their societies have been objectified, commodified and appropriated; their media productions

and writings are efforts to recover their histories, lands, rights, and knowledge bases as their own cultural property.” (2008, 302)

“Our Tradition is to Innovate:” Knowledge as (ex)change

For Indigenous communities, tradition and innovation often go hand-in-hand. Indigenous new media highlights the inherent relationship between tradition and innovation, if the two concepts can be separated at all. Offering a counterpoint to the notion of Hobsbawm and Ranger’s critique of ‘invented traditions,’ Peter Burke asks “given that all traditions change, is it possible or useful to attempt to discriminate the ‘genuine’ antiques from the fakes?” (Burke 1986). Within the framework of Indigenous new media, this subsection will review the reciprocal interchange between traditional and innovation, addressing the concerns of inauthenticity and change with a review of theories of hybridity and cultural growth and (ex)change.

New media’s commercial capacity is sometimes decried as untraditional, tarnished by its participation in Western capitalist systems. What perhaps begins as a prudent caution against the infliction of ‘Western’ values onto Indigenous cultures via new media (Christie 2008), risks denouncing the validity of cultural products made expressly for sale or trade. Related are arguments insisting Indigenous members of the ‘Fourth World’ must maintain a ‘non- technical, non-modern’ relationship with the lands they occupy (Dyck 1985; Wilson et al. 2008), rejecting Indigenous technological innovation. While some, notably Comaroff and Comaroff (2009), have been critical of the commodification of culture towards an increasingly commercial end, others have noted that trade, commercial exploits and commodification in fact partake in culture, and vice versa.

Within these contexts, “culture is put to work,” argues Penix-Tadsen, “it is sold in products, it is circulated in intellectual and economic markets”(2016, 141).

The North American colonial period, which saw both the development of a new ‘tourist’ market for trade art, and the exchange of novel materials, offers a compelling counterargument. Mindful of the increasing demand for Indigenous ‘tourist’ art, Indigenous artists and communities made art expressly for this market. As Phillips argues, creating art expressly for a commercial end does not render it less authentic. Rather, trade art bore witness to important moments of historical and cultural change, in traditions and Indigenous identity as it is mediated through cultural expression (Phillips 1995; Phillips 1998; Silverman 1999). The incorporation of new materials into traditional technique and cosmologies—such as glass beads from European traders in Iroquois beadwork, which traditionally employed porcupine quills (Phillips et al. 1999) or the recontextualization of copper and glass, bearing what White terms “ready-made symbolic value,” into Algonquian and Iroquois ceremony (White 1991, 100)—is not a new practice, but customary. This practice extends into virtual environments, which expand opportunities for networking and exchange globally. Speaking to this virtual cultural (ex)change, mixed-blood Métis/Cree multimedia artist Cheryl L’Hirondelle notes that this continues existing trade practice and protocol, arguing “the World Wide Web continues to be a place where we act out age-old ways and protocols as much embedded in that source code as in our own genetic makeup” (2014, 153).

This is not to suggest that innovation and inter-Nation trade did not occur before European contact. While many interpretations of history—what Silliman calls the ‘short

purée’—focus on the moment of contact between Europeans and Indigenous peoples as ‘the decisive moment’ that forever altered Indigenous communities, leaving Europeans seemingly untouched, Silliman notes that considerations of the ‘longue durée’—that is, the deep histories of shifting contexts and cultural development that predate contact—are equally important (2012). Like all ‘human collectives’ Indigenous communities debate and dispute identity, tradition, and culture; Indigenous Peoples, like all peoples, grow and (ex)change (Landzelius 2006). Engaging with and innovating in new media does not result in the loss of tradition or authenticity, and insisting on resistance towards new technologies means resisting continued relevance (Buddle 2008). The alternative is to suggest that materialities and practices that may no longer be relevant to a contemporary community remain in circulation and use, while newer materialities and practices are denied simply because of their ‘newness’—essentially condemning Indigenous Peoples to the past. Although often conceived of as unchanging, traditions grow and shift alongside their communities, a complexity captured by the maxim, “our tradition is to innovate” (Townsend-Gault 2013). Most recently, these innovations include new media, and indeed, video games.

Binaries of old/new, traditional/contemporary oversimplify the nature of tradition and are, at the very least, unhelpful for understanding the complexities of cultural (ex)change. Hybridity theories offer a more appropriate framework. Sometimes described as “standing with legs in both cultures” (Alia 2010, 65), ‘hybridity’ is the process by which different cultures converge and mix, incorporating new elements into existing cultural frameworks which shift over time. The contexts in which hybridity and hybridity-adjacent occurs have been described in various ways. For Pratt cultures “clash” with one another in “contact zones,” which she describes as “contexts of highly asymmetrical

relations of power” (1991, 34); for White, who acknowledges equal agency on the part of Indigenous communities, this is “the middle ground” (1991); Homi K. Bhabha, described these discursive, interstitial spaces of cultural exchange as the “third space” (1994). Although these frameworks differ with regards to power dynamics and agency of participants, they all approach the same essential point—that culture, by nature, grows and adjusts through exchange along its borders, sometimes willfully, but always, unavoidably.

Further arguments against the adoption of new media support binaries that divide cultural expression into convenient yet shallow categories of ‘real’ and ‘virtual,’ ‘traditional’ and ‘progressivist’ (Landzelius 2006, 13), and are not dissimilar to the old/new divide in the context of traditional knowledge and IP law. They can foster the fear that the pervasiveness of ‘immaterial’ virtual spaces threatens the ‘real’ (Cameron et al. 2007) and that ‘real’ communities will be overwhelmed by digital communities (Putnam 2004; Virilio 1995). However, as Alia argues, quite the opposite has happened: rather than Indigenous communities succumbing to the threat of globalization and its accoutrements, digital media has become “Indigenized” (2010, 11).

As Ginsburg notes, Indigenous new media is itself a ‘hybrid,’ combining traditional knowledge with new technology, disproving ideals of the untouched, idealized ‘pre-contact purity’ that exists in the colonial imaginary (1991, 106). ‘Cyberspace’ perhaps challenges conventional understandings of hybridity as only two cultures meeting: in ‘cyberia,’ any one individual may be participating in and sharing (however shallowly) several arenas of identity and culture simultaneously, creating opportunities for *polybridty*. Digital spaces facilitate exchange not only ‘transnationally’ (Ginsburg 2002),

but also 'translocally' (Landzelius 2006, 12), connecting geographically remote, local communities and facilitating the virtual exchange of local culture.

Within this historical and ever-developing framework of cultural exchange and negotiation, digital expressions of culture are as authentic and cultural consistent as any other form of Indigenous tradition. Denying authenticity to digital traditions on the basis of their 'newness' fails to recognize the historical integration of novel materials, ideas, and values into traditional frameworks and practice. In this way, technology is incorporated into existing protocol and cultural frameworks, harnessed to support community and tradition where appropriate. The purpose of Indigenous new media is sometimes broken into two categories: 'inreach' and 'outreach' (Landzelius 2006; Becvar et al. 2009). 'Inreach' are those digital efforts which seek to support community initiatives and build capacity. Community resources like online Indigenous language dictionaries, community message boards on social media, or initiatives like the *Kuh-ke-nah Network*, a 'telemedicine' project providing 'e-health' services to remote Indigenous communities in Northern Ontario through online communications, are some of the many community-focused media initiatives that constitute 'inreach' (Gideon 2006).

'Tele-tangis,' for example, use online teleconferencing software for 'virtual attendance' at Māori funeral, tangihanga, uniting otherwise remote relatives to grieve (Te Awekotuku et al. 2013). As early as 1991, the collaborative listserv, *Native-L*, was created to give voice to global Indigenous issues; in 1994, the Oneida nation was perhaps the first Indigenous Nations to create a website for and by the tribe (Wilson et al. 2008, 21). In Canada alone, television such as Television Northern Canada (1992) and the Aboriginal Peoples Television Network (1999), as well as local, talk-back radio like Radio Kahnawake CKRK

have long given voice to Aboriginal issues and supported Aboriginal languages (Alia 2010), a function that is increasingly carried out in cyberspace, through social media and mobile applications.

As Indigenous digital action and activism becomes increasingly ubiquitous, the 'real world'/virtual world divide is becoming more difficult to establish (Kozinets 2009). Indigenous new media also increasingly seeks to facilitate collaboration outside of Indigenous communities, asserting Indigenous presence online and in global discourse. This is 'outreach,' and includes diverse movements, from Indigenous-determined tourism, to the early internet political-activism of the Zapatista Rebellion (Belausteguigoitia 2006). Virtual activism online can have a strong relationship with activism in 'real-world' spaces, as evidenced by the campaigning that occurred via social media and 'real' contexts with the 2012 *Idle No More* movement in Canada and the *Native Appropriations Blog*. Some initiatives, like the Outback Digital Network, which links remote Australian Indigenous communities online in an effort to increase control of Indigenous media and information and bolster an Indigenous political presence (Latukefu 2006), combine elements of inreach and outreach.

The interchange between the 'real' and the 'virtual' also addresses the alleged separation of 'real' world experiential knowledges, ways of knowing, cosmologies and spiritualities, from digital practices and creativity. Expanding on Blackfoot researcher Leroy Little Bears' description of the circle of relations and the recognition of animism in things often considered inanimate, Kanien'kehaka multimedia artist Jackson 2bears writes

for us this applies, not only to obviously living things like animals and plants, but equally to seemingly inanimate things like mountains, rivers, and human-made artifacts—such is the way we often understand

technology, as something alive and filled with spirit, something with which we are interconnected in what Little Bear called a 'circle of relations' and something that is a part of a universe of 'active entities with which people engage.(2bears 2014, 15; Little Bear 2003, x)

Conclusion

This section has aimed to provide the theoretical and historical contexts within which Indigenous new media developed. It addresses the alleged incompatibility between Indigenous Peoples and technology, responding to the predominant criticisms of the inauthenticity of Indigenous innovation and new media by situating them in the historical context of cultural (ex)change and development. New media was demonstrated to be incorporated into existing cultural frameworks can be understood as traditional, with traditions understood to be ever-adapting and responsive to these materials. Video games, and Indigenous video games introduced in the follow section, participate in these same structures. Within this more general framework of Indigenous new and digital media are the video games introduced in this section. This below will assesses video games as an object of inquiry, introducing the history and theory of video games as cultural products. It concludes with a discussion on Indigenous video games by way of introducing the video game that feature in this thesis.

3.3 Indigenous Video Games

In the vast and seemingly boundless virtual world of Indigenous digital media replete with the creative works, games, words and resources for and by Indigenous communities and creatives, video games offer a concise framework for the consideration of traditional knowledge and cultural expressions in digital environments. Indigenous video games may be independently developed or community-focused and community-created, developed in a collaborative environment. Through video games, Indigenous individuals

and communities can share stories and teachings on their terms through engaging, immersive play, connecting with users who otherwise may not be reached. In addition to outreach education, in-community education and skills sharing through workshops and game jams are an important component of many Indigenous gaming companies and collectives. Code clubs and workshops create new contexts to interact with and transfer traditional knowledge, and hold learning about stories and the process of storytelling as central to their game development process. This section will discuss the particularities of video games that set them apart from other forms of digital media, in order to situate them within the broader landscape of Indigenous new media later in this chapter. It will introduce emerging video game literature which argues for the cultural significance of video games, and their connection to heritage and identity. Finally, it will address the concerns outlined in section one of this chapter.

Video Games

Like traditional knowledge, there is no singular definition of a ‘video game.’ Video games are self-contained virtual worlds that draw upon and ‘collide’ with physical, ‘real world’ spaces through play (Giddings 2009) and also extend further into cyberspace, through associated blogs, web fora, video tutorials, and social media commentary. They contain both tangible and intangible elements. A virtual world embedded in the software is accessed and interacted with through an interface held by hardware in the physical world—whether this be classic arcade cabinets, at-home consoles, PCs, controllers and, increasingly, touchscreens on mobile phones and tablets, as well as virtual reality headsets and chambers. While the previous chapter introduced video games as they are understood by the law, here I discuss video games as objects and environments of culture.

While video games date back as far as 1958, developing concurrently with the modern computer (Bissell 2011), they only became widely accessible in the 1970s and 1980s with the rise of public arcades. The 1980s also saw the development of home consoles like the Atari and the Nintendo Entertainment System (NES), which further popularized video games through the rise of at-home play (Donovan 2010). More recently, video games have experienced even broader distribution through the growing use of smartphones, tablets, and home PCs by the general public, which has facilitated increased diversity both in terms of who is making and who is playing video games (anthropy 2012; Juul 2012).

Although video games have long been circulating as interactive media, they have until recently remained mostly outside the purview of scholarly consideration. The video game industry has generated a distinct culture of 'gamers' and 'gaming,' often mistakenly associated exclusively with children's culture and toys (Wolf 2015; Nichols 2014). Regularly considered 'lowbrow' media, video games do not receive serious academic consideration because of their emphasis on 'play,' as regulated by set rules and goals (Juul 2005, 21). Video games remain nascent modalities, and their ability to convey information meaningfully and reflect cultural perspectives is often dismissed as they are generally described in terms of technological, as opposed to cultural, innovation (Goldberg et al. 2015, 8).

With innovation in game design and increased accessibility to gaming on new platforms such as tablets and smartphones, video games have the potential to reach beyond the traditional 'gamer' consumer base to diverse populations (Juul 2012). Now, "video games have moved well beyond gaming consoles within our homes to now occupy a broader, more significant place within our social environment" (Gard et al. 2017, 1). The advent

of casual and social games has attracted new audiences. Video game consoles, like Nintendo's Wii, which was expressly designed to appeal to and be accessible to 'casual' players, are becoming more popular, attracting players across generations. The increasing presence of games online and on phones has meant, now more than ever, a diversity of players engaging with video games, as these media help to remove skill and access barriers (Juul 2012). Affordable game-making software has also encouraged independent, or 'indie,' game developers to create thoughtful, often very personal games outside the bounds and limitations of the 'hegemony of play.'

Additionally, the increased proliferation of game-compatible technologies—both in the online distribution platforms described above, but also through the sheer presence of technologies which support video games, such as smartphones and PCs—has meant a new kind of player is accessing games. This 'casual revolution' in gaming (Juul 2012) has meant that, with the advent of new technologies and the interactive 'produsage' context of Web 2.0, in which producers and users of media are often members of the same community, accessibility and therefore diversity, both in terms of who is making and who is playing video games, is on the rise. Increasingly, as video game software development and the necessary hardware becomes more affordable and accessible on a skills level, there is a simultaneous increase in the diversity of who is making video games. Resulting games are therefore not only for selling, and are no longer necessarily reflective of the 'culture' of large gaming corporations (Juul 2012; anthropy 2012)

As video game development software becomes more affordable and accessible, diversity of perspectives and experiences is slowly shifting the types of games available. 'Indie games'—that is, games made by small teams or individuals on low-or-no budgets—tend

to push back against the conventions and norms of the video game industry, often introducing unique mechanics, narratives, and representations by way of infusing the industry with diversity (Fisher et al. 2013). Online video game distribution platforms like Steam and e-shops, or the more recent low-barrier-for-entry platform, itch.io, have supported the distribution of small budget, indie games, which otherwise may not have been able to distribute games, are now able to, and tend to more “experimental” in nature, diverging from the industry standards and conventions (Wolf 2015, 9). The advent of indie games and the diversity they represent and invite has urged more serious academic consideration of the cultural dimensions of video games (Nichols 2014).

Video Games, Heritage, Knowledge

Games and play predate video games, of course. ‘Play’ is deeply woven into the fabric of human societies, and is deeply connected to the cultural values, activities and expectations of a community. The cultural theorist and founder of the study of ‘ludology,’ Johan Huizinga, argues that play is culturally bound, and “culture arises in the form of play, that it is played from the very beginning” and furthermore, that “it through this playing that society expresses its interpretation of life and the world” (Huizinga 2016, 46). Play can be formally structured through a game. A game is “an activity which is essentially: free (voluntary), separate (in time and space), uncertain, unproductive , governed by rules, make-believe” (Caillois 1958, 10–11). As Bernard Suits succinctly states, “playing a game is the voluntary attempt to overcome unnecessary obstacles” (Suits 1978, 41). The connection between games and cultural heritage is explicitly evidence, for example, of folklore in UNESCO’s 1989 Recommendation on the Safeguarding of Traditional Culture and Folklore, which states:

Folklore (or traditional and popular culture) is the totality of tradition-based creations of a cultural community, expressed by a group or individuals and recognized as reflecting the expectations of a community in so far as they reflect its cultural and social identity; its standards and values are transmitted orally, by imitation or by other means. Its forms are, among others, language, literature, music, dance, games, mythology, rituals, customs, handicrafts, architecture and other arts

In video games, play can be understood as “the particular set of non-real-world tasks, goals or potentials set for the player’s enjoyment within an on-screen arena, performed according to a set of pre-established rules and a result of which a number of different outcomes are possible” (Kryzwinska 2006, 9). These interactions can carry culturally significant meaning through the rules by which play is structured. Recalling literary semiotic theory, James Paul Gee identified the specific “design grammars” that make up the context of game worlds, “to understand or reproduce any word, symbol, image, or artifact in a given semiotic domain, a person must be able to situate the meaning of that word, symbol, image, or artifact within embodied experiences of action, interaction, or dialogue in or about the domain.”(Gee 2006, 240)

Like other objects and environments of culture, video games carry meaning and cultural weight. They participate in larger cultural structures and expectations, while simultaneously forming and reinforcing their own subcultures (Mayra 2008). Foremost proponent of ‘archaeogaming,’ Andrew Reinhard, discusses video games as both site and artifact. He describes a video game as a “built environment, something made by people for other people to use—and in some cases ‘inhabit’ if the game is really, really good” (2017, 99). A video game is therefore both the physical or virtual product of culturally mediated process—the artefact—and an interactive environment through which hold culturally specific values, in game worlds, characters, cultures – the site.

Gameplay most heavily relies on game mechanics, which are the “events of actions that the game design allows for; for instance, driving, regaining health, or shooting,” which “may be thought of as the ‘verbs’ of a game” that is, “what a player can do.” (Egenfeldt-Nielsen 2016, 10). The components of content, narrative, and mechanics all play an important part in the ways in which player interacts with and understands the game. Video games, unlike many other forms of digital media, are structured by and interacted with through mechanics, that is, “the action invoked by an agent to interact with the game world, as constrained by the game rules” (Sicart 2008). Mechanics present a series of actions in which players may engage with and enact culturally specific values.

Giddings describes video game play as an “event,” that is “the playful and aesthetic relationships between the human and the nonhuman that constitute the video game play event are not only psychic, imaginary, signifiatory, or textual. They are also material: mechanical and cybernetic circuits of embodied feedback across the virtual and the actual” (Giddings 2009). Within this ‘play’ event, the ‘real’ world and digital “collide” through the act of play, as both virtual and embodied, participatory event (Giddings 2009). Play is essentially and wholly experiential; “its objectives are valued as they are experienced, and not for anything inherent or enduring them, a fact close to the heart of its ability to supplant worldly logic with an altogether more mercurial set of relations” (Chatfield 2010, 233). Therefore, games carry with them the meaning first inscribed in them by their makers as ‘objects,’ and expand with new meanings upon being played.

Video games have been celebrated for their ability to educate by inspiring devotion to characters and motivation to progress through the narrative (Gee 2007; Taylor 2002). Interactivity and immersion are what sets video games apart from other media. As

foremost game scholar, Erik Champion describes, these qualities are what make games unique as a medium, as allows games to construct and facilitates “relation to a cultural genre or a cultural setting.” Furthermore, what defines video games as a distinct form of digital media is that “they are engaging, and they are challenging, they involve risks and rewards, and the selection of different strategies to solve immediate and long-term goals” (Champion 2017, 107). Games can be ‘serious’—that is, video games developed expressly for the purposes of education and training, in which non-game objectives and lessons are ‘gamified’ to make them more immersive and accessible (Bogost 2010).

Games are not always necessarily about ‘fun’ but about being “engaging,” states video games scholar Chatfield; “at every step of a well-designed game, you are engaged but not necessarily entertained.” (Chatfield 2010, 181). Games like Zoe Quinn’s *Depression Quest* (2013), are not made to be ‘fun,’ but to can evoke emotional response and created an empathetic connection between player and played (Quinn 2015). To this end, the ‘post-escapist’ approach to video games, which seeks to analyse games beyond their ability create ‘fun’ and escapism, seek to appreciate video games within their larger “social, political, and cultural context,” and acknowledges the “value in what a game says about the world around it” (Goldberg et al. 2015, 11) .

Video games have unique qualities and capacity for emotional connectivity, as facilitated through identification in role-playing and coordinate team play in multiplayer games (Isbister 2016). Erik Champion defines virtual heritage as “the attempt to convey not just the appearance but also the meaning and significance of cultural artefacts and the associated social agency that designed and used them through the use of interactive and immersive digital media” (Champion 2016, 17). Virtual heritage may therefore be

understood as an extension of cultural heritage insofar as it encourages the ‘real world’ cultural processes in an interactive virtual environment. Video games certainly participate in and facilitate this transition.

Indigenous Video Games

Combining visuals with the music and voices of their communities, the video games described in this thesis create immersive virtual landscapes based on oral traditions and stories, often incorporating the traditional dings and the work of local artists. Indigenous video games, like other forms of Indigenous media, stand in contrast and often oppose, mainstream media depictions of Indigeneity. While they differ in content, design, and have varying objectives, the video games discussed here aim to provide alternative content to that created by mainstream media which, as noted earlier, continues to perpetuate outdated, inaccurate, and often offensive portrayals of Indigeneity. Although the word ‘game’ denotes carefree fun, the level of skill and time required to produce a video game, as well as the amount of time players invest in creating characters, demonstrates a significant investment on the part of the designer. The games introduced in this thesis are exceptional contributions to the field of Indigenous media, each projecting unique and diverse Indigenous voices onto the global stage and representing accurately and conscientiously Indigenous culture through the thoughtful creation of characters, level-design and narrative.

The games presented in the later chapter represent but a few example of rapidly expanding world of Indigenous video games. There exists an immense variety, from language-learning apps like *FirstVoices* in Canada, cultural education apps like *Navajo Toddler* in the USA, to the youth-driven Yijala Yala online gaming projects, the *Love Punks*

and *NEOMAD* (2012), in Australia. While Indigenous video games differ in game content, mechanics, design, and objectives, they are generally united in a desire to oppose mainstream media depictions of Indigeneity and to create spaces for Indigenous voices in cyberspace. Representations of Indigenous cultures and information are managed and distributed in a manner that is controlled and approved by the Indigenous Peoples to whom the traditional knowledges belong. They exemplify the intersections, and often complete unity, of the traditional and contemporary, and perhaps offer a contradiction to the title of this volume: these are not video games only of the past, but of living, changing traditions in the present, passed on to equip Indigenous Peoples for the future.

Indigenous video games often participate in the larger lineage of Indigenous new media. For example, from 1996 to 2004, the Indigenous artist collective Nation to Nation ran CyberPowWow, a chatroom that allowed users to “log in” to digital PowWow Indigenous artists, and supported Indigenous digital media through hosting online gallery events featuring digital artwork. “What differentiated CyberPowWow,” explains Guglietti, “was its understanding of the Internet as a territory that could be claimed and appropriated by the community,” in support of AbTeC’s mission to foster “Aboriginally determined territories in cyberspace” (Guglietti 2010, 69). From CyberPowWow emerged Aboriginal Territories in Cyberspace (AbTeC), formed by Cherokee, Hawaiian and Samoan scholar and software engineer, and Jason Lewis, and Mohawk artist, Skawennati Fragnito. AbTeC’s mission included the “creation of art addressing “the future of Native people on this continent,” and “educating Aboriginal youth in new media production” with an emphasis on story and storytelling, and significantly, to support gradually capacity building young Indigenous people, moving them “from new media consumption to media

production to technology development, and bring that production and development activity back to the reserve” (Lewis et al. 2005, 29)

Finally, it is important to note that not all Indigenous-made games necessarily look or feel “Indigenous,” nor are they required to. Many of the video game developers I worked with emphasized the need to reject the expectation that a video game made by an Indigenous person needs to be recognizably ‘Indigenous.’ The games presented in this chapter do not constitute the whole of Indigenous games. There are many video games created by Indigenous developers—like Mexican Yaqui, and Cherokee game designer John Romero’s *Quake* (1996), or the *Doom Series* (1991-), or *Brawlygons* (2018), or *Hold My Hand* (2019) by Mohawk designer Nathan Powless-Lynes—that do not overtly express content, characters, or mechanics that are explicitly legible as “Indigenous.”

3.4 Conclusion

In discussing the pitfalls and potential risks of digital media, this chapter has addressed Indigenous new media and its intervention in the misperceptions of Indigenous culture, contributing to the perceived divisions between old and new. It has established that video games increasingly participate in the broader context of ‘heritage.’ Indigenous video games are certainly no exception. But can video games be of traditional knowledge? Traditional knowledge, according to existing IP literature, falls under the umbrella of cultural heritage. As the following chapters will illustrate, Indigenous video games, do not merely reflect or represent traditional knowledge, but increasingly, are of traditional knowledge.

PART II

Indigenous Video Games

Chapter 4

METHODOLOGIES

In many ways, the ends and the means of this research are somewhat conflated, as many of the concerns on the privilege to represent, to control and access information are also a key concern for the ways in which this research was conducted and is presented. I did not want to reproduce issues of misappropriation and misgovernance of community-held knowledge in my own research methods. This chapter will review the research design, discussing the underlying ethos of Indigenous research methodologies that guided the structure of this research and the process of informed consent. It will also cover interviewee and video game selection, as well as interview format. I will conclude this chapter with a brief discussion of ethical challenges and considerations that arose in advance of and during this research.

4.1 Indigenous Research Methodologies

The primary framework for this research's methods is Indigenous research methodologies. This is guided by insight provided by Linda Tuhiwai Smith, a Māori researcher in Indigenous education and development and by Shawn Wilson, an Opaskwayak Cree researcher in methodologies, Indigenous education and mental health, who have both published on Indigenous research methodologies. Their methodologies seek to facilitate equal and mutually beneficial relations between researcher and community, to avoid methods which impose values ill-aligned with those of the community or which may otherwise re-colonize information through the process of research, and to ensure that information derived from research efforts will not be used

in a such a way that disrespects or misrepresents Indigenous Peoples. Below are the pertinent themes that emerge from both Smith and Wilson's work that informed my research design.

As many Indigenous academics have noted, Indigenous communities have been researched to exhaustion. Through its association with European imperialism and colonial expansion, "research" has come to be "one of the dirtiest words" for many Indigenous communities (Smith 2012, 1). Although there is a wealth of culturally sensitive ethnographic research, its roots remain firmly planted in the Western anthropological tradition (Hammersley et al. 1995), which in many ways bolstered and justified colonial expansion through the feigned scientific legitimization of convenient stereotypes of the 'uncivilized savage' in need of the West's civilizing influence. Ethnographic research was done 'to' Indigenous people, information extracted from 'source communities' by self-proclaimed arbiters of culture. In this model, data is examined at a critical and 'objective' distance, creating the neutral observer, the 'expert' – who either wholly omits or fails to acknowledge the expertise of elders and community leaders, instead labelling them as 'informants' or worse yet, subjects of research. Here, 'expertise' is cultivated outside the bounds of community; and knowledge developed within the community, without placement in an academic context, is dismissed as 'primitive' (Smith 2012; Bell 2009).

This is not advocate for the indiscriminate rejection of all forms of research emerging from this problematic history, but rather, as Linda Tuhiwai Smith notes, suggest that research methods may be 'Indigenized.' (2012). As Wilson (2008) emphasizes, the process by which information is gathered and analyzed is as important as the information

itself; if research is conducted in a way that is dishonest or disrespectful, the resulting work embodies and perpetuates dishonesty and disrespect.

It is therefore essential that research is conducted in such a way that fosters and supports healthy and respectful relationships of trust. This asks that the researcher think about the implications their research may have on those it involves, to be respectful to all of these relations, and to continue to re-evaluate as the research develops. Wilson (2008: 111) notes that when working in cross-cultural research, openness and flexibility are essential. Flexibility can mean, for example, that university guidelines may need to be shifted to meet community standards; for example, although standard research protocols often insist on interviewee or participant anonymity, omitting someone's name may also be unethical depending on the context (Wilson 2008). Researchers, according to Wilson, are mediators, part of a 'growing relationship' between community, the research topic and the academic community (2008, 106). Mediators, those who relay stories from within Indigenous communities to the wider world, have a moral obligation to do so respectfully and with good intentions.

Acknowledging my position in this research

Teluisi Wape'g Jipji'j. I am a member of the Wampanoag Nation, with Scottish, Irish, German and Wôpanâak heritage. I grew up in Mi'kma'ki on the west coast of Newfoundland, where I have close ties with the Mi'kmaq Nation, for whom I am a drum carrier. My knowledge is limited, and I am still learning about my own history and my place in it. This is the position from which I approach this research. Although I am Wampanoag of mixed heritage and was raised in Mi'kma'ki, this research is necessarily

cross-cultural, as Indigenous communities and Nations are distinct cultural groups, each with different regulations, protocols, and expectations.

My elders in Mi'kma'ki taught me the concept of 'msit no'kmaq,' meaning 'all my relations.' In practice, this means honouring my connection to all that I am in relation with; my ancestors and the generations to come, and the animate world around me that I must live in reciprocity with. In research, this may manifest as Graveline's (1998) "self-in-relation," or Kovach's (2010) "researcher-in-relation," meaning research that is carried out in response to and recognition of relationships, that honours kinship ties, relations, and bonds of community and nationhood. This must mean a recognition of the perspective I bring as a multi-heritage Indigenous woman, and the rejection of the notion of researcher objectivity and long held academic structures which separate 'researcher' and 'researched.'

4.2 Research Design

This research seeks to understand what insights Indigenous video games offer regarding the nature of traditional knowledges in digital environments and how they can best be protected. To better understand the place of technology and innovation in the context of the protection of traditional knowledge, I designed interviews for Indigenous video game developers, as well as community members who informed and participated in video game making. This was a mixed-methods approach, combining critical game play with semi-structured interviews, as well as participant observation at Indigenous video game workshops. The primary means by which 'data' was collected for this research was through interviews, and secondarily through video game analysis and participatory observation. This section will discuss how and why video games and participants were

selected. It will also provide an overview of interview structure, participants observation and will briefly touch on video game analysis.

Connecting with Video Game Developers

Since beginning this research in 2013, the sheer number of Indigenous video games has increased exponentially. There are many more Indigenous video games than are discussed by this research, and not all video games developed by Indigenous game communities and creatives are necessarily appropriate for this research. I began this research by reaching out to Skawennati Fragnito and Jason Lewis at Concordia, regarding the Skins video game workshops, which I had read about during the initial phases of my literature review. Following an introduction and several interviews at their studio at ObX labs, I was connected through word of mouth to many others in the Indigenous gaming community, and my connections snowballed from there. Once I had my footing, much of this research was afforded by word of mouth. The Indigenous gaming community is small and connected. I am immensely grateful to Skawennati and Jason for giving me a first chance and for further connecting me to other incredible game makers that I have learned so much from.

A discussion regarding ‘selection criteria’ must be paired with a number of caveats. Firstly, on the term ‘participant.’ I have rather hesitantly chosen this word to collectively describe those who shared their time and knowledge with me over the course of this research. This is not an entirely satisfactory or accurate term, as it implies that ‘participants’ were participating in my research, rather than this research participating in and seeking to understand the video game development processes that were underway long before this research began, and which occurred regardless of whether or not I chose

to carry out this research. I chose this term simply for the sake of finding a broad enough descriptor to encompass the diversity of interviewees and knowledge-sharers, whose expertise and experiences ranges from fluent language speakers, to game developers, elders, storytellers, artists, community leaders and knowledge-keepers.

Secondly, and as I discuss in the previous chapter, that not all Indigenous video game need include traditional knowledge or readily recognizable signifiers of Indigenous culture an experience. The video games discussed in this thesis were selected not simply because they were made by Indigenous game developers, but because their developer explicitly chose to include teachings, stories, and knowledges, or chose to share their experiences and express their perspective onto matters of identity and the impact of colonialization.

Finally, on the use of the term 'Indigenous.' The term 'Indigenous' is used to describe many diverse cultural groups, tribes and Nations. While it is itself a broad term, it does not denote cultural similarity, but rather, unites distinct cultural groups through shared experiences of subjugation and oppression through the mechanism of colonization (Clifford 2013: 15). As part of his work for the United Nations' (UN) Working Group on Indigenous Populations (WGIP), Martinez Cobo undertook an extensive study on the definition of Indigeneity in Chapter Five of his report (Cobo 1990). The length and depth of this chapter perhaps speaks to the vastness and utter diversity between and within the cultures to which the term 'Indigenous' applies. As this report demonstrates, there are several understandings of 'Indigenous,' differing between countries and communities. In Canada alone, 'Aboriginal' can be divided into three subcategories: First Nations, Inuit,

and Métis, totalling over 600 bands and governments. Collectively, these groups may be addressed as Aboriginal, Indigenous, or First Peoples.

The terms 'Aboriginal' and 'Indigenous' are sometimes used interchangeably in this research when addressing the First Peoples of Canada and the United States. When addressing the international Indigenous community, the term Indigenous will be used. Whenever possible, the specific name of the tribe or band will be used.

UN academic Erica-Irene Daes, who has worked extensively with the WGIP for 20 years, offers an alternative to rigidly defining 'Indigenous.' Daes (1997) provides instead a list of four 'factors' that pertain to most Indigenous groups:

1. Priority in time, with respect to the occupation and use of a specific territory;
2. the voluntary perpetuation of cultural distinctiveness, which may include the aspects of language, social organization, religion and spirit values modes of production, laws and institutions;
3. self-identification, as well as recognition by other groups ... as a distinct collectivity;
4. and an experience of subjugation, marginalization, dispossession, exclusion, or discrimination, whether or not these conditions persist.

Daes emphasizes this is but a set of common characteristics, not an enforceable definition; understandings of Indigeneity/Indigenism emerge from Indigenous communities outward, and may mean different things in local, national, and global contexts (Wilson & Stewart 2008: 11-12).

In addition to issues of definition, I would like to clarify the distinction this research at present makes between 'Western' and 'Indigenous.' Although the literature I am using as background for this research frequently divides culture into 'Western' and 'Non-Western,' 'Indigenous' and 'Non-Indigenous,' this risk creating an inaccurate binary. Many of the concerns outlined in this paper regarding globalization, technology, identity and tradition are not unique to Indigenous communities (although, they may take unique shape in Indigenous contexts). While this binary may represent some of the prevailing concerns and interests of different groups, it misses the diversity and intersections within and between various cultural groups. This research hopes to develop a nuanced approach to addressing these categories.

I have endeavoured to honour, as closely as possible, the terminology that interviewees used to describe themselves and their communities; therefore, the terms 'Native,' 'American Indian,' 'Indigenous,' and 'Aboriginal' may be used interchangeably in the following chapters, with reference to specific Nations and tribes when possible and appropriate. For the purposes of this research, I have relied on participants' self-identification as Indigenous, trusting their integrity and depth of experience to define their positionality as Indigenous game developers, not on top-down government categorizations of 'status' and 'non-status,' or requirements of blood quantum, or legal tribal membership.

Interview Structure

This research sought to understand what strategies, legal or otherwise, are best suited to the protection of traditional knowledges in digital contexts, and what insights might be gained through the examination of Indigenous video games containing traditional

knowledges and cultural expressions. To answer these questions, I conducted a series of semi-structured interviews with Indigenous game developers, storytellers, elders, artists, and knowledge holders. Interview questions were designed to better understand how to interviewees understood traditional knowledge, to share their insights regarding the digitization of traditional knowledge, how they would like to see traditional knowledge used, what constitutes misuses, and also to get a sense of the appropriateness of term of 'property' with regards to tradition, to discern what knowledge they may have regarding IP law and forms of cultural property law, and whether they have any opinion on how they would like to see traditional knowledge and cultural expressions protected.

I conducted a total of thirty-two semi-structured interviews for this thesis. Although the interview structure shifted depending on the specifics of the video game in question, and adapted as questions arose during conversation, the general structure for each interview was broken into four main section, which are outlined in brief below with sample questions:

- A. Background Information:** Name (if identified), Affiliations, Nation, tribe, or community; Position in Community; Personal and professional experience;
- B. The Game:** (I have clips and stills of the video games at hand, for object elicitation) Have you heard of/played this game? Do you recognize the story told in this game? What is the story being told in this game? How is the story told in this game different from the way you would tell it/you have heard it?
- C. Traditional Knowledge:** How would you describe/define traditional knowledge? Would you describe the information in this game as traditional? Would you describe the game itself as traditional?

D. Copyright/Control of Information: How would you like to see [traditions] treated/used? What would constitute a misuse? Does anyone own these stories? Does anyone NOT own these stories? Is ownership the correct term to describe your relationship with traditional knowledge?

Video game analysis

The past thirty years have seen a rise in video game theory and research methods. Broadly speaking, the frameworks through which video games are analyzed are generally broken into two categories: ludography and narratology, the former examining video games as complex systems of rules, the latter, seeking to identify the narrative elements of game structure and play. Some game scholars oppose the analysis of narrative in video game studies (Juul 2010, Bissell 2011). Although proponents of narratology and ludology have historically fervently defended their distinctiveness, as video games develop into increasingly sophisticated modalities, the division between the two has come into question. As Bissell explains, the narrative of a game is generally communicated through 'cutscenes' or 'cinematics,' in which play and therefore, interactivity, halts and the player simply watches as the story is told via animation or text. The 'ludonarrative,' as it has come to be described, is the "unscripted and gamer-determined" portion of the game – in short, the 'fun.' Parsing out the difference between the two is complicated if not impossible, as Bissell explains "one is fixed, the other is fluid, and yet they are intended, however notionally, to work together" (Bissell 2011, 37).

I would describe my use of ludology and narratology as 'light.' While research necessarily involved critical game play, I relied predominantly on the developer's analysis of their games to inform how I understood the content and the presence of traditional knowledge

within the. Generally, video games were played with notes taken in advance of interviews, to inform questions and conversation. Video games were then played again, this time informed by the feedback from the interview. Game play guided interview questions, and answers from interview then guided game play.

4.3 Ethical Considerations

This research has received ethics approval from the University of Oxford's Central University Research Ethics Committee (CUREC). The below-described documents have been reviewed and approved by CUREC, and include the participation information form, written consent forms, verbal consent texts, and the materials release form. In addition to university regulations, this research was also bound to the ethics guidelines of the Tri-Council Policy Statement (Canadian Institutes of Health Research et al. 2018), issued by my funding body, the Social Sciences and Humanities Research Council of Canada.¹⁰

Informed Consent

The consent process was developed following the guidelines provided by the Tri-Council Policy Statement and guided by Indigenous research methodologies. Informed consent was supported through various stages of the research. Following an introduction, in advance of any interview, I sent a Participation Information Sheet to interviewees. This form includes information regarding myself the purpose of research, potential benefits

¹⁰ The Tri-Council Policy Statement (in full, *Tri-Council Policy Statement: Ethical Conduct for Research Involving Humans*) is a policy jointly determined by Canada's three federal research agencies: the Canadian Institutes of Health Research (CIHR), the Natural Sciences and Engineering Research Council of Canada (NSERC), and the Social Sciences and Humanities Research Council of Canada (SSHRC).

and/or harm of participation, information about the length and nature of the interview, data management and confidentiality, as well as my contact and CUREC contact information. Participation Information sheets are provided in advance the interview whenever possible, and interviewees are encouraged to ask any further questions they may have.

Before beginning the interview, participants were given the opportunity to ask questions regarding the contents of the participation information sheet, or my research more generally, and were given the option to provide written or verbal consent. In both instances, interviewees were presented with the option to be identified or to remain anonymous, to decline audio-recording, and to withdraw from this research at any point during or after the interview. In the case that participants did not wish to be recorded or provide written consent, I also prepared a 'Research Record of Oral Consent' form for my own records, which I did need to use as all interviewees agreed to an audio recording.

There were two consent forms available for interviewees. The first identifies the interviewee (in this case, he or she likely holds a position that is relevant to the research or is an expert in their field; i.e. the director of a company, designer of a game, etc.), The second consent form is for interviewees wishing to remain anonymous. On both consent forms, interviewees are given the option to consent for the use of direct quotes (quotes from anonymous participants will be attributed to a false name). The purpose was to allow interviewees to be identified for their experience and insights but allowing them to choose not to be if they wished.

Following the interview, I transcribed the audio and sent the transcript to the respective interviewee. To ensure their words were represented accurately and sensitively, all

interviewees were given the opportunity to review and approve their transcripts and designate how they would like them shared with a Materials Release Form. Interviewees were told during the consent process that they will receive the transcript of their interview which they will have the opportunity to approve and edit as necessary, to ensure their thoughts have been represented accurately. The content of approved transcripts constitutes the majority of the information presented in this thesis.

Materials Release Form

All interviewees are given the opportunity to review, edit and approve their transcripts, which they were then able to specify how they wished for their transcript to be shared using a material release form. This process allowed interviewees to 1) review their words to ensure their thoughts are accurately represented, and 2) allow them to designate their data as 'public,' 'for research only,' or 'private.' 'Public' means the audio recording(s) and transcript(s) will be accessible to members of the public through the researcher. The researcher may use the materials from the interviews for future publications and the material from the interview(s) will be made available for future research and public access. Materials designated "for research only," mean that audio recording(s) and transcript(s) will be analyzed by the researcher and information will be used to complete the research study. Information will be reported in a way that does not identify you (unless otherwise specified) and your materials will be destroyed after the study is complete. 'Private,' means the audiotape(s) and transcript(s) will be given to the interviewee and never released to the University of Oxford nor to the public. The only records of the interview will belong solely to interviewees.

In retrospect, I am not convinced this approach was necessarily most fitting. While structuring a consent process over multiple steps allowed me to check in with interviewees several times, ensuring they had fully reviewed and approved their transcripts, it also created additional work on the part of the interviewee. Even though most interviewees appreciated the opportunity to review and edit their words, the excessive paperwork at each step also presented an additional burden. Paperwork should not function as a stand-in for building relationships of trust, and it often felt unnatural to insist on extensive consent from those who I had come to know personally and professionally over the course of this thesis.

I have sought to structure my methods such that they would allow, as much as possible, for interviewees to determine how they would like their words shared, either in this thesis, or in related publications and presentations. As such, some interviews are not represented in this thesis, as I was not given permission to share them. In some cases, interviewees wished to remain anonymous and retrospectively decided that they did not wish for their interviews to be shared or wished for some elements of their interviews to remain anonymous. The insights shared by these individuals are therefore not connected to their names. I would here like to acknowledge their contributions and offer my gratitude for their time and consideration. I would also like recognise that my conclusions and perspectives have been shaped by what they shared during our interviews and informal conversations since, and for this time and perspective, I am grateful. Wela'lioq.

4.4 Conclusion

This chapter has outlined the research design and underlying methodologies employed to structure this research. It has introduced the principles of Indigenous research

methodologies and explained how these were incorporated into the research plan and applied during research. It has reviewed the basic interview structure, and the process of consent. It has also discussed the basics of video game analysis, and how these have informed my understanding of how to 'read' video games. The following chapters highlight the results of these efforts. In an effort to speak with and not for, I have endeavoured to privilege the voices of participants over the coming chapters, so that their perspectives and words are directly present throughout this thesis.

Indigenous research methodologies are at the heart of the design and execution of this research. The research presented over the following chapters is only possibly because of the time and knowledge others have shared with me. An initial challenge from the very beginning of this research was to recognize my own limited experience, and to be sure not to privilege my own experience as an Indigenous person over someone else's. I have attempted, in the structure of these methodologies and in the presentation of research results in the coming chapters, to recognize the expertise of the Indigenous game developers, storytellers, elders, and knowledge holders that I spoke with throughout the course of this research, in order to facilitate self-determined representation in this thesis. As such, I have attempted to represent their voices as much as possible, with interview insights accompanying the core arguments until the conclusion of the thesis.

Chapter 5

INDIGENOUS VIDEO GAMES

This chapter introduces Indigenous video games as the basis for the conversation on the viability and legitimacy of traditional knowledge in digital environments. The aim of this chapter is to introduce Indigenous video games and their designers, and is presented in three sections: Game for Learning, Games of Experience, and Games of Storytelling. These categories are not reflective of the nuance and complexity held in each game, and many of the games that feature below could feature in all three categories, and many more. These categories are therefore only used to help structure the discussion and highlight particular aspects of each game. These video games are discussed individually, with reference made to related Indigenous video games when relevant.

5.1 Games for Learning

This section considers video games that encourage participatory knowledge-sharing. The game introduced below seek to impart lessons or teachings through song, science, cultural practices, language and history — although these categories may not always be so clearly distinguished. The following games were designed explicitly for learning or to accompany school curriculum and draw on the interactivity of video games to engage players in knowledge-sharing through play-based learning.

The sound and visuals available in video games can be drawn on to share music and language, like in Pinnguaq's *Honour Water* (2016), with art and design by Anishinaabe, Métis, and Irish game developer and acaElizabeth LaPensée. Here, water songs by the

Oshkii Giizhik Singers accompany teachings from Anishinaabe elders to pass on teachings in Anishinaabemowin. In this karaoke-style game, players are invited to sing-along with the music and lyrics of Anishinaabe Water Songs. Pinnguaq's *Singuistics* (2013) similarly encourages players to learn songs in Inuktitut, Gwich'in, Anishinaabemowin, Cree, and Chipewyan, pairing lyrics with animated tableaux to accompany the songs and complement their meaning (see Figure 5.1). Language-learning can also take the form of word-matching game like LaPensée's *Mikan* (2017), in which the player matches images to their corresponding Anishinaabeg word.

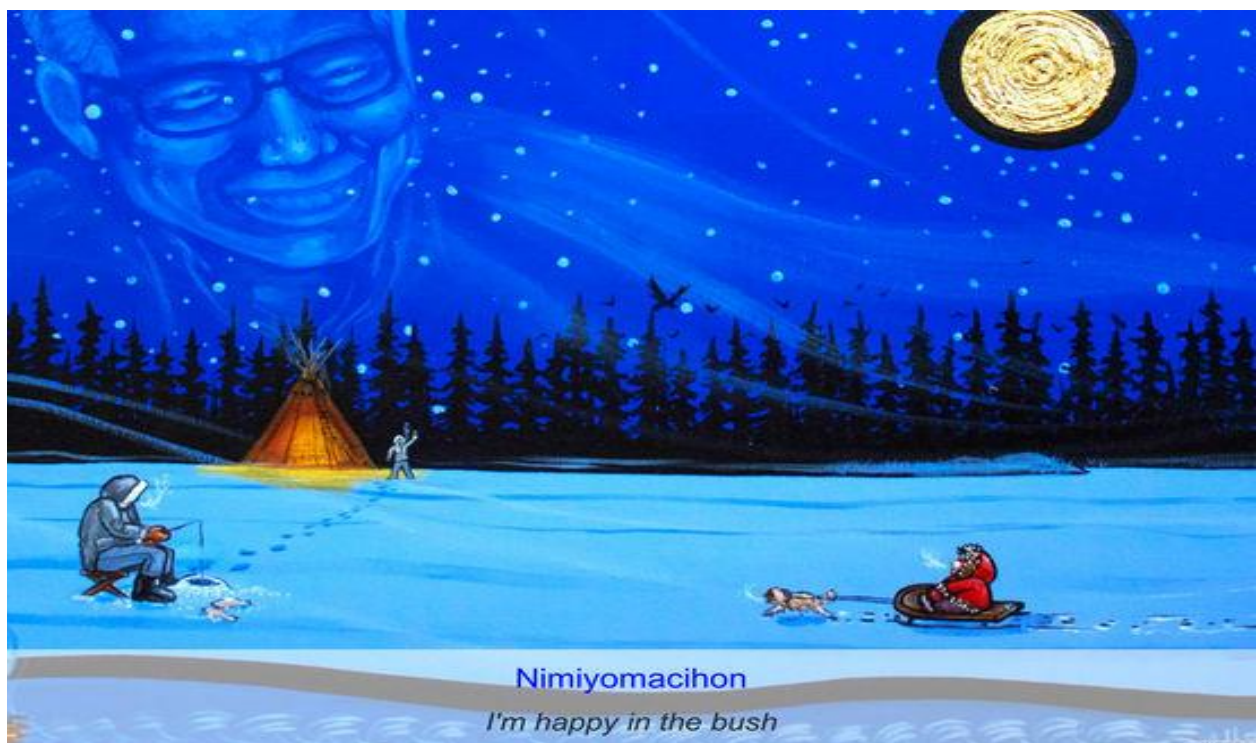


Figure 5.1: Cree Song, in 'Singuistics.' Pinnguaq 2013.

Video games can also teach Indigenous science, like *Coyote Quest* (2017), a point-and-click adventure game by Métis/Cree Creative Director, Loretta Todd. Based on Coyote's Crazy Smart Science Show on the Aboriginal Peoples Television Network (APTN), *Coyote Quest* is a web game in which Coyote, the trickster, presents the player with a number of puzzle-based challenges to complete by applying knowledge they acquire through in-

game experimentation and the collective knowledge communicated to them by their in-game community.



Figure 5.2: ‘Tipi Kaga.’ Northern Plains Games 2019.

While language-learning may always not be taught directly through gameplay, language can accompany the player’s actions, in games like *Tipi Kaga* (2019), which guides the player through a tipi building ceremony on the Great Plains (see Figure 5.2). *Tipi Kaga*, meaning literally, “Tipi Builder” in the Lakota language, was made by Oceti Sakowin game-developer Carl Petersen, founder of Northern Plains Games, a video game design studio that aims to share the Lakota language and culture through games. Play is straightforward: the game opens with nine poles and a cover that the player assembles to make a tipi, guided by written instructions in Lakota and English, with Lakota speaker in voiceover. As Petersen explains, “Tipi Kaga is designed to be used in the curriculum of immersion programs for Lakota, and in Lakota as a second language programs, primarily as something to get kids interested in learning, or maybe as something they can play

while the teacher is working one-on-one with other students” (Petersen, Interview 2019b).

Games can also carry lessons regarding respect and sustainability. In *Gathering Native Foods* (2014) — a series of touchscreen mini games shared during an exhibit at the Oregon Museum of Science and Industry and designed in collaboration with the Hibulb Cultural Centre for the Roots of Wisdom Exhibit — players are invited to collect foods for a community feast, gathering clams and berries and catching salmon with a net as they swim down a river. Players must do so thoughtfully and sustainably in order to ‘win’ the game.

Karihonniennihtshera

The interactive nature of video games makes them particularly well-suited for language learning. *Karihonniennihtshera* (2019) is a language-learning “digital interactive storybook” designed by Kahentawaks Tiewishaw-Poirier, who hails from the Mohawk First Nation of Kanehsatà:ke. *Karihonniennihtshera*, meaning “teachings” in Kanien’kéha, is composed of a series of interactive tableaux which set the scene for several point-and-click minigames. It is available in both English and Kanien’kéha. The story follows a girl as she receives teachings from her grandmother over the course of an evening.

The game opens with an interaction between Ietsistohkwaroroks, a young Mohawk girl, and her Tóta, meaning ‘grandmother’ in Kanien’kéha during an after-school visit. When her Tóta asks her how school was, Ietsistohkwaroroks tells her that, “something happened that kind of bothered me... I wanted to come over and talk to you about it.” Her Tóta listens while Ietsistohkwaroroks shares that some children on the playground threw trash on the ground, and when she asked them to pick it up, the other children laughed at

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her and told her it was none of her business. Ietsistohkwaroroks says she wasn't sure what to do, and so she walked away. Her Tóta reassures her: "When it comes to such things, it's everybody's business. Come with me to the living room, I want to show you something."

There, Ietsistohkwaroroks family's portraits are hanging. The player is asked to complete the first of several minigames and must match words for each of Ietsistohkwaroroks's relations with their portraits. The player completes this mini game after correctly matching the portraits of a woman, a man, and a young boy with the words for 'mother,' 'father,' and 'younger brother' with the words, 'Istén:'a,' 'Rake'níha,' and 'Ri'ken:'a,' respectively (see Figure 5.3). After matching all the words to the portraits, Ietsistohkwaroroks thanks her Tóta, but asks why she is showing her pictures of her family. Her Tóta replies, "Well, you and your family all live together in the same house, and you all have a part to play in keeping it clean, right?" Ietsistohkwaroroks presses her grandmother, asking what this has to do with her experience on the playground. Her Tóta answers, "Just like it's your family's job to keep your house clean, everyone living on our mother earth is responsible for taking care of her." Her grandmother invites her for a walk outside to explain further.



Figure 5.3: *Ietsistohkwaroroks names her family members, 'Karihonniennihtshera.'* Tiewishaw-Poirier 2019.

Over a series of seven more word-matching mini-games throughout her grandmother's food and medicine gardens, and the woods and rivers nearby, Ietsistohkwaroroks is taught the words for many fish, animals, plants, medicines, and the world around her (see Figure 5.4). As she matches the words to the images, her grandmother shares teachings about the significance of the interconnectedness of all things. At the end of the day, they return to her Tóta's house, who asks Ietsistohkwaroroks "Do you think you will be able to tell those kids why it's important that we look after our Mother Earth?" Ietsistohkwaroroks replies, "I am going to tell them that if we don't take care of the earth, then eventually she will not be able to take care of us. So it is important that we keep her land, air, and water clean!" She expresses her gratitude for her grandmother sharing her teachings, and they bid each other goodnight.



Figure 5.4: *Ietsistohkwaroroks learns the words for weather, in 'Karihonniennihshera.'* Tiewishaw-Poirer 2019.

Tiewishaw-Poirier shared that “a big source of inspiration for the game for me was just growing up really traditionally on reserve with my parents. I was really, as a child, in tune with the importance of land, and land-based knowledge, and being really connected with Nature, and respecting Nature. Mother Earth takes care of us if we take care of her” (Tiewishaw-Poirier, Interview 2020). Many of the tableaux and characters are based on real places and people — her canoe club, her mother’s house and garden, and her own family. “The scenery” she shared, is “closely tied to my experience growing up on reserve.” This deeply personal, interactive story is meant to instill in the player a sense of relationship and responsibility to our Earth. Although climate change seems a “big, unfixable problem,” Tiewishaw-Poirier hopes her games will be her “bit trying to inspire that in people, recognizing your connection to Nature and what you can do to help it before it helps you back” (Tiewishaw-Poirier, Interview 2020).

BLOOM

Like *Karihonniennihtshera*, *BLOOM* (2019) is a role-playing adventure game that focuses on language-learning by forging connections during gameplay. Designed in collaboration with the Cherokee Language Master Apprenticeship Program (CLAMP) by Bri Alexander, a Cherokee Nation linguist with Shawnee heritage, and Creek, Choctaw, and Cherokee Freedmen adoptee, Carey Flack, *BLOOM* invites players to engage in language learning through a series of small, circular quests based in community reciprocity. Currently, only the first level is available for play. The first installment, was shared at the 2019 imagineNATIVE *indigital space*, is the focus of the below discussion.

This first level of the game driven by the player's interactions with the broader community, completing a mini-quests through interactions with family which help the player to learn language in-context. The player plays a young Cherokee, Meli, who is returning home for a visit to the Cherokee nation. The player is told at the beginning, "Today it is the year 2045, and thanks to numerous revitalization efforts, the Jalagi language is thriving with over 50% of Cherokee children being first language speakers." The Cherokee Nation has recently discovered an old text that doesn't match the modern Cherokee syllabary, and "some believe the text comes from the old ones who have left behind an urgent message for all Cherokee people." The player's goal is established: "Cherokee Nation is counting on you, along with a number of Cherokee youth, speakers, elders, and language workers, to break the code!" To break the code, the player must learn Jalagi with the help of Meli's community.

Before embarking on the main quest, the player is instructed to visit Meli's Taline Jaji Adsila, who tells Meli she wishes to make her a pair of dilasulos (shoes) for journey. There

are a number of Jalagi words embedded in the dialogue with Meli's aunt (see Figure 5.5). Meaning is often deciphered through context; for example, instead of the English word for 'house,' the player is told that they are walking up to the 'juwnesvi;' instead of 'bird,' the player is told that they can hear "jisgwa singing." Some words, like 'Taline Eji Adsila' are explicitly translated, with additional information about the meaning of certain words provided. In this case, the player learns that 'taline eji' — or aunt — means 'second mother' in Jalagi.

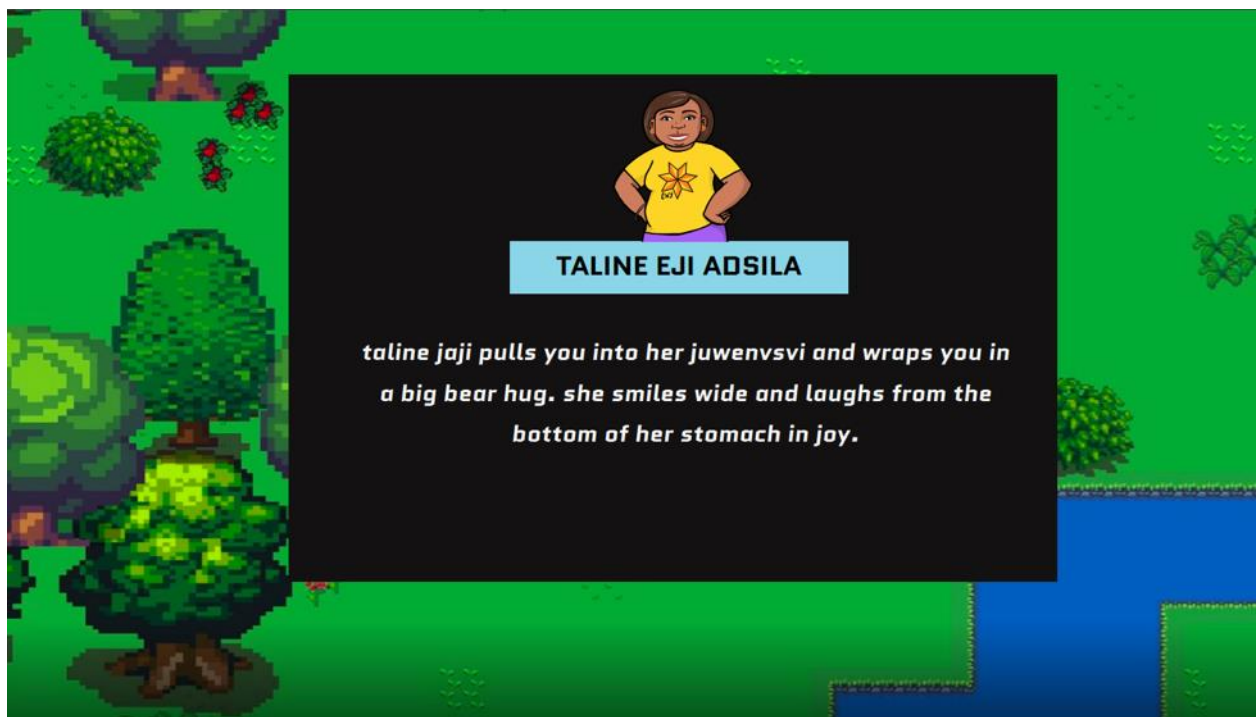


Figure 5.5: Meli speaks with Taline Eji Adsila, in 'BLOOM.' BLOOM 2019.

After offering you some sweet tea, Meli's Taline Eji tells Meli to collect some leather, beads, thread, and a needle for her dilasulos. "Once you've gathered everything," Taline Eji Adsila tells the player, "you can come back here and we can make your Jalagi footwear together." She tells the player to find Meli's cousin Ricky, just to the West of her house. Before departing, she gifts the player with Jalagi phrases to use throughout the day. "Don't be afraid to use 'em!" she advises as Meli departs. The screen switches from a character

interaction to a language learning page that reads, “for your journey, you were given a common word!” Throughout the game the player can be given common words — such as ‘who parts,’ ‘action parts’ — to form complete Jalagi sentences. These sentences are gifted at the end of each character interaction, building the player’s vocabulary gradually through gameplay.

After visiting with Taline Eji Adsila, the player must meet with four other characters to gather the materials she requested, locating each character and reconnecting with them. First, they will find their cousin, or Gohusdi Agwvnidi, Ricky, who Meli assists as he tans deer hide and shares his knowledge of hunting. He gifts Meli with the ahwi ganotsi (leather), for her help, and points her towards their cousin, Ahyoka, who is playing Anejodi, a Cherokee sport, at the Sequoyah High School, or junadelogwasdi. After reuniting, Meli agrees to help Ahyoka fill beading orders for the upcoming ‘Big Dance,’ and before she can ask, Ahyoka gifts Meli beads she had already gotten for her in her favourite colours — gigage (red), unega (white), dalonige (yellow) and ijeiyusdi (green).

The player then visits Meli’s grandmother, Ama Elisi, who greets her warmly and prepares a dish of wild onions and eggs as Meli sits in her home and listen to the radio. She congratulates Meli’s Jalagi, identifying Meli as part of the fourteenth generation of changemakers. Before asking, Ama Elisi knowingly places a pack of needles in Meli’s hands and winks. Ama Elisi shares that Tsula, Meli’s best friend, has been studying at the new Cherokee medical school and gives her a glass container of the wild onions to give to her. Before leaving, Ama tells Meli “Keep speakin’ your Jalagi, Usdi. Hiwonsi confidently everywhere you go.” The player must then locate the final stop before returning to Taline Eji Adsila, the Cherokee Nation Medical School (see Figure 5.6). There Tsula, greet the

player and shares the names for the many medicines she is holding: astina, ihi, gvnosasti, svgi inage ehi, “our favorite food and medicine.” Meli gives her the onions from Ama Elisi and tells her about the quest, and the dilasulos that Taline Eji Adsila is making for her. Tsula rummages through cabinet of medical supplies, replete with dried cedar, bright sweet grass, and insulin and finds the final material needed to complete the dilasulos. She gifts the thread, and after some time speaking about her time in medical school, she bids Meli farewell.



Figure 5.6: Meli visits Tsula at the Cherokee Nation Medical School, in 'BLOOM.' BLOOM 2019.

Materials in hand, the player returns to Taline Eji Adsila. This first level ends with dialogue between Meli and her auntie as they make the dilasulos together, describing each stage of the process through playful dialogue and descriptive language. Throughout the day, Meli has reconnected with close friends and family, learning not only language but accompanying knowledge, too. The quest is laid out in circles, with each character

giving and receiving, directing the player towards the next step. The journey ends with the player returning to where they began.

BLOOM, in fact, did not begin as an RPG. Its first iteration, which was also created in collaboration with the Cherokee Nation and was part of Alexander's Master's in Native American Linguistics at the University of Arizona, and originally followed the linear language-learning style of *Duolingo* or *Rosetta Stone*. However, it became clear to Alexander that asking players to learn Jalagi devoid of the cultural contexts would not be suitable. During the course of her research, Alexander found that users of computer assisted language learning (CALL) are most successful when "they're in an interactive environment, when they view that the program is going to be successful for them, and when they're having fun and not really noticing that they're learning" (Alexander, Interview 2019). The change to an RPG to allow the gameplay to be centered on relationships and gifting was, according to Alexander, "active resistance in the present that has already shown to change how people now interact with the language and language learning." This was a challenge, as "programs like Rosetta Stone and Duolingo are what people expect language learning to look like. It was really difficult to try to find a different way out of that" (Alexander, Interview 2019). Ultimately, however, this fluent Jalagi community in 2045 allowed Flack and Alexander the opportunity to create a world inspired by "not just what we want to get rid of, but the futures we want to have," Flack expressed, putting Grace Dillon's "Indigenous futurisms" into practice (2012). *BLOOM*, shared Flack, is about "creating futures that aren't reactionary to white supremacy and that are really of our own making and of our values and ways we want to be in the world" (Flack, Interview 2020a).

When Rivers Were Trails

Video games can also help re-story hegemonic historical narratives and engage students learning about the past from Indigenous perspectives. The Mushkegowuk Council's educational history game, *Knowledge Quest: On the Path of the Elders* (2009-2010), for example, was designed to be used alongside the school's curriculum to teach students Grades 4-10 about the history of Treaty 9 through a series of mini quests that eventually lead the player to the signing of the Treaty. The understanding of this history is bolstered by teachings about balancing natural resources, collection and administration of medicinal plants, negotiation, and respect, through six mini games centered on hunting, trapping, canoeing and negotiation. This game aims to teach not only about the history of Treaty 9, but the decisions that contributed to its signing, and the importance of self-governance.

When Rivers Were Trails (2019) is a 2D point-and-click, choose-your-own adventure-style game designed by Elizabeth LaPensée, with contributions from twenty-nine Indigenous writers and two guest writers. LaPensée developed this game in collaboration with the Indian Land Tenure Foundation and Michigan State University's Games for Entertainment and Learning Lab to accompany the school curriculum for middle and high school students. Paired with the Lessons of Our Land curriculum, *WRWT* was designed to teach students from both public and Native-owned schools about Indigenous histories by engaging players in an Indigenously-determined, interactive environment about the history of Allotment and land loss in the United States.

In *WRWT*, the player takes the perspective of an Anishinaabeg who is forced from their territory in Minnesota in 1890 and must journey westwards to California to escape the

disruption of the late nineteenth century allotment acts. These acts, like the Dawes Act (1887) and the Nelson Act (1889) broke the land into parcels for sale and forced Indigenous communities from their territories. To escape this threat and successfully reach the West coast, the player must balance their wellbeing, while maintain their foods and medicine with the help and guidance of characters from many diverse Nations. Balancing wellbeing will be challenged throughout the game by the environment, illness, hunger, or through character interactions.

In *WRWT*, choices matter. Play begins with clan selection. The player can choose from the Aijjak/Crane, Name/Sturgeon, Makwa/Bear, or Bizhiw/Lynx clans, each determining the outcomes of interaction with various non-player character with, for example, Makwa Clan members better able to resist physically, while Aijjak clans better able to resist verbally in interactions with Indian Agents (LaPensée and Emmons, 2019). Once a clan is chosen, the player begins moving from node to node across a total of twelve maps covering vast Indigenous territories, each time determining which direction to take (see Figure 5.7). Along their journey, the player will meet character from many Nations, engaging with each in unique dialogue determined by the writer. These three types of decision — clan, direction, and treatment of characters —determines what scenarios are available during gameplay, and will contribute to a hidden honor system, which is “tallied” at the end of the game.

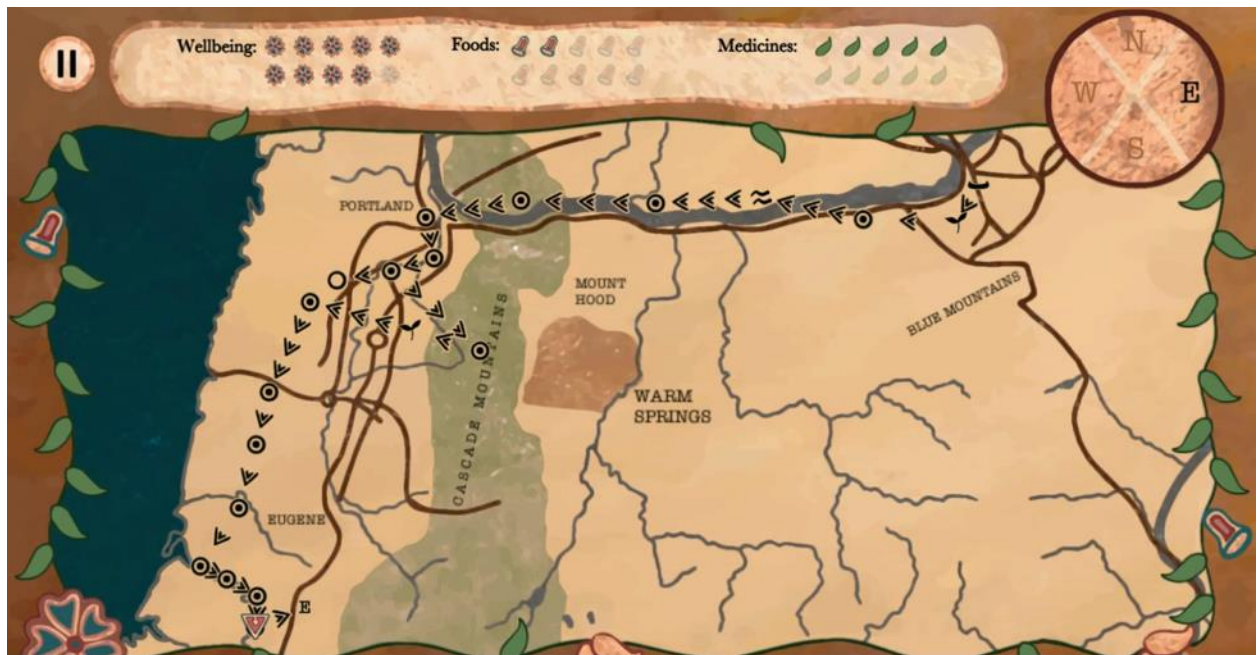


Figure 5.7: Map, in *'When Rivers Were Trails.'* LaPensée and the Indian Land Tenure Foundation 2019.

The player will only successfully reach the West by balancing their wellbeing, which is “spiritual, mental, physical, and emotional.” (LaPensée, Interview 2019). Throughout character scenarios — whether this be listening to an elder, gifting a stranger by way of greeting them on their territory, sharing foods and medicines with those in need, helping animals in distress, or joining the resistance against allotment and relocation — the player makes decisions that impacts their wellbeing (see Figure 5.8). As LaPensée shared, “You can have an interaction where you're told a sad story and you actually lose well-being because you're sad (...) You can also gain well-being from gifting someone and feeling good about having gifted someone. (...) It's dynamic.” (LaPensée, Interview 2019).



Figure 5.8: *The player chooses to gift food, medicine, or listen in their interaction with Wabishkio, in 'When Rivers Were Trails.' LaPensée and the Indian Land Tenure Foundation, 2019.*

In order to stay alive and well, the player must also maintain their supply of foods and medicines. Medicines can be acquired through gifting, trading, and gathering, and are used by the player to heal from injury and illness. Food can be acquired through gifting and trading as well, or the hunting and fishing minigames, which are unlocked after respectful interactions with characters (see Figure 5.9). There is also a canoe minigame, which the player must complete to travel between certain maps. There is a plethora of in-game information to be unlocked by the player. Between each map, the player learns about allotment and forced relocations through text-based cut scenes, which are generated between maps. Depending on the players interactions with other characters and the world around them, various stories will be unlocked as well. These stories, which can be access in-game and on the game's menu, share perspectives onto Indigenous histories, ceremonies, practices, various medicines, foods, and knowledges.



Figure 5.9: Hunting mini-game, in 'When Rivers Were Trails.' LaPensée and the Indian Land Tenure Foundation 2019.

The hidden honour system mechanic also affects gameplay. While everyone starts off at a base-level honour, this changes based on whether they listened and acted respectfully during play. “If your honour is at a certain level,” explained LaPensée, “then you can access certain kinds of interactions later. Most of those have to do with resistances or helping particular characters in particular ways.” Each player’s honour will affect the scenarios and play available to them. “If you have high honour,” explains LaPensée, “you receive the more rebellious take on the story, and things might have a more positive spin, or land is being held more. (...) If you have lower honour, you're getting (...) more of the accounts of the colonial acts that were happening in those territories.” If the player successfully reaches California at the end of the game, they will have three paths to choose from to live out the rest of their days. Afterwards, at the very end, the player’s honour will also affect how they are remembered at the end of the game — remembered well, remembered, or forgotten (LaPensée, Interview 2019).

5.2 Games of Experience

This section will introduce video games that seek to bring the player into an experience or share a point of view. The games featured here draw on the empathic, participatory nature of video games to draw the player into gameplay based on personal or collective experience. The games in this section are immersive and creative view onto an event, history, an experience, a world of the maker's imagining which allows and encourages exploration of a social issue. Just as LaPensée emphasised, now, "there's a lot more space to be independent, to be coming from that artist's perspective, to be just making something that you want people to experience, because you're sharing what *you* want to play, you're using it as a way of processing experiences, whatever they might be" (LaPensée, Interview 2016). This is what the games in this section are about; games with the potential to create personal, empathic connections and deeper understanding of the point of view communicated by the game.

Games can address systemic inequalities, like Achimostawinan Games's *Hill Agency* (forthcoming), which imagines a distant, dystopian future in which class divides and colonial trauma linger in an Indigenous Nation on the verge of sovereignty. In this cyberpunk-film noir style mystery game, the player will take the role of Private Investigator Meeygun Hill, who must crack the case of a woman's murdered sister. As the player works to solve this mystery, they will be confronted with societal underpinnings of racism, colonialism and classism, in both subtle and overt ways.

The same issues of the lasting impact of colonization and inequality are the focus of *Finding Victor* (2020) by the Urban Society for Aboriginal Youth (USAY). In this VR escape-room game, the player searches for Victor, an Indigenous artist who, after the loss

of a close friend, spirals into destructive behaviours and is confronted with systemic injustices. The player only sees traces of Victor's activities, taking them on a journey Victor's loss, to homelessness, and eventual recovery through support. Designed with Indigenous youth in mind, this game encourages players to seek the support as well.

Other games draw on this same interactive environment to engage the players in exercises of empathy, futility and loss. *Blood Quantum* (forthcoming), by Renee Nejo of the Mesa Grande Band of Mission Indians, provides a twist on popular empire building games, like the *Age of Empires* series (1997 onwards) and *Civilization* (1991), in which players build and expand empires through land acquisition and resource exploitation. *Blood Quantum* will instead ask players to create and build a community of 'droplets,' the small inhabitants of this world, to invest in their livelihoods and help them to grow. Although the player may be able to stave off incoming invaders for a time, their community will eventually be overcome, and the game will be lost. A similar perspective is expressed in *Invaders* (2015) by Elizabeth LaPensée and Kiowa and Choctaw artist, Stephen Paul Judd. In this game, an homage to the arcade classic, *Space Invaders* (1978) the player controls four Native archers who shoot at incoming alien invaders from the sky. While it is possible to achieve a 'High Score' the player will eventually be overcome by the barrage of aliens. Both games draw the player into an ultimately futile battle against oncoming threat of colonialism.

One Small Step

One Small Step (2017) is a space-based walking simulator by Abenaki game designer, Ashlee Bird. It was completed as a part Bird's doctoral work in Native Studies at UC Davis during a course on procedural generation. As a walking simulator, the player views the

game from first-person perspective, and is given little direction on how they should interact with the game world. After receiving a simple set of instructions, the player must simply explore.

Opening in the hub world (Figure 5.10) the platform on which the player stands is composed of a grid of green and orange marbled colours set in an imagined 'outer space.' In front of the player are five different planets, repeated over and over in various arrangements, crowding the level. The five planets consist of a planet Earth, a medium sized red planet, a small blue planet that looks as though it is composed of water, and a large purple planet. Having received no further direction, the player begins walking and jumping through the hub world.

Upon touching any of the planet-like orbs floating before them—apart from Earth, which cannot be visited—the player is transported out of the hub and into the world each sphere represents. Each world can be explored without risk of death or failure, and can be visited in any order. Within each world, the player must locate the 'hub object' a singular, round object that will return the player to the hub world once touched. Upon returning to the hub world, the planet the player returns from is replaced by an object from this planet, and the planet can no longer be visited. Each world must be visited, and a hub object located, in order for the player to return to the hub and complete the game.

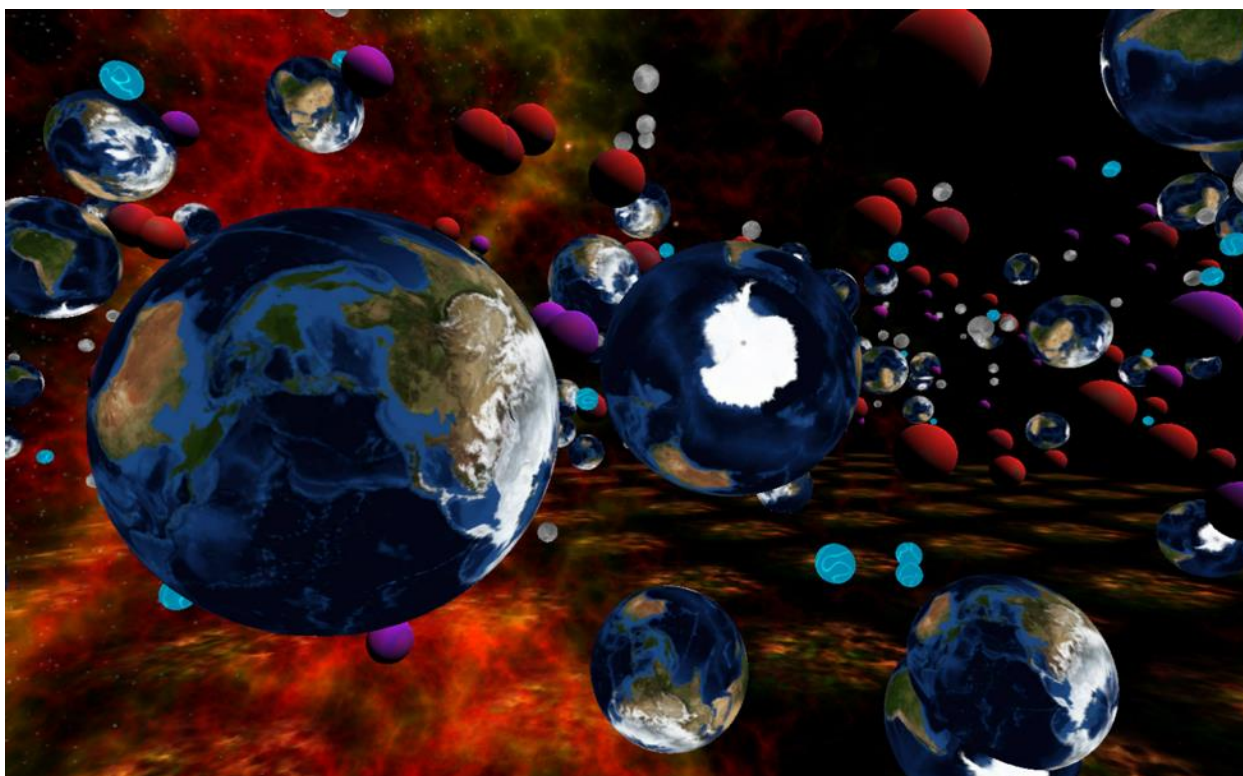


Figure 5.10: *Hub world, in 'One Small Step.' Bird 2017.*

Touching the red planet brings the player to a desert-like platform, covered in sand, with small hills and a scant oasis. Floating in the air are children's playing blocks, red running shoes, boomerangs, and bicycles. Along the ground, canvassed army trucks and small bushes are strewn across the desert-like planet. To return to the hub, the player must find a glowing red orb, which transports them back to the hub world. Where the red orbs once were, float alphabet stacking blocks instead taking the place of the orb. Touching the blue sphere transports the player to an underwater-like planet. Here, there are animated humpback whales swimming in place and glowing blue jellyfish floating in the air. Amidst the underwater life float pieces of garbage that might be found washed up on a beach: plastic water cooler tanks, and rusty cans of fish. The player must find a glowing blue jellyfish, and returning to the home planet, will find rusty cans of fish in lieu of the blue planets floating there before. The purple planet brings the player to a platform representing 'outer space.' This level features only a few psychedelic discs in black,

purple, and orange, small rockets, and what appear to be glowing green alien heads (see Figure 5.11). Locating the correct glowing green alien head will return the player to the hub, this time, bringing the rockets back in place of the purple planets.

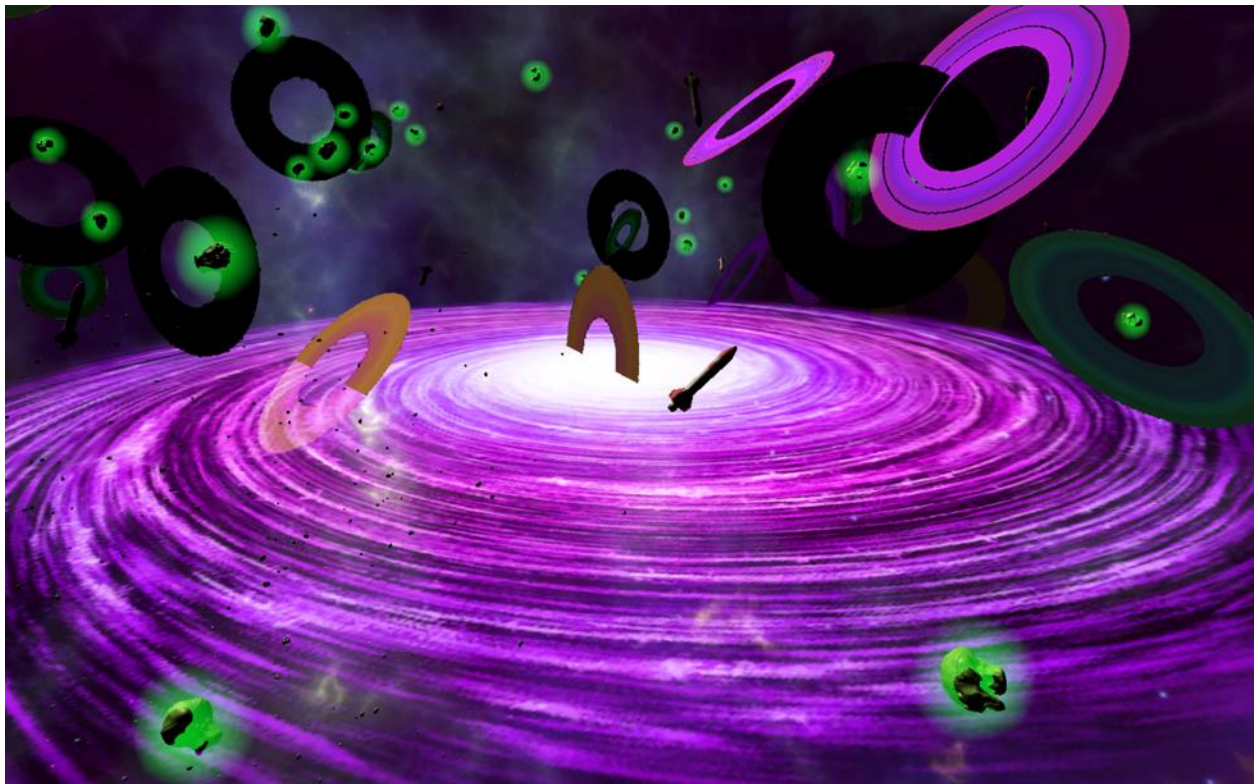


Figure 5.11: Purple world, in 'One Small Step.' Bird 2017.

Touching the white sphere brings the player to a moon-like planet, composed of white tiles made to look like the surface of the moon. Unlike the other worlds, there are no floating objects. Instead, planted in the ground, are multiples of the United States flag, small red flags, and empty flagpoles (see Figure 5.12). The player must locate and touch a floating golf ball, and upon returning, the player observes that the moon-like spheres have been replaced with several US flags.



Figure 5.12: 'Moon' world, in 'One Small Step.' Bird 2017.

After the returning from the final planet the player chooses to visit, the hub world now filled with detritus brought back from each world, the game suddenly ends. The screen reads, "Colonization Complete." The game cannot be re-entered, and the player must exit. Bird's game makes the unknowing player complicit in the act of colonization, so much so that it is the "win" of the game. What is perhaps most striking is the finality of these actions. Like so much "real world" colonization, many of the impacts are irreversible and or have far-reaching consequences and participating has made the player complicit in the act of colonization. As Bird shared, this was the game's final comment on the pointlessness of 'progress' and 'manifest destiny.' The many different planets, she shared, were to communicate "that colonization doesn't look like one thing." The game's abrupt end offers the player a contemplative, but perhaps unsatisfactory, "You did it. What was that for?," designed to express Bird's criticism of the notion of progress:

Colonization and progress are inherently bound with each other. That's what colonization is to a certain extent (...) When you speak to progress, that means that you're progressing towards an end goal. But what is our end goal? What do we want? What are we trying to get? We keep destroying things along the way to some inconceivable, invisible and probably non-existent end goal. What does progress mean, and what do we lose during this progress? What are the things we can't get back? (Bird, Interview 2017b).

Wanisinowin

Wanisinowin (2016) is a 2D platformer designed by Métis/Swampy Cree video game developer, Meagan Byrne, that confronts the personal dimensions of colonialism's ongoing lasting divisiveness. The player plays as Wani, a girl who is half human, half spirit. Wani has grown up in the spirit world but is visited by her aunt at the beginning of the game, who wishes to take her to see her family in the human village. Over the course of four levels, Wani journeys on a path of self-discovery, through a dark forest in which she must overcome Doubt to arrive at the gates of the human village.

Wani begins her journey in the spirit village. The player immediately encounters a masked being. A woman who is not wearing a mask tells the player, "Wani, this is your Aunt. She'd like to take you to meet your family." Before departing, Wani must make her way through the Spirit Village. She encounters spirits along the way, recognizable as such because they do not wear masks, as her Aunt does. Wani walks by a spirit who jeers at her, "They say you're human now. Don't much look like one" (see Figure 5.13). Further on through the village, a man asks her, "Don't humans have masks? Can you even be human without a mask?" and a woman standing with him who says to Wani, "I have a mask at home somewhere. Maybe I'm part human too!" This, according to Byrne, was a commentary on the nature of identity: "Wani, if you notice is a human that doesn't have a mask because she's not totally a human. She's also a spirit. And that's putting the

question in the player's mind of, 'well, what is my identity? Is my identity something I can put on? Is it something inside me? Is it who I live with?'" (Byrne, Interview 2017).



Figure 5.13: *Wani in the Spirit Village, 'Wanisinowin.'* Byrne 2016.

After leaving her village, Wani enters a forest alone. Her Aunt's voice calls out to her in warning: "Wani, whatever you do, do NOT talk to the things in the dark. They will drain your light." Wani's character is surrounded by a faint glow that will help to light her path in the dark forest ahead, however she soon encounters a dark being wearing a moose mask, who calls out to her as she passes by. "Hey Kid!" taunts the Moose, "What do you think you're doing? You don't belong out here. You should go back where it's safe. Where it's familiar." The player can decide to either pass by without engaging, causing the Moose to shout after them without effect. However, if the player chooses to engage with the Moose-masked character, their light will slowly diminish each time they press the dialogue button, further humouring the Moose's provocations (see Figure 5.14). If the

player lingers too long with the Moose, and listens to his words, their light will eventually fade entirely, and they will be returned to the start of the level.

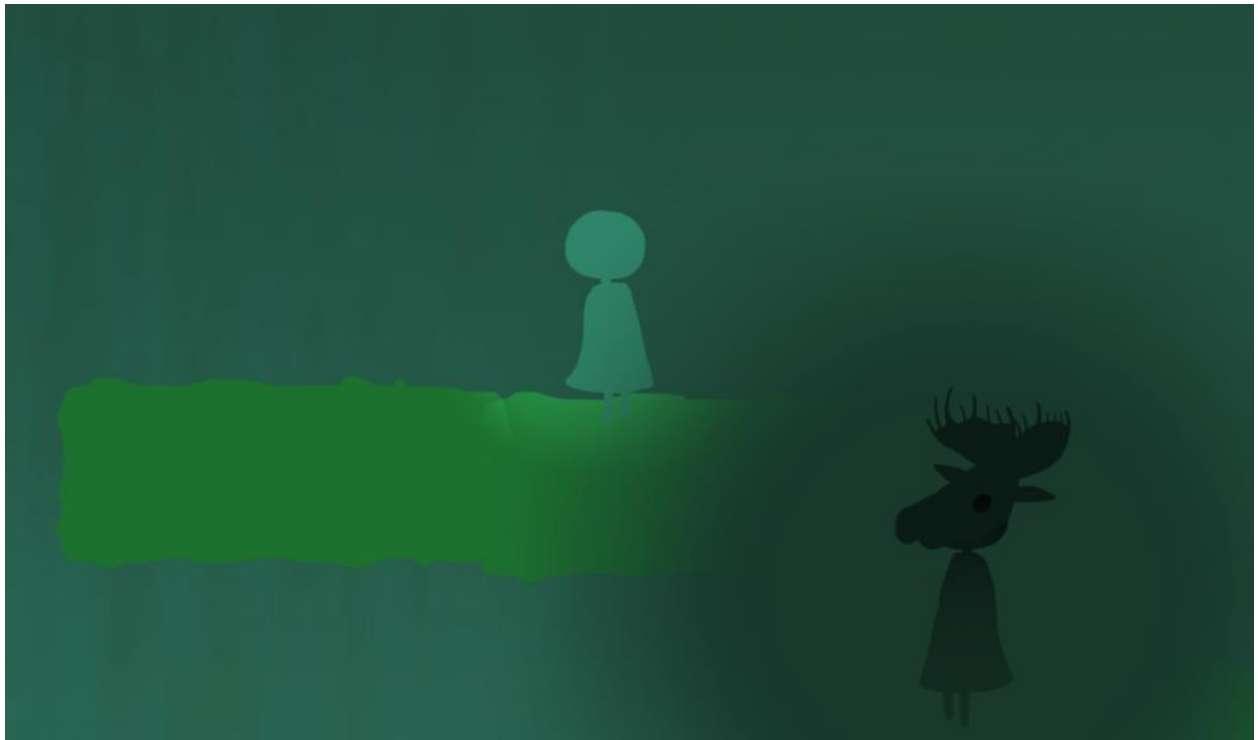


Figure 5.14: *Wani's light is shrouded by the Moose, in 'Wanisinowin.'* Byrne 2016.

When the player reaches the end of the first level, Wani's aunt is waiting on a platform on the other side of a chasm. She says to Wani, "All you need to do is jump!" However, as the player approaches the ledge to jump, Wani falls off the platform and into the abyss below. Wani must pick up her journey at the bottom of the chasm with limited visibility. The Moose — representing Doubt — is ever-present, further obscuring the player's vision as Wani passes, and harassing her along the way: "What's a thing like you doing here? You're going to get lost. You should turn back." In this level, the Moose is shrouded in a dark cloud, making it difficult for the player to see where to jump. The player must wait for the soft green light emanating from Wani to overcome the darkness before they are able to see the path and continue. The weaker Wani's light is, the more difficult it will be to see the path ahead.

The darkness intensifies as Wani journeys deeper into the forest, and Wani's own light is no longer sufficient to illuminate the path for the player. From the darkness, text appears, reading, "Let me help you find your way." As Wani walks forward into the dark, a bright blue Deer awaits her. In order to light the way, the player must now toggle between Wani and Deer, whose light glows brighter than Wani's in the dark. Doubt follows the pair throughout the level, bringing with it an intense of but temporary darkness. Deer stays with Wani until they have reached the top of the platform map, where the darkness begins to ease. At the edge of the forest, Wani completes the journey alone, jumping from platform to platform until she reaches the entrance to the human village. There, a soft light shines through the trees, and the screen reads, "I think I'll be okay." The game ends with Wani's decision to enter the human village left undetermined. As Byrne stated, "it ultimately didn't matter where she lived, or who she was with. It was all about her coming to terms with her own identity, and being okay with that identity, whichever it was that she wanted to choose" (Byrne, Interview 2017).



Figure 5.15: Wani meets Deer, in 'Wanisinowin.' Byrne 2016.

'Wanisinowin' is the Cree word for 'lost,' conveying Byrne's own feelings of uncertainty as she struggled with duality and her identity when she was younger. *Wanisinowin* was inspired by Byrne's experience at her first Powwow, where her interactions with others caused her to call her own identity into question. She remembers the experience as being "really traumatizing," and continued that, "this is where I started realizing that people are going to think that I don't belong here basically because of how I look or where I live." After some time there, she had, as a twelve-year-old, been accused of being "not a real Native" for living off-reserve and not presenting as "Native" enough. Byrne expressed that she saw this lateral violence as an extension of colonization, "Part of that whole 'kill the Indian in people' is like, "if they kick each other out we don't have to do so much work" (Byrne, Interview 2017).

Terra/Nova

Terra/Nova (2019) takes on similar themes of identity and the legacy of colonialism – many years in the future. This two-player cooperative platformer was created by Maize Longboat, Mohawk from Six Nations of the Grand River on his father’s side, and French Canadian from Montreal on his mother’s side, with art and design by Ray Caplin from the Listuguj Mi’kmaq First Nation in Québec. Since its debut, *Terra/Nova* has garnered praise for its imaginative approach to telling the story of first contact in the future, winning Best Emerging Digital or Interactive Work at imagineNATIVE in 2019.

Gameplay begins on a split screen, with Terra, an older woman and a leader in her village, on the left and Nova, a young boy aboard a spacecraft, on the right of the screen, facing opposite directions. Their two narratives play out simultaneously, with both Terra and Nova dealing with challenges of their respective environments. As play progresses, Terra’s movements are largely drawn towards the right, and Nova’s, towards the left. On Terra’s side, the player begins in what appears to be a post-apocalyptic landscape—a society has been built upon the ruins of another, with wooden-structures bound with rope built on top of broken concrete and rebar. A character named Nunti tells Terra that someone named Luna has requested her presence at “The Lookout, “regarding “something about a bright star.” To the right, the other player must navigate Nova through a large, monochrome structure. The in-game physics here differ notably from Terra’s, and the player is able to jump higher and descend more slowly, suggesting a different gravitational pull. When Nova leaves his room, he meets a “Worker Bot” who orders him to get to “Settlement Training.”

To the left, Terra must venture through her village to find the Lookout Nunti spoke of. Should the player attempt to leave the village at this stage, they will be told that the bridge is out of order—the gameplay on Terra’s side is dependent on an event on Nova’s side, and vice versa, and will remain inaccessible until an action unlocks it. Terra must first venture through her village to locate the Lookout. On the right, Nova encounters a worker who shares that “settlement training is supposed to prepare us for when we finally find a planet to call home. All of us have to go through it when we're young.” The worker gives Nova his access code to the elevator, and Nova enters the elevator and begins his ascent to Settlement Training. As Nova ascends in the elevator, nearby planet resembling Earth emerges in the background. Nova remains in the elevator, endlessly ascending, until Terra’s actions unlock the next stage.

Waiting at the Lookout for Terra is Luna, who asks her to look through the telescope to observe a bright star in the distance. As Terra looks through the telescope, the ‘star’ crashes down to earth. The community leaders, Unda, Cibus, Bellum, and Terra, consult one another, and with the support of the other leaders in her community, Terra ventures out to uncover the mystery of the crash. The bridge is now unlocked, and Terra heads towards the Lowlands where the spacecraft landed. As these events unfold on Terra’s side, the elevator that Nova is inside begins to spiral out of control, as his spacecraft crashlands on Earth. Nova is separated from the rest of his spacecraft and is left stranded on in new world. Alone, Nova ventures out to get his bearings. The player can use Nova’s multitool to clear debris from the spacecraft that blocks his path.



Figure 5.16: Terra and Nova in their worlds, in "Terra/Nova." Longboat and Caplin 2019.

Terra arrives at the gates at the edge of town. There, meets with Colli and asks her what she is working on. Referencing the large pink flowers that abound in the lowlands, she replies "I usually start my days by gathering these plants. Our people have many uses for its different parts." Colli explains that this is called Brightshade, which is "used for dyes, medicines, and food. There was once a time when it was poisonous to us, if you can believe it!" The Brightshade's pollen is poisonous without the resistance Terra's people have developed over time.

The two players continue to complete Terra and Nova's individual journeys, Nova moving right through this new world, removing debris with this multitool, Terra moving left through patches of Brightshade. Gradually their screens merge and the two come to meet — the moment of "First Contact," imagined in the future. Terra and Nova begin to speak, and the two are surprised to learn they speak the same language. The dialogue options allow the players to decide how they wish to engage with one another: they can be

cautious, scared, rude, kind. Their dialogue reveals that Nova is frightened, and only a child. He calls himself a “Starborn,” and shares that, “The Starship is all we've ever known. I was told legends about our home planet and that place was just as scary as this world.” When Terra asks about this spacecraft, Nova tells her “I think we are here to find a new home. But sometimes we harvest the planets natural resource is to continue our journey, so this may just be a stopover.” When he removes this helmet, Terra is surprised to see that he looks like her people, and the two wonder if they might share a common history. While it is never addressed explicitly, this suggests that Terra’s people are those who remained on Earth after the apocalyptic event from the past, while Nova’s were those who left and have been searching for a place to call home ever since.

Nova tells Terra that he is all alone and hopes to find the site of the crash and reconnect with the Starborn. Terra offers to help him, and from here, the two players must complete the remainder of the game together, drawing on one another’s unique abilities, applying the lessons they have learned separately as a team. They must overcome both Brightshade, which only Terra can walk by safely, and destroy the debris that blocks their path, which only Nova can remove with his multitool (see Figure 5.17). The two players work together to reach the top of the platform, replete with switches that activate elevators, where Nova’s ship can be spotted in the distance. Like *Wanisinowin*, the game ends here, undecided at the border between two worlds.



Figure 5.17: *Terra and Nova navigate the platform together, in 'Terra/Nova.' Longboat and Caplin 2019.*

Through *Terra/Nova*, Longboat sought to address the “one-sided narrative being told about first contact and colonization.” He continued that

We're told they're the bad guys and we're the good guys. It's a black and white story. There's so much nuance when these two very diverse, but also in many ways, similar perspectives come together. I want to explore that gray area. I want people to know that there's complexity in colonization. It's not just overt. (...) I do sympathize with both sides, but I also disagree with both sides. (Longboat, Interview 2019)

5.3 Games of Storytelling

This section will introduce games that seek to tell story through participatory, immersive gameplay. Games are well suited to interactive storytelling. As I mentioned in the chapter's introduction, many of the game described in this chapter share qualities that would make them suitable for any section, as many of these games combine elements of storytelling with history, language learning and the expression of perspective. The 2019

virtual reality game, *Thunder/Ksiistsikom*, for example, recounts the story of a man who must find the powerful spirit, Ksiistsikom (Thunder), who has stolen his wife. Language-learning is incorporated through three puzzle and shooting minigames, similar to those in *Karihonniennihtshera* and *Mikan*, in which the player must correctly identify words in Blackfoot language before the story progresses. With the guidance from his elders, advice from animals on his journey, and finally, the help of Maihstoo—or Raven—the player acquires the tools and knowledge they need to defeat Ksiistsikom. After defeating Ksiistsikom and saving the character’s wife, the final piece of the story of Ksiistsikom is shared, explaining the history of the Blackfoot ceremony that honours the first Thunder of every spring.



Figure 5.18: ROM hack, *Abenaki Super Mario Bros.* Bird, 2016.

Games can also be reshaped through story. Ashlee Bird’s ROM hack of *Super Mario Bros.* (1985) is an example of how seemingly superficial changes to game content can significantly alter the story a game tells. In the original *Super Mario Bros.*, the eponymous plumber must venture through the Mushroom Kingdom to save the Princess Toadstool. In Bird’s version, Mario has been altered and replaced by Gluskabe the “Abenaki trickster

figure,” who features in many Abenaki stories (see Figure 5.18). Nintendo’s power-up mushrooms become acorns, the question mark blocks are turtle shells, and the onscreen language is Abenaki. The goombas — the small mushroom-like enemies that Mario tramples and eliminates — are replaced with wolf tracks left by Malsum, who, in Abenaki legend, is Gluskabe’s brother, a wolf and Gluskabe’s foil. This small modification transforms the story of Mario, as Bird describes, from a “heteronormative Mario-rescues-the-damsel-in distress-story,” to the story of a “brother looking for a brother” (Bird, Interview 2017a).

Thunderbird Strike

Video games can be a powerful medium to express story and connect prophecy to contemporary experience. Designed by Elizabeth LaPensée, *Thunderbird Strike* invites players to engage in LaPensée’s telling of the Anishinaabe prophecy which foretells of a “black snake that will swallow us whole,” consuming the land and all life, bringing fire and destruction in its wake. In the prophecy, the only force that will stop the black snake is Thunderbird, the legendary bird from many Indigenous stories. LaPensée had observed a parallel between the black snake of this prophecy and the long, winding path of the oil pipelines, ever expanding across Turtle Island, from the tar sands to the Great Lakes. As LaPensée shared, “these stories are alive, and they’re unravelling right now.” (LaPensée, Interview 2016).

Thunderbird Strike is a 2D sidescroller played over three levels: the Tar Sands, Saskatchewan, and Line 5 underneath the Mackinac Bridge (LaPensée, Interview 2019). The game opens in animation, exposing the damage the pipelines have done. Heavy machinery spews pollution into the air, and images of pipelines scarring the earth flash

by. The silhouette of a black snake emerges over the pipelines, mimicking their shape. The animation shows the bones of animals buried beneath the soil: bison, wolves, and deer. These are shown to be 'activated,' and brought back to life, begin moving across the screen.

The player plays as Thunderbird, who flies through the sky gathering lightning, which is deployed to either destroy pipelines and machinery, or to activate lifeforms from the Earth. At the top of the screen are dark grey cloud, filled with lighting and thunder. To the bottom of the screen are empty trucks and mining camps. At the very bottom of the screen are animal bones buried beneath the soil. The player must fly Thunderbird into the clouds to accumulate enough lightning to 'strike.' Once charged, the player flies Thunderbird back towards the ground, where the lighting strike can be deployed to either strike down dump trucks and factories and destroy them, or to restore the bones of animals buried underground. Both options result in equal points for the player. Upon activation, their flesh and organs return to their bones and they begin to walk (see Figure 5.19).



Figure 5.19: *Thunderbird activates the Bison beneath the Earth, in 'Thunderbird Strike.'* LaPensée 2019.

Between the levels, players are shown a second animation of the water protectors; the Indigenous activists and allies that continue to fight against the expansion of pipelines. Images of protestors holding signs reading, 'No Pipelines on Indigenous Lands,' — the only text in the game, written by Métis artist, Dylan Miner — as large trucks carrying pipelines push by. When play begins, the player can now choose to strike pipelines and drilling equipment, and also to 'restore' the bodies of water protectors, buried in the ground, like the bones of animals in the previous level (see Figure 5.20). In this level, however, Thunderbird receives additional help. Thunderbird can now 'charge' lighting by flying through active humans that are protesting on the ground.



Figure 5.20: Thunderbird striking equipment, in 'Thunderbird Strike.' LaPensée 2019.

Thunderbird Strike is a high score game and cannot be lost. Rather, at the end of each level, the points accumulated from either destroying the accoutrements of the tar sands, or by activating animals and activists, are tallied and the score is determined. The player may try again, honing their skills to better their score, but regardless of skill level, the prophecy is fulfilled. After all three levels have been completed, regardless of the player's score, Thunderbird is shown victorious over the Black Snake.

Skins 3.0: Skahìòn:hati: Rise of the Kanien'kehá:ka Legends

The AbTeC Skins video game workshops are a cornerstone of the Indigenous video game community. Co-directed by Cherokee, Hawaiian and Samoan artist and software designer, Jason Lewis and Skawennati Fragnito, a Mohawk artist from Kahnawake, the Skins Workshops have created an innovative approach to community-led youth-engagement, digital storytelling and capacity-building. Since the first workshops in 2008, there have

been a total of six Skins Video Game Workshops, with four held in the Montreal area, and the latest two — *Skins 5.0 He Au Hou* and *Skins 6.0: He Au Hou 2* — held in Hālau ʻĪnana, Honolulu, Hawaii. This section will focus on the four games produced in Montreal and Kahnawake. These workshops not only provide students with game design and programming skills, but actively encourage youth to learn traditional stories from their Elders and to create their own. Stories are selected and translated into video games, allowing students to tell their stories through the games they have designed and produced themselves.

Skins 1.0: Otsi:!! Rise of the Kanien'kehá:ka Legends (2009) recounts a tale in which Skahìòn:hati, a young Iroquois braggart, must stop the monstrous the Flying Head from destroying his village. In *Skins 2.0: Skahìòn:hati: The Legend of the Stone Giant* (2011) Skahìòn:hati must defeat a Stone Giant that is terrorizing his village. *Skins 3.0: Skahìòn:hati: Rise of the Kanien'kehá:ka Legends* (2012) merges *Skins 1.0* and *2.0*. I will therefore focus this section on the third Skins game, as it encapsulates the narrative of the first two.

Skins 3.0 begins in the story space of the *Skins 2.0*, opening onto images of an Iroquois community conversing worriedly about a Stone Giant who has appeared by the river outside the village. One of the community members warns, "He can uproot a tree like we do a weed and swing it like a lacrosse stick. Its steps make the earth tremble and scare away all the game and scare away all the fish. He spits towards the ground where it lands. We were no match for its might." "I recognize your description," says an elder. "The Stone Giant. They have threatened us before." The members of the community discuss what to do, some saying that they should leave and can no longer stay. "We have left once before

because we did not want to face our problems. We left our home and the people we love. It is not the answer,” advises one of the elders. Skahìòn:hati proudly says that he can defeat the Stone Giant, and the game begins.



Figure 5.21: Skahìòn:hati confronts the Stone Giant, in 'Skins 3.0.' AbTeC and Skins Collective 2012.

Gameplay begins in Skahìòn:hati's village, within which there are three long houses, with various objects around and within — a lacrosse stick, fish smoked over the fire, pots on the ground, corn hanging to dry, tobacco. The player can approach each object to read about its function. At the end of the longhouse, the player collects a tomahawk and Skahìòn:hati, now equipped, leaves to fight the Stone Giant. With the help of a dog, Skahìòn:hati finds the Stone Giant at the bottom of a large waterfall, pacing back and forth across a swift river (see Figure 5.21). To defeat him, Skahìòn:hati must lure him back and forth across the water. Taunting the giant to cross the water causes him to sneeze once he emerges, leaving a trace of spit temporarily on the ground. Evading the Giant's attacks, the player must douse the tomahawk in this spit, imbuing it with special ability.

The tomahawk, now coated with the Giants spit, can be thrown at him and cause damage. Only once the player has done this three times will the Stone Giant shrink and be defeated.

The second half of the game begins in the story-space of *Skins 1.0*. Some time has passed, and Skahìòn:hati, the player is told, is now an experienced warrior. Play commences in a dark wood, a fire raging on a distant plateau. The player must make their way safely through the woods, thwarting the attacks of zombie-like tree monsters. The path through the wood brings the player to a village like their own. It has been attacked; its longhouses are ablaze, and its people are wounded. The player finds a community member, dying on the ground, who shares with Skahìòn:hati that a terrible creature has destroyed their village. Before Skahìòn:hati can defeat him, the elder shares, he must understand its origins. He tells Skahìòn:hati of a time when their villages were one. The village was struck by a famine, and after losing his family to starvation, a man insists the village move to a new area. The elders refuse, and in his rage, the young man kills them. To hide his actions, he brings their heads to a lake, and tying their hair together, secures them to a rock, and throw them in. As he watches the heads sink, his canoe begins to fill with water, and though he tries to swim away, but becomes tangled in their hair and is dragged to the bottom. The elder continues:

Witnesses say that, just then, a gigantic head with horrible red eyes, a mouthful of serrated teeth and thick black hair flew out of the water. In the end, half of the village stayed, and the other half left for the new settlement. The woods between the two had been terrorized by this creature ever since. Legend says that the flying head fears intense heat. I tried to kill it with flaming arrows, but its skin was too tough to penetrate. Perhaps you can find a way to stop this creature, once and for all.



Figure 5.22: *Skahìon:hati battles the Flying Head, in 'Skins 3.0.' AbTeC and Skins Collective 2012.*

Thus begins the second boss level, in which the player must defeat the Flying Head, a terrifying, disembodied head, that flies above the player hurling fireballs (see Figure 5.22). After locating a lacrosse stick, player must scoop up a fireball from the fire pit in their lacrosse stick and throw it at the Flying Head. After three hits, the flying head is defeated and spins off into the distance end of the game is won. In a voiceover, Skahìon:hati tells the player, “That is how I became a true warrior. But I knew that I would not be able to keep this village protected forever. Someday, it will be up to you.”

Skins 4.0: Ienién:te and the Peacemakers Wampum

The stories told by the Skins games can be set in the present as well. *Ienién:te and the Peacemakers Wampum*, is the fourth video game made through AbTeC Skins workshops. It was held in over a three-week intensive course in the summer of 2013, held in ObX Labs at the University of Concordia, Montreal. *Ienién:te and the Peacemakers Wampum* tells the story of a young Mohawk student, Ienién:te, who has returned home from University with

her Master's degree in Archaeology, and is interested in working in repatriation. She soon learns she must defend her community from the Secret Society of Evil Archaeologists, who have stolen the titular wampum in hopes of achieving eternal life.

The game is divided into four levels, the player controlling Ienién:te as she navigates various challenges to recover the wampum belt and save her community. The first cutscene shows Ienién:te returning home from University and speaking with her grandmother about strange dreams she has been having, in which she is visited by a bear, an Okwa:rí. Her Tóta tells her, "Have you forgotten that when you see Okwa:rí in a dream, he's trying to tell you something important? You need to smudge so you can see things clearly." Ienién:te has forgotten her medicine bundle, and so her Tóta tells her to go retrieve hers from the woods. She warns her, "There are men all over the place. Security guards! Be careful of them." The player directs Ienién:te through the woods, avoiding the patrolling guards who will send Ienién:te back to the last checkpoint if they catch her (see Figure 5.23). After navigating a maze of houses and trees, Ienién:te finds the medicine bundle and the player is brought to the next cutscene.



Figure 5.23: Ienién:te finds her Tóta's Medicine Bundle, in 'Skins 4.0.' Skins Collective and AbTeC 2013.

This reveals Ienién:te holding her smudge bowl, playfully asking “How do I do his again? Umm, is this thing on? Sekon? Okwa:rí? Ummmm, what do my dreams mean?” She lights the medicines in the smudge bowl and the Okwa:rí appears (see Figure 5.24). “Sekon Ienién:te,” the Okwa:rí says, “I have been waiting for you.” Ienién:te jokes, “I wish you could have just texted me,” and the Okwa:rí retorts, “I prefer the old technology. Smudging can make things clear and can also hide them.” He then instructs her, “Over the last two centuries, the Secret Society of Evil Archaeologists has stolen many important Wampum belts from your people. Now under their newest leader, they are very close to finding the original wampum string, the one made by the Peacemaker.” Ienién:te learns that her supervisor, Professor Sneaks, is the leader of the Society, and will use the Wampum to bridge the gap between the human and spirit world, causing chaos. Okwa:rí

tells her, “it’s up to you to use everything you’ve learned from all your teachers to get the Peacemaker’s Wampum before he does. He’s at the mansion.”



Figure 5.24: *Ienién:te meets the Okwa:rí, in 'Skins 4.0.' Skins Collective and AbTeC 2013.*

Ienién:te begins the level in the graveyard at the door of the old mansion, the entrance blocked by a ghost who has lost five of this spirit friends. Before she can enter the mansion, Ienién:te must find these ghosts and return them to their graves. They are hidden throughout a maze composed of trees and rocks, with guards patrolling. The smudge bowl can now be used to make Ienién:te invisible temporarily, protecting her from the guards. Ienién:te can also use the smudge bowl to return the ghosts home. Once found, the ghosts follow Ienién:te through the level, and the player can return them to their graves by smudging them. With the first ghost no longer blocking the entrance, Ienién:te enter the mansion.

Inside the mansion, Ienién:te must find pieces to a puzzle that blocks the door to the final level, where Professor Sneaks awaits. Once all nine pieces of the puzzle have been collected, the player must return to the entrance of the final level and assemble the pieces, which forms the flag of the Haudenosaunee Confederacy upon completion. Entering the door to final boss triggers the final cutscene. The player is confronted for the first time by Processor Sneaks, a terrifying man with bleeding eyes. “Ienién:te, my best student,” he snarls, “thank you for aaaaall your research. I never would have found the Peacemaker’s Wampum without your traditional knowledge. Mwahahaha!” Ienién:te fires back, “You give archaeologists a bad name. That Wampum belongs to my people, and I’m bringing it home.” Professor Sneaks declares, “I should have failed you when I had the chance. Now, I’ll just kill you.”

Just as the Okwa:rí advised, Ienién:te must use all that she has learned over the past three levels to defeat Sneaks. The final boss challenges consist of three attacks of increasing difficulty. Screaming, “Go Ghosts!” Sneaks sends five red ghosts float towards Ienién:te to attack. Being touched by a ghost sends Ienién:te back to the beginning of the battle. The player must use the smudge bowl to create a smoke cloud, lure the ghosts through the cloud, purifying them and releasing them from Sneaks’ influence. In round two, Sneaks throws fireballs at Ienién:te, which cause the level to reset if they make contact. The player must dodge the fireballs, bringing Ienién:te closer to Sneaks where she uses the smudge bowl to weaken Sneaks. Doing so initiates the final round, which combines the challenges of the first two: Ienién:te must purify the spirits while evading the fireballs, and return the ghost to Sneaks, where the smudge is used one final time to defeat the Society’s leader permanently. Post-victory, Ienién:te is shown walking away from the mansion, holding the Peacemaker’s Wampum and smiling. “I found so many of

our artifacts in that mansion,” she says. “It was like a freaking museum in there! But now they are all back home where they belong, just like me.”

Never Alone / Kisima Inŋitchuŋa

Never Alone/ Kisima Inŋitchuŋa (2014) is a 2D side scrolling platformer, based on the Inupiaq story of Kunuuksaayuka as told by Robert Nasruk Cleveland. This story is shared through the journey of Nuna, a young Inupiat girl, and her companion, an arctic fox, as they complete several puzzle-based challenges, propelling them through Alaskan Native stories and landscapes. *Never Alone* was designed by the Cook Inlet Tribal Council (CITC), a not-for-profit organization working with Indigenous communities in Alaska’s urban centres, with the educational game developer, E-Line media, and Upper One Games, CITC’s for-profit start up.

Never Alone presents the player with a compelling young heroine who moves through the legends of her people with determination and strength, with the help of her loyal friend, Fox. Over several levels, the gameplay expands the original Kunuuksaayuka story to include other Inupiaq legends, as Nuna interacts with Ukpik the Owl, the Little People, the Manslayer, and the Sky People, encompassed within the telling of Kunuuksaayuka. Nuna’s journey begins when her village is struck by an unrelenting and dangerous storm. Voiced by James Nageak in Inupiaq, with subtitles in available in sixteen languages, the storyteller relates the player:

“I will tell you a very old story. I heard it from Nasruk when I was very young. It is said that a girl lived with her family in a place far from here. The girl loved to hunt and had grown capable of doing many things. One day a powerful blizzard approached, and it was followed by another and another. The village was no longer able to hunt and faced starvation. But the girl wondered: what was causing the weather to be like this? And she set out to find the source of the blizzard...”

Thus begins the story of *Never Alone*, in which Nuna bravely ventures out to find the source of the storm to save her village. The storyteller, who stays with the player(s) throughout gameplay, guides the player(s) along Nuna's story. "The blizzard was unrelenting," continues Nageak, "and the girl did not make it far before she found herself in real danger."



Figure 5.25: Nuna and Fox meet, in 'Never Alone.' Upper One Games 2014.

Soon after her departure, Nuna is chased by a polar bear. As the wind picks up and prevents Nuna from moving forward, the Polar Bear knocks Nuna to the ground. Just as the bear moves to strike, a small arctic fox charges the bear and leaps overhead, drawing his attention away and helping Nuna escape. As James Nageak relates to the players in Inupiaq, "She would have died had she been alone. Oh my, she was lucky to be alive." The remainder of the game is completed nearly entirely by playing both characters in unison, each contributing their unique skills to the completion of the game, like the final levels in *Wanisinowin* and *Terra/Nova* (see Figure 5.25).

Over the following levels, the players must solve many puzzles and outsmart many adversaries, travelling through many Alaska Native stories nested within the larger story of Kunuuksaayuka. They will meet Ukpik, the Owl Man, for whom they will retrieve a drum, which has been stolen by the mischievous Little People underground (see Figure 5.26). He will gift Nuna with a bola, which she uses on her journey. Nuna and Fox must out-maneuver the Sky People, or Northern Lights on King's Island, a dilapidating town that has suffered the same fate as Nuna's village. They will swim through the body of a whale, solving many puzzle-based challenges within. As play progresses, the players' actions will unlock several 'Cultural Insights' videos nested within the game, which, through short video comprised of community interviews provide the players with additional insight that inform gameplay. Nuna and Fox are able to complete their journey only with the help of Spirit Helpers, which, the players learn after unlocking a Cultural Insights video, are the many spirits of the land Nuna and Fox move across, who aid them by lifting them to otherwise unreachable plateaus and across dangerous marshes and chasms.



Figure 5.26: Ukpeaġ the Owl Man, in 'Never Alone.' Upper One Games 2014.

The predominant challenge in *Never Alone* is navigating the environment, which sometimes helps and sometimes hinders. The wind, for example, can help to propel Nuna and Fox across large gaps between ledges, or gust against them, threatening to push them into the icy Arctic waters. In addition to the challenges of traversing the land, Nuna and Fox are thrice confronted by the Terrible Man —the Manslayer—is a recurring antagonist in the game, who has wreaked havoc on Nuna's village and covets her bola. The second time Nuna and Fox flee from his angry pursuit, they are unable to escape, and the man kills the Fox, snapping his neck and throwing him down a chasm, a heartbroken Nuna falling after him.

Nuna tries to awaken her friend, but he is lost. Just as she begins to bury her friend in the snow, however, a Spirit springs from his form. The narrator explains, "The fox was reborn into a new form. Or was it who he really was this whole time?" Together, with Fox now as a Spirit, they continue dark wood, and once again, encounter the Terrible Man, who

attacks Nuna for a third time. This time, working together once again, they are able to defeat him, using his own rage and fire against him. The narrator explains, "Using everything they had learned, the girl and fox had finally defeated the terrible one." As they run from the scene, the Cultural Insight "Manslayer" is unlocked.

Having overcome the Manslayer, Nuna and Fox enter the final phase of the game. The wind here is louder, and a loud pounding noise reverberates from an unseen source. "The girl found what looked like a giant man who used an adze to smash the snow loose," continues Nageak. "Then he shoveled it off the ground. Each time he did this, a gust of wind blew the loose snow creating a blizzard that travelled in the direction of the girl's village." Having found the source of the blizzard, Nuna, with Fox's assistance, must scale the body of the giant onto the giant's adze-wielding hand, causing it to break loose and fall to the ground.

Nuna takes and is chased by the thundering giant, stomping after her to retrieve his adze. He is too slow, however. "He threw down his shovel," Robert tells the players, "climbed up from the flat tundra and ran after Kunuuksaayuka, but Kunuuksaayuka was too fast." In the final cut scene, Nuna runs back to her village away from the Blizzard Man, back through the levels the players have overcome through gameplay, over the floes of ice, amongst the salmon Spirits, through the smashing ice, and once again, around the Polar Bear. We are told, "The girl made it back to her village. The blizzard man was not far behind." When Nuna arrives at her village, she chips his adze and returns it to him, which amuses him so greatly he relents, and the game is won.

Once the play is complete, the final Cultural Insight tells the player the story of Kunuuksaayuka. The player is told, "The Big Man had seen his adze being tossed up and

out through the Skylight, and because this made him so happy, he burst out laughing like this, 'Kunuuksaayuka, Aria Ha, loi Hi.' All ends well. Nageak shares the final pieces of the story: "The fox said to the girl, 'If you ever need to find your way home again just look up for me,' and floated up through the night sky." The storyteller concludes: "I have heard Nasruk tell the story that way."

5.4 Conclusion

This chapter has introduced the Indigenous video games and video game designers that feature in this thesis. Seeking to provide a sense of the breadth and diversity of Indigenous video games, it has highlighted, in particular, the video games' capacity to carry lessons, share experiences, and tell stories. This chapter also aims to provide a basis for the discussion of traditional knowledge in Chapter 7, which will draw on the information presented in this chapter to support its arguments. Having now introduced these games, the following chapter will discuss what steps were taken in their making through the many unique processes of Indigenously determined game development.

Chapter 6

MAKING GAMES

Drawing on Reinhard's (2019) discussion of video games as archaeological object, this chapter considers video games as the result of a culturally mediated processes. It provides an overview of the processes that determined many of the games described in the previous chapter, with a focus on community-centered game making and Indigenous video game workshops.

This chapter is presented in four sections. Section 1 provides an overview of Indigenously determined game design, reviewing how these processes are determined by either by individuals or collaboratively. Section 2 focuses its discussion on the CITC's Inclusive Game Development Process, which was structured to alter video game industry standards to meet community-determined protocol for the production of *Never Alone*. The second half of this chapter focuses on Indigenous video game workshops. Section 3 will again provide a broad discussion of the function of the video game workshop as capacity-building within communities, with an emphasis on the Skins Video Game workshops held in Montreal and Kahnawake, Québec. From here, Section 4 provides a case study of a two-week youth video game workshop held in the Métis Community of Fort Smith, Northwest Territories, which emphasized knowledge-exchange and skill-sharing through intergenerational learning.

These four sections will cover the application individual practices and community protocols to the process of video game design, highlighting the often-collaborative nature of Indigenously determined video game development. This chapter will introduce some

of the parallels that exist between these processes and those which mediate traditional knowledge expression and stewardship, for further development in the following chapter.

6.1 Indigenously Determined Game Design

The following section will provide an overview diverse approaches to Indigenously determined game design, which LaPensée describes broadly as “the right of a people (nation) to exercise sovereignty or self-rule and to determine its own political, economic, and cultural arrangements” (2017, 128). It will briefly cover collaborative Indigenous-directed efforts, individual development, and community consultation and collaborations.

The making of a game can be an exercise in understanding what Indigenously determined game development means in practice. As Maize Longboat explained, the making of *Terra/Nova* was in answer to the research question that drove his Master's in Communication Studies in Concordia University's Media Studies program — “What is Indigenous game development?” Longboat focused his efforts on the process rather than the final product. With the support of funding from a Hexagram student grant and master's level SSHRC grant, Longboat brought on Mi'kmaq artist and animator, Ray Caplin, as well as Mehrdad Dehdashti as technical director and Beatrix on sound design, creating a mixed team of Indigenous and non-Indigenous creatives under his direction. This decision was about finding the support need to execute Longboat's vision for *Terra/Nova* in the spirit of co-creation. Longboat shared that that game development process was about working with “people on the team who would support (Indigenous led game development) first and foremost, and not be too concerned with the product that

was going to be created. It was more about the working environment” (Longboat, Interview 2019).

Being *of* community can mean that game development is less about consultation and formal permissions, and is instead self-determined, with feedback and guidance giving by fellow community members. As Carl Petersen explained regarding making *Tipi Kaga*, knowing how to follow protocol during game development was not the result of ‘consultation,’ but of “cultural involvement.” As Petersen elaborated, “I am in this culture, I am part of this culture, so *I am* the person.” He continued that, “this doesn’t mean that I won’t listen,” but rather, that game development should not necessarily be about ticking boxes and getting permission. During the making of *Tipi Kaga*, “it wasn’t, ‘Bring on this consultant and ask them yes or no on everything.’ Most of the people I’ve worked with don’t really like working that way. For them, it’s easiest for me to make something and then for them to look at it and then change specific things or say, ‘start over’” (Petersen, Interview 2019a).

The nature of a video game can also determine how extensive guidance and governance. Games that draw on personal experience, like *Wanisinowin*, or make use of widely accessible resources, like *Abenaki Super Mario*, need not always follow specific protocol. Sometimes, the making of a game can be guided through less formal, personal relationships with elders and mentors. During the making of *Karihonniennihtshera*, for example, Tiewishaw-Poirier spoke to Kahnawake elders, Owisokon Lahache and her husband Tewenhni’tó:ken Sharrow. “I figured if something was wrong, they’d tell me,” she shared, but noted that

As I start to make more and more heavy content games, I will want to do proper consulting, because I have to acknowledge that it's not just my culture I'm representing, it's everybody's, all my people's culture. The last thing I want to do is put something out there that damages us more than helps, so it's important to be accurate and considerate of other people's feelings about what you're making (Tiewishaw-Poirier, Interview 2020).

When sharing Nation or community-specific knowledges in a game, proper understanding of those knowledges and how they are governed is required. Although she is Anishinaabekwe' and a Water Carrier herself, LaPensée sought additional guidance during the making of *Honour Water* from Ojibwe elder and activist, Sharon Day. Day helps to lead Nibi (Water) Walks along Lake Superior, healing the water through Water Songs. "All of the songs that are in this game were actually written fairly recently," expressly for the Nibi Walks, LaPensée shared; two by Day, and one by a community of elders. However, "there are Water Songs that aren't even recorded," she continued, and existing ceremonial songs were omitted in order to "mindful of respecting the protocol around that particular Water Song." Therefore, the songs shared in *Honour Water* while "equally ceremonial carrying "in them the same teachings and the same resonances that heal," were appropriate to share because they were governed by protocol that enabled their sharing (LaPensée, Interview 2016). In collaborating with Day, LaPensée was able to share only songs that were appropriate for a digital gaming environment by understanding the specific protocol corresponding to different Water Songs.

The process of not only obtaining legal permissions, but of working directly in support of community, was also emphasized during many interviews. Many cautioned against game development practices that only superficially involve or consult with Indigenous communities in order to create an "Indigenous" game, seeking the approval of token Indigenous consultants to fulfill the minimum ethical requirements. "There should be

even more responsibility there,” explained LaPensée. “These existing companies are looking for money that they can use for their in-house people, so they just go and they are like, 'Let's do an Aboriginal project!' without it really being about long-term reciprocity and relationship-building and true acts of resilience for Indigenous communities.” She added that best practice, regardless of what a community had determined to be shareable, should ask “not just 'what are we representing' but 'how are we representing this knowledge?' and 'is this in the favor of the communities that we are collaborating with?’” (LaPensée, Interview 2016).

This is not to say that collaboration between community and industry or external organizations is not possible. Many game developers cited Pinnguaq’s *Qalupalik* (forthcoming) and Ubisoft’s *Assassin’s Creed III* (2012), both featuring lead Indigenous characters, as examples of best practice for non-Indigenous game developers, the former for its makerspace capacity-building efforts and profit-sharing model in Pangnirtung, Nunavut, the latter for hiring Mohawk voice actors and endeavoring to conduct consultation in Kahnawake. Some interviewees agreed with these models, others did not. There is no consensus on what qualifies as best practice, with perhaps two exceptions. The first, agreed nearly all game developers I spoke with, is that consultation alone is not enough. Simply put, Indigenous games are made by and with Indigenous Peoples. Consultation on a project that is ultimately beyond the control of Indigenous communities with regards to design, narrative, protocol and marketing, does not an Indigenous game make. The second is that any game design that extends beyond personal experience or knowledge that the community have pre-determined to be public, requires careful collaboration with community to understand what it being represented, to ensure accuracy and that it is safe and appropriate to share this information via video game.

When Rivers Were Trails (WRWT) demonstrates what an ethos of cross-cultural, Indigenous-driven game development and capacity-building looks like in practice. The making of WRWT was a collaborative effort under the direction of LaPensée, coordinated between 31 different writers. All writers — with the exception of Cat Wendt, who is Chinese-American and wrote the Chinese railroad workers scenario, and Toiya Finley, who is Black and wrote for the Black character representations in the games — were Indigenous poets, academics, short story writers, non-fiction writers and game developers — like Carl Petersen and Allen Turner — from many Nations. During development, the game map was shared with writers and they were asked to select areas that they could speak to, writing the various character scenarios with their unique histories and tribal affiliations. LaPensée also sought to match each writer's expertise to specific scenarios; Tashia Hart, an Anishinaabe advocate for food sovereignty, contributed her expertise to help write the food and medicine descriptions. In addition to choosing the location(s) on the map that resonated with their experience and completely self-directing the dialogue between the plays and the NPCs, the writers were also asked to contribute images and ideas for the art direction, which were then realized by Tongva/Scots-Gaelic comic book illustrator, Weshoyot Alvitre (LaPensée, Interview 2019).

Video games are part of a larger, ongoing conversations around what is and what is not appropriate to share outside of community, especially in digital contexts. Many communities are already determining appropriate protocol for sharing traditional knowledges like language, story, and song, in digital environments broadly. As a result, many of the game developers featured in this thesis were able to draw on digital traditional knowledge resources, like online dictionaries and archives, that has been

deemed accessible by their respective communities. It had been determined, for example, before *BLOOM* began, that the Jalagi language should be shareable. “The Cherokee Nation Language Department decided early on that the language would be accessible to anyone,” shared Flack, but that “there are still cultural elements that were not appropriate to share and so we just didn’t share them.” (Flack, Interview 2020b)

Determining what could be shared and how in *BLOOM* required working closely with community. Although the Jalagi language resources were already accessible, Alexander and Flack — who are Cherokee themselves by membership and kinship ties, respectively— bolstered the accuracy of the use of Jalagi in *BLOOM* through community collaboration. “There was no formal process,” explained Alexander, but that they “were very specifically partnering with the Cherokee Nation and Master Apprentice Program (CLAMP).” Working directly with CLAMP’s director, Howard Paden, and Curriculum Supervisor & Co-Developer, Wadhe Mackey, connected Flack and Alexander with fluent Jalagi speakers and language resources. Drawing heavily on curriculum materials that specified how to use and introduce Jalagi to new speakers, Alexander and Flack stayed in close communication with Mackey throughout game development, as well as members of other language departments, Roy Boney and Elitam Dugger, to ensure language accuracy. As Alexander shared, “We went to all of them for cultural knowledge, we went to them for linguistic help. Then when we were done building, we did sit down, and do a huge walkthrough of the program.” Flack similarly shared that designing *BLOOM* was a “co-creation. I did a lot of research, but also research was sent to me as well. (...) As versions came through, we’d send them to Cherokee Nation and then get feedback and then give that feedback to the designer” (Alexander, Interview 2019; Flack, Interview 2020b).

BLOOM was presented publicly within the community twice during development, both in its original Rosetta-Stone style iteration, and its second RPG iteration, during Cherokee Nation's Community Cultural Outreach Department's Annual Conference of community leaders. "That was how we were bringing it out to the public," shared Alexander, continuing that "We didn't really have anyone checking up on us, (...) we were constantly making sure to engage various figures within Cherokee Nation." The process was mediated through CLAMP and feedback provided to Flack and Alexander, "We did get some speakers when we presented it who had concerns," said Alexander. "They went to Howard, and then it trickled down to us, and then we reworked with that feedback." Establishing and drawing on relationships of trust was also critical to addressing community concerns about pronunciation and accuracy. "There was a lot of questions of the validity of it, like can it be trusted, is it going to be right?," Alexander recalls. "I remember being asked, 'Why should we trust that the language in here is correct?' (...) Howard jumped in and he was like, 'Well, because your sister is the one who's providing it'" (Alexander, Interview 2019).

In addition to accuracy in language, accuracy of representation was also addressed with the community. The choice, for example, to describe Meli's community as 'Cherokee' as opposed to 'Cherokee Nation,' was guided by feedback that sought to avoid exacerbating the "political division between the Cherokee tribal Nations," shared Alexander. Flack, who led character design, worked closely with the community on matters of representation. Having diversity of representation within a community was vital for Flack, and, as Alexander recalled, "We did have to ask if it was okay to do representation, as far as including Black Natives, and maybe two-spirits, and that was met really positively." (Alexander, Interview 2019). Community collaboration also helped determine what

forms of knowledge were appropriate for including in the game. “There was a want for the sacred fire (..) or a stomp dance (...) or going to water” shared Flack, but after discussing with members of the community, it was determined that these could not be included in a video game (Flack, Interview 2020b).

The game development process was in many ways informed by the knowledge of harm that has been caused by academics failing to work with and for Indigenous communities, and instead choosing to fulfill their own agendas. Alexander emphasized that it was important to make something of the community from within community, not about community from a distance. “Knowing the history of academics in these spaces (...) I want it to come from a community, ‘Our community member Bri did this,’ and not, ‘Oh, yeah, you know this girl who's a linguistic anthropologist’” (Alexander, Interview 2019). Relatedly, part of the making of the game also involved a contract that specifically guarded against the theft of information and abuse of IP loopholes. “There was a contract we signed just saying that we don't own the language or the information that's provided,” shared Flack. “That was sent by the Cherokee Nation Cultural Centre.” (Flack, Interview 2020b)

Ultimately, this led to a game development process that was “incredibly intentional,” as Alexander described. Before beginning *BLOOM*, Alexander was committed to carrying out work that did not unintentionally replicate harmful practices and “dishonour my community, or unintentionally dishonour a different community.” Some liberties were taken in the end, like the decision to include the Cherokee syllabary in reference only as incorporating it would have been too advanced for learners, or setting *BLOOM* in the year 2045, which allowed “skirting” issues of absolute accuracy, which could not always be

determined. As Alexander explained, “with the RPG being set in the future, that freed us up from having to be like, ‘This is it.’ Because it was like, ‘This is what it could be.’ (...) 25 years from now, maybe that's how they spell it” (Alexander, Interview 2019). Between the guidance of community-based experts and Alexander and Flack’s imagination and innovation, *BLOOM* is the result of careful collaboration. As Flack shared, this constant exchange with the community led to a stronger game, that was not just about getting permission on paper and then creating a game without further communication. This ‘decentralized’ approach, according to Flack, can be further reinforced by even greater collaboration, in which

Everyone's voice is really important, from the elder who provides audio, to the language department, to the five-year-old who tells me, "This aspect is really boring and needs to change." That's all important. (...) Don't just get permission and stop there. Continue down and get more feedback. (Flack, Interview 2020a)

This section has provided an overview of many diverse approaches to Indigenously determined game development. While the emphasis of this thesis is community-determined governance of traditional knowledge, specific protocols are not always required during the making of a game. Processes are ultimately dependent on the nature of the traditional knowledge, if any, being shared, and the protocols determined by the Nation with which those knowledges belong. The following section will expand on the concepts presented above, focusing on the community-centered development of *Never Alone*.

6.2 Never Alone: Making a Video Game as Relationship Building

Never Alone was produced through a collaborative, Indigenously determined game development process, structured by the Cook Inlet Tribal Council (CITC), along with the

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game producer, E-Line Media, and several Alaskan Native representatives and communities over a two-and-a-half-year period of relationship-building. This section will discuss how traditional protocols around knowledge-sharing were modified during the game making process, and how community protocol, in turn, influenced the making of the game. The information presented below, unless otherwise cited, is based predominantly off my 2018 interview with Amy Fredeen, the CFO of CITC since 2006, and the CFO of E-Line Media since 2015.

The Cook Inlet Tribal Council (CITC), established in 1983, is a non-profit organization based in Anchorage, Alaska. Since its foundation, the CITC has created several programs in support of the many diverse Alaskan Native and American Indian communities of the Cook Inlet region, ranging from family and recovery services, employment support, and educational initiatives, like Fab Lab, a digital maker space providing STEM classes anchored in cultural practice and values. Prior to the making of *Never Alone*, the majority of CITC's funding was provided by government. Gloria O'Neill, CITC's President and CEO, knew that in order to enable self-determined expansion of their services, the CITC would need generate profit independent of government funding, thus creating CITC Enterprises, Inc. (CEI), a for-profit corporation devoted to generating revenue for the CITC's programs and services (Cook Inlet Tribal Council 2017). After careful consideration by CITC's council, it was determined that an impactful investment would require engaging technology, modern media, and engage youth. This innovative and bold decision sparked the creation of what would become *Kisima Inŋitchuŋa*.

To "de-risk" what was an uncertain investment in a video game, the CITC focused on forming relationships with reliable, trustworthy partners, both within Alaska's

Indigenous communities and the video game industry (Cook Inlet Tribal Council 2017). The first step was to identify a partner in the gaming industry aligned with the CITC's goals and values. After extensive research, the CITC found E-Line Media, a video game producer focused on educational games. Although E-Line initially tried to dissuade the CITC from making a video game because of the risk involved, E-Line Media made a mid-winter visit to Alaska and began forming a relationship with the CITC and communities there. Following CITC Board approval, the process of developing *Kisima Injitchuṇa* began. E-Line became the CEI's anchor impact investment in their Social Enterprise Portfolio.

As Fredeen shared, the first six months working with E-Line “wasn't about making a game” at all. The CITC and E-Line first undertook what Fredeen calls a “Landscape Analysis” of the video game industry to determine “where an Indigenous video game company could hold space and what the opportunity was.” According to Fredeen, it was through this first step of landscape analysis process that the question of “how do you make a game with a community and not about a community?” What followed was a unique game development process that lasted over two and a half years, working with both the game developing company, and the community. The following sections will review the steps the CITC took in order to identify, create, and uphold a community-centre, Indigenously determined video game development process.

Inclusive Development Process

“If you want to make huge change you have to invest the time,” Fredeen asserted. Working with E-Line Media was just one of many steps towards relationship-building during the making of *Never Alone*. The CITC sought to create new and strengthen existing

relationships with community members throughout game development, the ethos of “with not for” as the guiding principle. This principle was facilitated through several steps to ensure the making of *Never Alone* was in line with the CITC’s goals as a non-profit. As Fredeen, who is Iñupiat herself shared, “Being the sole Inupiaq Executive Member of the Cook Inlet Tribal Council team, I was a little worried that I would appropriate my own culture. (...) I felt the weight of my community on my shoulders.” The makers of *Kisima Injitchuṇa* wanted to support real, impactful, Indigenous-led representation, grounded in community protocol first, and industry standards second. This led to what Fredeen identified as the ‘Inclusive Development Process.’ This process, mediated by the Greenlight Committee and informed by the community-bridging work carried out by the Cultural Ambassadors, is described below.

The Greenlight Committee Process was structured to facilitate the CITC’s commitment to making a game *with* and not *about* a community, merging community protocols, laws, standards, and expectation with video game industry standards and expectations. Developed by the CITC, the Greenlight Committee was a modified version of a standard video game industry practice, in which video games are reviewed while in-progress and feedback is provided to direct the next stage of development. Rather than have this process of review and approval determined by the producer, E-Line Media, the CITC “recognized that we were not necessarily comfortable with just going and meeting with them every few months to see what progress they’d made and give them a thumbs up,” stated Fredeen. “We knew it had to be different.” The Committee was therefore composed of both community members and E-Line media staff; a 50/50 split. Throughout the course of the project, the production team came to Alaska over two dozen times to familiarize themselves with the many communities the CITC supports, and although

decisions were made during the Greenlight Committee meetings, “the primary purpose,” explained Fredeen, “was to identify what questions do we need to be asking the community, who’s the right person to ask, and how we bring that back into the video game production?” These questions were then brought to the community through a network of twenty-four Cultural Ambassadors.

Community-Driven Game Making

Community-determined game development was supported through a network of twenty-four Cultural Ambassadors, of which Fredeen was the Lead Cultural Ambassador. “My role as Lead Cultural Ambassador,” shared Fredeen, “was to say, ‘How do we use our time in between Green Light Committee to answer those questions and to connect the development team with additional resources and knowledge?’” These questions were brought to the communities by the Cultural Ambassadors as a recognition of the expertise within Alaskan Native communities. This fostered, through word of mouth, a network of community members, drawing on existing relationships and creating new ones. As Fredeen recalled, over time, this “network of support for the game” was in line with the ways in which information and knowledge is traditionally shared and mediated amongst communities in Alaska. As she reflected:

Every time we would talk to one Cultural Ambassador, they would say, “Oh, you need to connect with so and so, too.” It mirrored very much the way our traditional support systems worked in rural Alaska, which is everyone knows who has a certain role in the community or who has certain resources, and you go work with them so that you can share, and it was really amazing.

When a consensus could not be reached, they consulted community leaders, “whether they’re elder leaders or business leaders, we would probably gather a group of

community leaders to talk through an issue,” continued Fredeen. This approach to community engagement was implemented in order ensure the development of *Never Alone* was informed, accurate, and grounded in community-determined values and protocols. This involved not only seeking approval from community members, but continuous conversation around the game’s development and what appropriate to share. This involved playtesting and maintaining an open line of communication with various communities. As Fredeen shared

We took the team up to Utqiagvik to test the game with the kids, to talk to some of the community members about questions we’d been asking individual Cultural Ambassadors, just to get the community’s feel for it, because the last thing we wanted was... and not everyone’s going to agree 100% of the time, and we’re not going to make everyone happy, but we didn’t want to launch the game and find out that something was just completely off-base, because everyone has their own perspective and relying on a couple dozen Ambassadors could lead you to have that. So, it was really important to us to keep bringing it back to the community.

While a consensus could not always be reached, it was important to the CITC to uphold their commitment and represent, as accurately as possible, the many diverse perspectives of the community members. “We’re very diverse as Indigenous groups,” shared Fredeen, “but there’s also a sense of oneness.” This was not only ensured respectful and accurate representation, but also sought to assure those the CITC is responsible to, understood the nature of the investment in a video game.

Traditional Knowledge & IP Law

While the Greenlight Committee Process and Cultural Ambassadors helped to formalize relationship-building with the community, additional steps were required in order to ensure the relationships built with E-Line and the community lasted beyond the bounds of this process and maintained the community’s rights to and authority over their

knowledges regardless of the future leadership in E-Line Media or the CITC. The CITC therefore critically engaged with intellectual property law in order to create standards by which community members would maintain control over their traditional knowledges, despite the intellectual property assets held by E-Line Media, and later, Upper One Games. As Chapter 2 of this thesis explains, formal, legal rights to traditional knowledges do not exist in Western and international IP law. The CITC therefore developed a novel approach to ownership that recognized the unique relationships families have with their stories, functioning as a bulwark against future misappropriation. The following section will discuss the contract-based approach the CITC established with both with members of the community and with E-Line Media in order to sustain and legally reinforce traditional relationships with traditional knowledge.

Perhaps most significantly, the CITC created a special contract with the family of Robert Nasruk Cleveland, who was widely known for his telling of the Kunuuksaayuka shared in the *Never Alone*. This initial groundwork was a careful investment of time to ensure that Nasruk's family maintained authority over the Kunuuksaayuka story, developing a contract that acknowledged the Inupiaq protocols around traditional knowledge and storytelling, and translating them into the Western legal context of ownership and property:

It honestly took us a while to figure out how we take the Western concept of IP ownership and marry it with the Inupiaq's traditional view that we are caretaking these stories. Robert Nasruk Cleveland was the storyteller most associated with the Kunuuksaayuka story — in Western terms, he would be the owner — but what's really interesting is that they don't feel like they own it, they just feel like they're passing it onto the next generation. You had to create an intellectual property asset that would

give value back as an impact investment, but you also had to honor the family that was sharing the story with us. (Fredeen, Interview, 2018)

The CITC therefore worked within the community network to find Minnie Gray, the eldest surviving child of Robert Nasruk Cleveland. After three months of searching the CITC came to learn she was living just down the street with her daughter, so they arranged for a visit to discuss the possibility of sharing the Kunuuksaayuka story in *Never Alone*:

We went and visited her and her family and had tea, she shared fish with us. (...) Her daughter was there translating for us. I was really nervous, because Minnie is a storyteller and cultural icon in her own right, and I was like, “She’s probably never played a video game, and here I am, I’m going to walk in and say, ‘We want to use the Kunuuksaayuka story to inspire a video game (...) I just don’t know how she’s going to react to that.’” So, we talked and she was excited about it, because she was living with her daughter and her grandkids. There were young kids all around (...) and she was like, “Well, this is how they’re going to hear the story.” (Fredeen, Interview, 2018).

In recognition of Gray’s expertise and her family’s responsibility to the Kunuuksaayuka story, the CITC provided financial compensation for Gray and developed a contract that stated that, while the CITC and E-Line Media were granted permission to share the story of Kunuuksaayuka in *Never Alone*, they were to continue to consult Minnie Gray and her family throughout the development process, and before remediating or retelling Kunuuksaayuka in beyond the scope of the game. Future use of the traditional knowledge in question—the Kunuuksaayuka story—would be contingent on maintained relationships and ongoing consent, recognizing that the ‘ownership’ would be held by the family indefinitely and passed down over generations, regardless of its expression in the game.

Establishing relationships and creating tailored contracts with community members was, according to Fredeen, informed by the understanding of the negative impact the concept

of property has had on Indigenous lands and in Indigenous communities. Fredeen pointed the damaging history of property law, and the significance of creating protections for traditional knowledges in the absence of adequate legal rights:

I think of the idea of ownership of IP is how we experience the initial change in ownership of land. We never felt like we owned the land, and when the Western world started coming in and buying the land from certain families, they didn't understand what that meant. So, for us walking into this project, we didn't want to recreate that. (...) We didn't want it to be that once they sold (the story) to us, we could do anything we wanted with it. That's not appropriate. We specifically changed how the IP permission was used (by) having an IP agreement that is based on, "You can use this story, but you have to maintain a connection. (Fredeen, Interview, 2018).

The CITC's critical approach to intellectual property management was a purposeful intervention in traditional IP frameworks and insisted that, rather than an ownership model based on transferable rights, subsistence requirements, and expiration, that the agreement made with the knowledge holders would recognize their authority in perpetuity. This approach therefore granted permission to CITC to share these stories without the knowledge holders relinquishing control, to mitigate the risk of future misappropriation or misrepresentations. Practically, as there exists no legal protection for most forms of traditional knowledge as they do not meet subsistence requirements in IP law, this approach did not require the recognition of traditional protocol or customary law by state or national law. Rather, in the absence of adequate legal standards for protection, this approach modified an existing legal strategy to reflect the authority of Nasruk's family. This relationship was strengthened throughout the development of *Never Alone*, with members of the CITC and Fredeen making regular visits to Minnie Gray's home to ensure that the modifications they were making to the Kunuuksaayuka

story, such as its re-mediation and the incorporation of additional stories within its in-game telling, were appropriate.

This innovative approach to modified IP-style protections under contract in fact began with E-Line Media. Although the CITC and E-Line now have merged management teams, the initial legal relationship with the game producer was on a contract basis, in which the CITC hired them as producers and developers. Within this contract was a “Nothing About Us Without Us” clause which affirmed, as Fredeen described, that E-Line “may get to distribute this game after you build it for us, but not only do you have to share the revenue with us, and give us the money back, but you also have to include us on anything that’s connected to that in the future.”

Fredeen stressed that E-line understood, “why it was important to us not to say, “Here E-Line Media, here’s a story, go make a game and come back to us, and then you can do whatever you want next phase,” and that this agreement had to endure beyond the IP for the game itself. “They understood that if someone approached them about a movie,” which did, in fact, happen “they would have to come back to us and include us.” While next steps regarding future remediation of the stories shared in *Never Alone* are as of yet undetermined, Fredeen emphasized that this decision will be made through a similar network of relationships of trust, as well. “It’s one of those things where it has to be a relationship, not a transaction” (Fredeen, Interview, 2018).

Before the game launched, over two and half years of working together, the relationship between CITC and E-Line media eventually became one of trust and partnership, so much so that before launch, the CITC converted their intellectual property asset of *Never Alone* into ownership of E-Line Media, resulting in one-third ownership the E-Line. The

'Nothing About us Without Us' approach remained central during the negotiations for the merger. As Fredeen explained, "We have that same concept in that Purchase and Sale Agreement. Even though we trust E-Line Media (...) we know that this agreement lives beyond our current iteration of management, whether it's Cook Inlet Tribal Council's or E-Line's" The function of this agreement is to protect the understandings of property and ownership developed between E-Line and the CITC, to ensure this will remain, in Fredeen's word, "protected as a relationship." (Fredeen, Interview 2018).

Conclusion

Upon release, *Never Alone* received widespread praise and accolades, with critics commending its Indigenous-led representation and educational attributes. What is more, however, as Fredeen shared, is that the results had been incredibly positive for the community, as well. Creating relationships did not start with contracts and permissions, but by sitting down and speaking with the community, keeping them informed, listening to and incorporating feedback, and respecting existing protocols.

6.3 Video Game Workshops

As so many interviewees highlighted, making games is not only about the final product, but about the process. That is, focusing on building capacity in communities and skill-sharing, intergenerationally and between fields of expertise and knowledge. Many of the video game developers I spoke with identified the importance of video game workshops and working directly in-community to build capacity, using the making of a game as a locus of skill-sharing. As LaPensée highlighted, "We need to have Indigenous coders, with their hands on the technology, benefitting month-to-month from a paycheck that feeds themselves or their families. (...) We also need to take our carvers, and teach them 3D

tools, so that they can actually be making 3D art themselves (...) We need to be the designers. We need to be actually in there, making it ourselves" (LaPensée, Interview 2016). Increasingly, over the past decade or so, Indigenous-led workshops teaching computer and gaming skills, abound, such as the 'Code Camps' run by Pinnguaq in Pangnirtung, Nunavut, which aim to teach basic coding skills. Other workshops focus on gameplay and game-making, such as the youth Tabletop Role Playing Game (RPG) workshops held in the summer of 2017 by Irish, Black, and Lakota video game designer Allen Turner, the creator of the Indigenous tabletop RPG, *Ehdrigohr*.

Ashlee Bird's *Abenaki Super Mario Bros.* was designed as part of a ROM hacking workshop led by Patrick Lemieux at Concordia University in the fall of 2016, part of a larger Digital Media Archaeology workshop. "That's where I really got my footing," shared Bird. "It was like, 'This is something I can actually do.'" ROM Hacking is an expedient way to create a game by using hex editing software to modify ROM images within an existing game. Bird has since led ROM hacking workshops herself, like the Native Youth Empowerment Workshop for young Indigenous people, aged fifteen to junior college age, from across California and Nevada, hosted in May 2017 at UC Davis. This provided hands-on experience through hacking *Super Mario Bros.*, guiding participants through the steps of cutting open the cartridge, soldering, and learning to read and modify hexadecimal code. The workshop was self-directed in groups, with guidance from Bird and other mentors. "It's a really powerful thing for Native youth to see that they can intervene on something like this, and do it so easily," shared Bird. "Natives are the least represented racial or ethnic group in video games statistically in the United States (...) and a lot of the representation we have is horrible." Bird emphasized that passing on what she has

learned to help empower Indigenous youth to make their own media, an act of decolonizing something so entrenched in Western values:

It's extremely impactful for Native youth to see this iconic game that everyone knows and see that it doesn't have to be that way. You can change it and make it your own. (...) Decolonizing digital media, part of it is demonstrating to them that this is not made *for* one type of person, and it's also not made *by* one type of person. Linguists are important to our storytelling, storytellers, artists, musicians, people who can code. All of them have a place in this, and trying to open it up and break down what actually goes into a video game, and what can be done with one. (Bird, Interview 2017a)

Meagan Byrne's *Wanisinowin* was also made during a four-week intensive video game workshop for Indigenous women at Gamma Space in Toronto, Canada, co-hosted by Dames Making Games (DMG) and Indigicade. As Byrne explained, "Being Métis, I don't have a huge cultural group that I can just go and hang out with, and talk to, and help me with my games." Having completed her B.A. in Game Design at Sheridan College, Byrne had many of the technical skills she needed to make a game, but explained that she "wanted to have a game design experience that was not entrenched in Western values." The workshop directors, including Archer Pechawis, began the workshops with a smudging ceremony, and organized for elders to come in and provide guidance and feedback to the participants. DMG donated the space and materials needed by participants, including laptops, software access, in-workshop mentors from diverse Indigenous backgrounds. (Byrne, Interview 2017)

Perhaps the most established Indigenous youth video game workshops are the Aboriginal Territories in Cyberspace (AbTeC) *Skins* Workshops. Aboriginal Territories in Cyberspace is an initiative co-directed by Jason Lewis and Skawennati Fragnito, based at ObX Labs at the University of Concordia in Montreal. Since 2010, the workshops have

resulted in six video games available for play online, including the four games introduced in the previous chapter, *Skins 1.0 - Skins 4.0*, and two further games made during the 2017 and 2019 Honolulu workshops, *Skins 5.0: He Au Hou* and *Skins 6.0: He Au Hou 2*.

After receiving funding, the AbTeC Research Network met to determine how it could best be applied. “We were brainstorming about how to increase the participation of Native people in what we call ‘Cyberspace,’” explained Lewis. They began meetings with community leaders in the Mohawk Nation’s community of Kahnawake, a community of 9,000 people located on Haudenosaunee Territory, just south of Montreal, Canada, and the territory from which Skawennati hails. As Lewis explained, the elders’ priorities were to reach young members of the Mohawk community, and felt that digital media and video games were the best way to do so. The video game workshops were developed to facilitate digital skill-sharing, offering guidance and mentorship on digital game-making, and to provide new opportunities and contexts for storytelling and traditions. “The goal here is to teach these kids these technical skills within a deep cultural context,” shared Lewis. “How do we do that? Video games are the answer to that question.” (Lewis, Interview 2015)

The game development process was about building relationships of trust with the community rather than getting someone to sign off on permissions. “Not formally, but informally,” shared Lewis, “the protocol was: be transparent, propose something that has a clear benefit to the community.” This meant being responsive to the feedback from the community and working at their pace. “We’re guests,” Lewis emphasized, “So we don’t come in and say: you need to do this now, for your own good. We propose things that we think might be good, and we work with them on a timescale that is possible for them.”

After two years of meeting with many community leaders, “it was clear to them that the games were where their kids were,” explained Lewis, but that they needed to take the time to determine collectively how games could be “a productive cultural practice.” (Lewis, Interview 2015). AbTeC partnered with the Kahnawake’s Education Centre, with formal permission to work in the community granted by the heads of the Education and Cultural Centres, thereby fulfilling the requirements of AbTeC’s Partnership Development Grant and Partnership Grant.

Apart from the formalities required by their funding bodies, AbTeC also worked on keeping the IP generated through the workshop in the community. “When we were in discussions with community partners” shared Lewis, “that was a huge concern of theirs. They didn’t want to pour resources and have their people spend time on something that then we were going to be like, ‘We own this.’” AbTeC specified that any copyright assets would belong to the Skins Collective — that is, the unique group of participants that come together for each workshop. The consent forms they signed at the beginning of the workshop specified, “We (AbTec) don’t own this,” explained Lewis. “You have to let us talk about it because it’s a research project (...) but your students in your community who made that game, they own it collectively.” (Lewis, Interview 2015).

For each workshop, the Skins Collective comprises 10-15 participants of various ages recruited initially by advertisement through the Kahnawake Survival School Art Program, directed by elder and artist, Owisokon Lahache. All participation was on a volunteer-basis. The workshops have taken various shapes over the years, sometimes as an after-school and weekend program, and others as two- or three-week summer intensives. Depending on venue availability, mentors and needs, the classes were held either in

Kahnawake (at the Survival School or the Longhouse, for storytelling), or at ObX Labs at Concordia University in Montreal. While varying with each iteration, each workshop includes community-centered storytelling, paper prototyping and playtesting, and digital skill-building, all supported by consistent mentorship on the art of storytelling, technical skills, and game-making.

As I discussed in the previous chapter, the Skins games are games of storytelling. Storytelling is central to the game-making processes, themselves, and each workshop begins with a community storytelling event. Skawennati and Lewis invite community storytellers and guest storytellers to share story and speak to the significance of storytelling, sometimes with a gathering held in the Kahnawake Longhouse, featuring traditional oral storytellers to help guide the process. “They tell the stories, they talk about why these stories are important,” shared Lewis. “They talk about the craft of storytelling. What makes a good story, what makes a good telling of a story.” A story is then selected or created collaboratively for the game’s narrative, sometimes drawing on existing stories, like the Flying Head or the Stone Giant, sometimes telling new stories, like that of Ienién:te and the Peacemaker’s Wampum. Then begins the process of re-mediating these stories for video games. “We really don’t have to do a lot of work ourselves,” explained Lewis “They’re so steeped in game culture that they can do that re-mediation in their head very quickly.” Lewis also emphasized that there was no attempt to remediate any stories with strict protocol and “set them free in the world.” “We don’t venture into territory that is potentially really problematic. (...) This project is not the place to have that argument.” (Lewis, Interview 2015)

Once the content and narrative have been selected, participants have the opportunity to ‘test’ their ideas using paper prototyping. This allows for the students to test the playability of their games and to develop content and narrative in real-time, working out any major flaws before developing them digitally. In order to translate the paper prototype games into a video game, workshop participants must first learn the basics of video games design, including narrative, gameplay, and game mechanics. Mentors from the video game industry are brought into the workshops to teach the students how to use video game development software, like Unity and Blender. Indigenous mentors, artists, storytellers, and industry guests are invited in to guide the students through various processes.

Scott Benisinaabanden, who hails from the Lac Seul Ojibwe Nation, has been assisting the Skins workshops as a mentor since 2.0. He shared that building relationships with the community allowed the Collective to draw on those connections to make an informed game with accurate representation. “They made use of the knowledge in Kahnawake, they made use of the language speakers to film, and for the background, and for modelling.” (Benisinaabanden, Interview 2015). Lewis echoed this sentiment, sharing that “we were very much relying on other people whose research we trust, and whose intentions we trust as well, which is to represent their culture from their perspective.” (Lewis, Interview 2015).

Although re-mediating stories may come naturally, the act of putting a game together is an intensive process. Instruction takes place over 200 hours, with varying formats for each workshop – sometimes over several months or two- or three-week intensives. This required an immense commitment on the part of the participants. “We feel that’s a pretty

good testament,” shared Lewis, “the fact that these students, they all had to take time off from their regular lives. Some of them worked, some of them had family, and so they were foregoing income, they were foregoing time with their families (...) They stuck with it, eight hours a day, five days a week.” (Lewis, Interview 2015)

The Skins workshops have become a cornerstone of Indigenous video game development in Canada and the United States. Not only have they resulted in playable online computer games, but their workshops have also established a solid framework for creating and implementing Indigenously determined video game development processes, developed over the course of several years and extensive collaboration with community leaders. AbTeC’s focus on process instead of product supports Skins’s *raison d’être*: in-community capacity-building. “The point isn’t so much about what they make,” Lewis highlighted. “The point is that they’re making stuff.” (Lewis, Interview 2015). Echoing Lewis, Benisinaabanden shared, “I don’t know that the end result is the most important part. I think the important part was the process for the youth and people that created the game.” (Benisinaabanden, Interview 2015)

6.4 Fort Smith Video Game Workshop

In July of 2017, I was invited to attend two consecutive video game workshops in two different communities in the Northwest Territories. This case study describes the second of the two video game workshops, which was held for Indigenous youth in Fort Smith, NWT, the southernmost Métis community in the Northwest Territories (NWT), Canada. Held from 17 - 28 July, this workshop was organized by Western Arctic Moving Pictures (WAMP), a not-for-profit organization based in Yellowknife, NWT, focusing predominantly on arctic film production and distribution, and funded by the NWT Métis

Nation Languages Program based in Fort Smith. The workshop syllabus was designed by Meagan Byrne and her colleague, Yifat Shaik, a Professor of Game Design and 3D Modeling at York University. This was implemented with the aid of two WAMP associates, Travis Mercredi and Davis Heslep, as a part of WAMP's *Hackspace* maker-space initiative. I also participated in this workshop and acted in support of staff and participants.

The NWT Métis Nation Languages Program, formerly the Cree Language Program, is a government-funded program that has been working to revitalize Indigenous languages in the Northwest Territory since 2000. They provide a series of language materials in both Cree and Chipewyan, such as clothing, cookbooks and medicinal plant guides, with intergeneration workshops being a core focus of their programming (Sanderson, Interview 2017). This workshop was one of their many initiatives.

The following case study will discuss the background and aims of the workshop at the outset. By outlining the activities and lessons plan and discussing how these were applied and modified through Byrne's teaching process and participant feedback, this case study hopes to describe in detail the significance of such a gaming workshop for relationship and capacity-building. Although this is the first case study in a thesis about video games, the games the participants chose to make at the end of this workshop were not, in fact, digital. I elected to share this as a case study because it highlights a number of themes pertinent to understanding the making of Indigenously determined video games and will be instrumental in discussing the "why" and the "how" of Indigenous video game development.

This case study is based on information acquired mainly through participant observation during the workshop and on personal interviews conducted with Meagan Byrne, Yifat

Shaik, WAMP Director Jeremy Emerson, Hackspace coordinator, Davis Heslep, Skins workshop mentor, Travis Mercredi, Cree elder, Mary Cardinal, and NWT Métis Languages program manager, Vance Sanderson.

Background & Objectives

Historically occupied by several Indigenous nations, chiefly the Cree and Chipewyan (Dënesųłiné), the town of Fort Smith as it exists today came to be through relations and commerce stimulated by the 18th and 19th century fur trade, primarily through the Hudson Bay Company and the North West Company. It is now a mixed community of Cree, Chipewyan, and Métis, as well as settler families from many backgrounds. The town offers various Indigenous language and culture programs, run through school and community initiatives.

The Fort Smith Video Game Workshop was part of a *Hackspace* initiative held in two Northern communities, the first held in Yellowknife. This workshop was in many ways inspired by AbTeC's Skins Workshops. Travis Mercredi, a board member at WAMP and former student of Jason Lewis's at Concordia, had previously mentored as a sound technician for Skins 4.0. From Fort Smith, Mercredi wanted to bring this opportunity to Indigenous youth living in Canada's north. Wanting to expand WAMP's repertoire beyond film to re-imagine what 'moving pictures' might look like in the 21st century, Emerson applied for funding in the summer and fall of 2016 to run workshops based on the Skins workshops.

The aims of the workshop were in line with those of the Skins' workshops; that is, to teach and promote culture and language through game-based learning in digital contexts. Part of this entailed teaching young people digital skills, such as basic computer, filmmaking

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and editing skills through play; and to provide Indigenous young people with a basic set of digital skills, as well as transferable skills for the arts and technology industries. According to the syllabus for the two workshops held in Yellowknife and Fort Smith, the objectives of the workshops were as follows:

1. To introduce students to the basics of game design in a relaxed environment;
2. To introduce students to various forms of prototyping tools and strategies (digital and paper), and;
3. To provide students with opportunity to develop basic game design skills and create their first ten games.

The workshop was divided work into two one-week sections. Week one focused on teaching game-design skills through non-digital gameplay and game-making ('pen and paper'). Byrne's goal was to introduce the basics of game-making gradually and completely offline. Week two was designed to teach the participants how to apply the skills they acquired during the first week to a digital, game-making setting. The following discusses how the above objectives were implemented and modified over the course of the two-week Fort Smith workshop, providing an overview of the workshop one week at a time with a discussion at the end.

Week 1: 'Pen and Paper' and the Basics of Game Design

On Monday morning, we drive thirty minutes from Fort Smith out to the Thebacha campgrounds East of town. The first week of the workshop is held in a large log cabin on the campgrounds, beyond the reach of cellphone reception and internet connection, a location aligned with this week's goal to be completely non-digital. In attendance are Meagan Byrne, the director of the workshop, Yifat Shaik, Assistant Professor in

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Computational Arts at York University in Toronto, as well as Travis Mercredi and Davis Heslep representing WAMP, who are there to document and support the workshop participants. The participants who join us are two girls, aged twelve and two boys aged fifteen and sixteen. I have elected to omit their names as they were minors at the time of the workshop.

Once we have all met and settled in, the participants are asked to come up with ten rules for the workshop's durations together, agreeing on 'Be respectful,' and 'Be on time.' Once the list is complete, we hang it on the wall of the cabin for reference. "It's about giving control to the kids," shared Byrne, who wanted not only for the participants to be assured that their values were represented in the rules, but to encourage investment in the process. As Byrne shared, this was her way of giving more control to the participants. "I don't know how invested or not you're going to be in me. What I can do is give you the power to make your own rules as a group." (Byrne, Interview 2018)

Byrne and Shaik review the syllabus with the group, and introduce them to the workshop's key pedagogical principle: 'Fail Fast.' The syllabus states: 'Your first 10 attempts at anything will be failures, BUT we learn through failure! So we should create our first 10 games as quickly as possible to begin learning how to be game designers.' Byrne encourages everyone to understand the process of making games through a process of trial and error. Rather than fearing failure, participants are asked to embrace it and learn from it. The "best way for games, is: does it work?" explained Byrne. "Let's play it. If it doesn't work, then you'll know within a few minutes of people playing it. If it does work, then awesome" (Byrne, Interview 2018).

This week is entirely non-digital, focusing first on the basics of game design through playtesting and creating board, card, and dice games, and embodied play. Byrne's own experiences in video game workshops led her to introduce non-digital game-making first, to ease participants into new concepts, before introducing new technologies. "You don't teach kids to jump pole vault before you teach them to run properly," explained Byrne. "I wanted the kids to feel like they could just jump in." The goal is for participants to learn without the added pressure or requirement of a digital skillset. These 'pen and paper' lessons are then to be applied to the making of video games next week (Byrne, Interview 2018).

For the first two days, the participants learn by playing games to understand their mechanics and various components: luck, obstacles, rules, skill building, teamwork, and so on. After sampling a variety of board games in the morning participants take the afternoon to work together to develop a basic game. Meagan gives them parameters within which they must develop the game. On the first day, they make an escape-style game called "Shipwreck," in which players must take turns to escape a ship that has crashed upon jagged rocks, braving dangers to get to the shore. The second day follows a similar format to the first, this time focusing on puzzles, the basics of mechanic and level design (Figure 6.1).



Figure 6.1: Making Games at the Fort Smith Video Game Workshop, 2017.

Cree Language Day

The third day of the workshop is dedicated to the game-based learning of Cree culture and language. We are joined by Mary Cardinal, a Métis Cree elder, who has come to guide the day's activities and to contribute her knowledge of the language, and by Vance Sanderson, the manager of the NWT Métis Nation Languages Program, providing language support. Mary speaks Plains Cree fluently. Cardinal was born in Fort Fitzgerald, Alberta, and moved to Fort Smith, NWT, in the 1970s, where she taught Cree language and culture at the local high school until 2013. "That's where I became more interested into teaching the whole community," she shared. "That's what my goal in life was. I have that goal, and I love teaching it because I was born with the language, and anybody who wants to learn, I'm here to show them." Mary is here because she has made it her life's work to pass on the Cree language. "Language is fun, I tell you, it is fun," shared Mary, reminiscing about her own upbringing, when her family and friends spoke Cree and Chipewyan (Cardinal, Interview 2017).

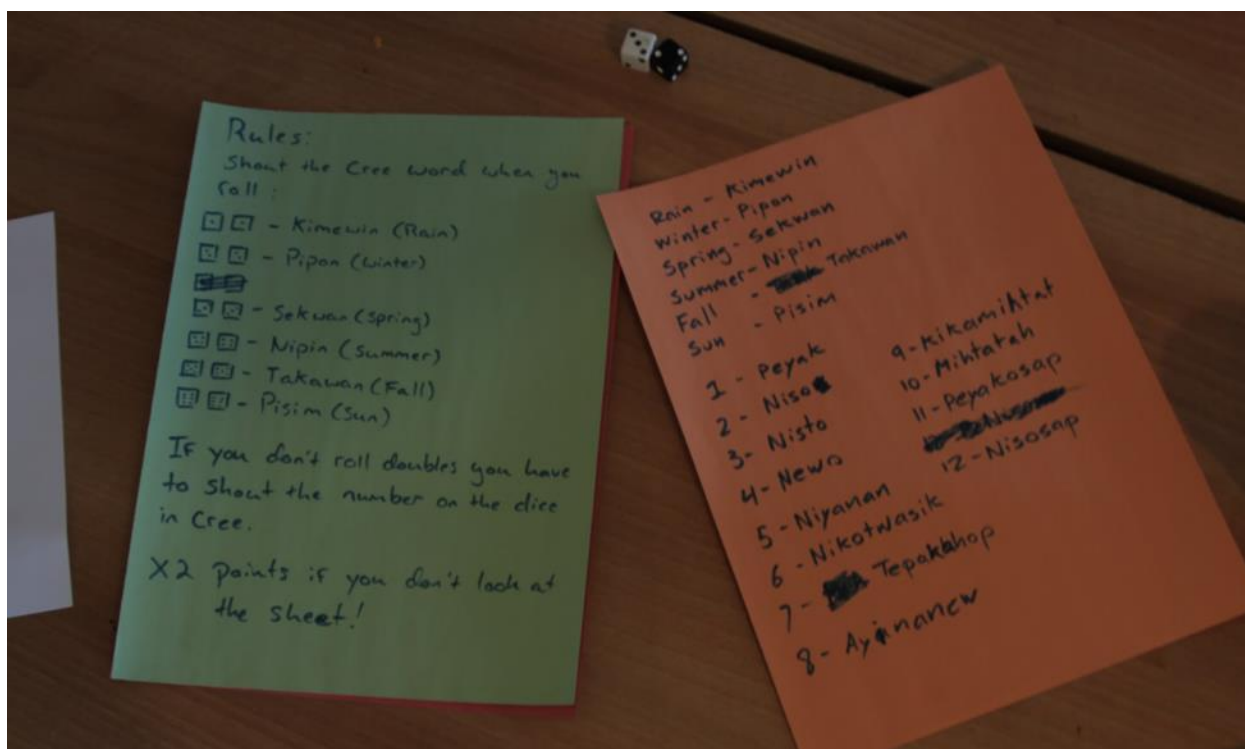


Figure 6.2: Cree Language Dice Game, from the Fort Smith Video Game Workshop. Cardinal and Byrne 2017.

Under Mary's guidance, Byrne proposes a simple memory game, and together, they develop a dice game. Mary provides the Cree words for numbers one to twelve, as well as six seasons and weather assigned to doubles (see Figure 6.2). Players are given a pen and paper to keep track of their score, and access to the language 'cheat sheet' that Mary and Byrne have made. During gameplay, the players roll both dice. They must name the Cree word for the number they roll, or the assigned Cree word should they roll doubles. Points are given for each word correctly named.

Over four rounds, participants must playtest the game to see how it might be modified and improved. In each round, their memory and language skills are tested. The first round is a playtest, providing an opportunity for the players to learn the rules, practice counting in Cree, and offer feedback on gameplay to the game makers. Players are allowed to check the cheat sheet and ask Mary for help. Each player receives one point for every word

pronounced correctly, which allows players with less experience speaking Cree the opportunity to practice the words required for gameplay. The game is modified over the next three rounds. In the second round, gameplay changes to reward language skill-level. Players are still allowed to gain a point by referencing the cheat sheet, however, players who are able to name words without the help of Mary or the cheat sheet are rewarded two points. Before the third round, Byrne asks participants what they think of the new rules. Participants agree that those who speak the language fluently now have an unfair advantage. In response to this, Byrne introduces an element of chance to gameplay: players will now be rewarded the number of points they roll, allowing players with varying language skills to gain points. The final round of the game is played by rewarding knowledge of the language, while maintaining an element of chance. In this round, points equal to the number rolled (i.e. a two and a three makes five points) are assigned for each word pronounced correctly, even if the player must look at the cheat sheet, however, players may double their points by naming the word correctly without looking.

With an emphasis on intergenerational skill-sharing, this game teaches participants how to incorporate language into gameplay, and how to modify simple games by introducing elements which can both reward skill while levelling out the playing field by introducing an element of chance to make gameplay interesting and engaging for players of varying abilities. Mary is not just here for reference; the four young game makers look up to her, and want to do a good job with her encouragement, “It was clear that the kids were looking to her as, “Am I doing this right?” which is what the point of the game was. (...) The reward for the kids was when she said yes and got it right. That was the reward they were getting. It wasn't the points. It was when Mary's, “Yes, you're right.” (Byrne, Interview 2018) Mary was impressed. “I was amazed,” she shared, “because they were

really into it. They wanted to learn, and they did what they had to do.” (Cardinal, Interview 2017). The contributions of elders and community was essential for this day of the workshop. As Sanderson expressed, this provided the opportunity, “‘for youth to engage in their language and work with elders and industry mentors, to empower them to be creative with their language (...) to create learning tools for others to use and have fun with.’ This helped to create “a game that has two worlds,” according to Sanderson, which strengthened when developed by “a group of different people, of different ages, different ideas, different strengths, skills, knowledge.” (Sanderson, Interview 2017).

In the afternoon, participants are asked to break into teams of two and develop games to teach the Cree language. They meet with Byrne and Shaik for feedback on game design and ask Mary for language help. Then they develop a paper prototype for playtesting later. Meagan wants game-design to be entirely self-directed, with the participants having agency over the games they make.



Figure 6.3: 'Monster Words,' from the Fort Smith Video Game Workshop, 2017.

We first play *Monster Words*, a monster-fighting board game in which knowledge of Plains Cree helps the player to defeat monsters and advance towards the finish line (see Figure 6.3.) On four sheets of coloured paper taped together at the back lies a path replete with imaginative monsters that players must defeat by using the Cree language. They have designed flip cards with images on the front, with the respective Cree words on the reverse. There are four categories: animals, seasons, weather, and food, upon which Mary advised.



Figure 6.4: ‘Trails and Overflow,’ from the Fort Smith Video Game Workshop, 2017.

The second is a *Snakes and Ladders*-inspired game titled *Trails and Overflow* (see Figure 6.4). On one sheet of white A4 paper are illustrations of a wintery path snaking towards a cabin in the wood. The board is set up with a stack of numbered cards with numbers written Cree, which players draw randomly to determine how many spaces they will move; knowledge of the language is required to advance through the game. There are also ‘Chance’ cards which are drawn when the player lands on the corresponding path marker, which either help or hinder the player’s advancement forwards. Players are also instructed to pick a folded piece of paper, called ‘Offerings,’ from a bowl before beginning. These offer players one hidden advantage during play.

The remainder of the week continues with non-digital game making, each day building on the skills acquired the day before. On Thursday, participants are challenged to make games from ‘nothing’ —that is, to forego the craft supplies and think of how they can create rules with whatever they can find around them. We are joined again by Mary Cardinal and Vance Sanderson, who are there to guide participants. Mary is also recording the work of participants for her own archive on a digital camcorder. Her personal video collection includes footage from the many language and culture camps she has supported over the years, which she has recorded and kept for the future generations to use, and because she likes to look back to see what people have made. On the final day at Thebacha campgrounds, we wrap up the week with a tabletop RPG, *Ryuutama*, providing an opportunity to see how chance, skill, and imagination can be combined to create game through narrative and conversation.

Week 2: Taking it Digital (and Back Again)

At the beginning of Week Two, we head to Aurora College in Fort Smith, which has provided a workspace and internet for the workshop. Through the activities in week one, participants have acquired the basic game-design skills, which they will now learn to apply to the development of digital games. This will be taught gradually, using the same steps of paper prototyping, playtesting, and modification to create digital games.

Like the first week, games are first played, discussed, and then participants are supported while they make their own games. On Day One, Byrne shared a series of ‘weird games,’ or ‘trash games’ — simple yet engaging video games — to take the pressure off game design, showing a low-to-no budget game can be made fun through imaginative engagement with digital game making tools and wonky mechanics. The participants are then given basic

tutorials on Sploder, a free game-making software available online. The participants are given the rest of the morning to experiment with Sploder and develop some ideas. Once they have familiarized themselves with Sploder, they are asked to make a paper prototype of a game they would like to try, and translate it into a basic digital game.

With assistance from Travis and Davis, the participants begin creating their games. The resulting games include a platform in which the player must race two dots across the screen, which move in parallel, making calculated jumps to avoid obstacles on different tracks. There is also a physics game in which the player must shoot a ball from a canon, which then cascades down a series of platforms; the angle at which the ball is shot from the cannon will determine the success of its roll through the obstacles on its course. There is also a two-player fighting game, in which the players' characters flail their limbs wildly at one another to win a fight. Finally, there was a classic platformer, in which the player must move their character across the screen, jumping to avoid obstacles along the way.

Wednesday and Thursday are open days, with time blocked off for 'Designers Choice,' in which the participants are asked to design a complete game of their choice. They will have two days to complete this. Although the aim of this workshop was ultimately to teach digital game development to young Indigenous participants, the workshop organizers have decided to make a change based on the feedback from the participants. They are no longer required to make a digital game as their final project and may instead choose whichever genre they feel will best communicate their ideas.

On the final day in the morning, we play an untitled, fantastical tabletop RPG. We are each given a character sheet to develop our character's backstory and abilities, and with guidance from the game's designer, who acts as Game Master, our group must take

collective action to solve a series of puzzles, including aiding a small village that has somehow become trapped under a giant teabag. After lunch, we head down to the Slave River to play a Live Action Roleplay (LARP), titled 'Rez-Isistence Vs Trump,' in which the underdogs, the Rez-Isistence, must battle and defend their territory against the evil overlord, 'Trump.' We are divided into two teams of four, and, armed with sticks and bicycle helmets, play a 'Capture the Flag' style game through the trees. After two hours of play, the game ends. As we walk away from our battleground, Travis Mercredi muses that there is nothing more traditional in Fort Smith than for young people to head to the woods to 'play guns.'

The Fort Smith workshop illustrates both the power of games to engage and connect community members across generations, and also, the limited appeal, or even practical application, of video games. Over the course of the workshop, participants made and modified a total of 11 games each. Although WAMP's initial goal was to teach young people basic video game development skills, the independent final projects from the Thebacha workshop were non-digital in the end. Digital games are not always the answer, and the ultimate goal of the workshops is capacity-building, which lies at the heart of Indigenous video game workshops.

Discussing Hackspace's many initiatives, Davis Heslep, who hails from the NWT, shared that it was important to create opportunities and capacity-build in Northern communities. "Up here knowledge-based economies aren't really supported as much." Heslep described the North's "resource curse," such that young people are not encouraged to participate in knowledge-based economies because of the abundance of natural resources; "A lot of people look at the Northwest Territories as just a gold mine

and without any kind of potential for creativity,” and further shared that students in high school are often confronted with representatives from mining companies discouraging them from pursuing anything other than a trade. As Heslep paraphrased, “All the money’s in the trades. Don’t even worry about trying to do anything creative because you’re not going to be able to support yourself and that’s just bullshit.” As Heslep urged, he doesn’t want “people in the Northwest Territories to miss out on that opportunity of being able to profit off of their creativity instead of their ability to swing a hammer.” (Heslep, Interview 2018). To this end, the *Hackspace* initiative, which Heslep runs, aims to fill in these gaps by providing a variety of digital literacy workshops to young people across NWT communities, demystifying computing and digital technology.

Significantly, these workshops cannot be one-offs, as fostering capacity requires sustained community engagement and relationship-building. The following year, in fact, WAMP, the NWT Métis Languages Program and Byrne collaborated again to run the workshops a second time. Many of the participants returned, and, according to Byrne, were much more comfortable making video games, and all participants chose to make video games as their final projects for the 2018 iteration. Of course, games produced is not the only way to measure a workshop’s ‘success.’ Following the 2017 workshop, WAMP and Sanderson also worked together to produce *Trails and Overflow* as a fully-realized, distributable board game, collaborating with northern artists and the workshops participants who designed the original (see Figure 6.5). The English/Cree version will be released and distributed in northern communities in 2021, with plans to release an English/Chipewyan version soon after.

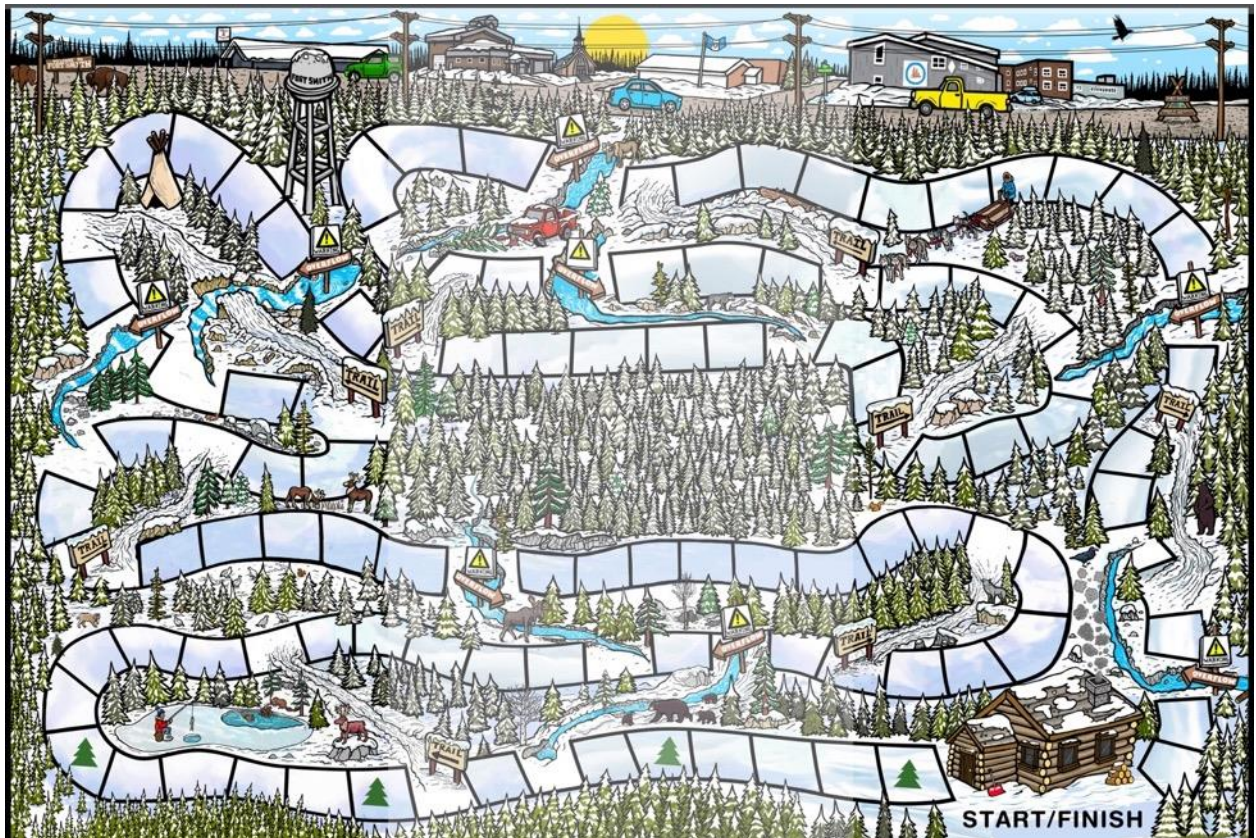


Figure 6.5: 'Trails and Overflow.' WAMP and the NWT Métis Nation Language Program (forthcoming).

6.5 Conclusion: Making and Material Engagement Theory

Developing a video game offers the opportunity for focused conversations around the nature of traditional knowledge and how it might be governed within and shared outside communities. As this chapter has established, game development by and for Indigenous communities often involves the critical process of determining stewardship protocols of traditional knowledge as they apply to digital environments. This may take the form of Indigenous led development on mixed teams, like the making of *Never Alone*, or *Terra/Nova*. It may also mean working to respect the specific protocols of a community, like in the making of *Honour Water* or *Tipi Kaga*, or collaboratively between Nations, as the development of *When Rivers Were Trails* facilitated. It often seeks to facilitate skill-sharing and capacity-building, increasing local digital literacy and opportunities for

Indigenous youth and creatives. Crucially, it almost always means learning how, often through trial-and-error and failure, to foster self-and-community determined practices and protocols towards specific game development processes.

As I will argue in the following chapter on traditional knowledge, these processes of trial-and-error and failure are ultimately reciprocal, mediated through relationships between the individual or group, the knowledge, and materials and environments—both “real” and virtual. Malafouris’s material engagement theory (MET) presents a poignant framework for the consideration of these relationships. As Malafouris contends, thought is not confined to the mind, but rather extends outwards through material engagement, suggesting that humans “think through things, in action” (Malafouris 2004, 58). MET seeks to bridge cognition and culture through “thinging”—that is, the “modes of cognitive life instantiated in acts of thinking and feeling *with, through, and about* things” (Malafouris 2018, 764).

So too, according to this approach, do things interact with humans through a “decentralized” process, asserting, as Malafouris claims, “material agency.” Material agency asserts that, as much as humans interact with things as an extension of consciousness, things, too, interact back. Using the example of a clay vase, Malafouris explains that making this vase is not a unidirectional action, with solely the potter affecting change on the clay, but rather, “the material engagement approach has a decentralized view of the process, according to which the vase has used the potter’s muscles and skills to bring about its final form.” As Malafouris continues, central to “material engagement approach” is the decentralized space “where brain, body, clay, and wheel conflate.” (Malafouris 2018, 765). Objects teach humans how to interact with them,

informing human thought and action. ‘Making’ can therefore be understood a reciprocal act, in which both “maker” and “made” have agency and participate equally in processes of becoming.

To apply this framework to the context of game design, this cognitive process is a conflation of the body and mind of the game developer(s), the computer’s mouse, the keyboard’s keys, the computer’s interface, the code, down to its binary skeleton. Like the vase uses the muscles and skills of the potter to bring render its complete form, digital worlds and video games inform the process of their making. The inherent failure-based and trial-and-error processes of game making are co-developed by maker and material; the maker (developer) coming to better understand the materials (“real” and virtual) with which they are working, the materials teaching the makers how they should be interacted with, thus decentralizing the agency of the maker, and instead creating a process that is reciprocal.

In this light, MET provides a poignant retrospective glance back on this chapter about making, and an effective jumping off point for the following chapter, which considers the ways in which traditional knowledge both informs and is informed by digital processes and environments, in the development of what I have termed *tradigital knowledge*.

Chapter 7

TRADIGITAL KNOWLEDGE

The previous two chapters have introduced the diverse forms that Indigenous video games and Indigenously determined game development can take. This chapter will consider instances of what I am calling *tradigital* knowledge — that is, traditional knowledge in and of digital environments. It will consider traditional knowledge as embedded in game worlds and expressed through mechanics, content, and narrative; traditional knowledge as it informs and is informed by video game development; and traditional knowledge as enacted through the act of gameplay.

This chapter is structured in five parts to clearly address the specificities of each. The first section will expand the understanding of traditional knowledge as introduced in Chapters 2 and 3 of this thesis, adding insights from interviews to be developed throughout the chapter. The section following will address traditional knowledge within the video games themselves, drawing on the game content introduced in Chapter 5. From there, Section 3 will discuss game development, outlined in the previous chapter, as fostering specific processes and knowledges in and of digital environments. Section 4 will then discuss the act of playing a game as a reciprocal process, with the potential to “engage” or “activate” the teachings embedded in a video game, bringing them to life. The final section will argue that these various and overlapping ‘stages’ of traditional knowledges work in concert to generate traditional knowledges which are not cheapened or made less authentic by digitization, but rather, are born digital — what I have here termed *tradigital* knowledge. Drawing on the material covered in Part I of this thesis, this chapter hopes to expand the

discussion on the nature of traditional knowledges, here privileging the insights of interviewees.

7.1 Traditional Knowledge

Traditional knowledge, agreed nearly everyone I spoke with, cannot exactly be defined. A ‘starter pack’ description of traditional knowledge, broadly speaking, is intergenerational knowledge that holds a core set of culturally specific values which remain consistent, while the means of transmitting the knowledge shift to accommodate the burgeoning realities facing coming generations. These values are manifested through specific processes, which are often governed by related protocols. The values, processes, and protocols, broadly speaking, can be understood as interrelated and reciprocal, informing and transforming one another, and together comprise what is generally referred to as ‘traditional knowledge.’ To get away from the language of ‘definition,’ I began to ask the many game developers, storytellers, artists and knowledge holders I spoke with for this research, how they would explain traditional knowledge to someone else, in their words. The following section is based on their answers and seeks to provide a foundational understanding of traditional knowledge to be further developed throughout the chapter.

Ashlee Bird offered an expansive explanation for how traditional knowledge could be understood as “anything that is culturally relevant and impactful in the way we as a group of people live our lives, and the way we interact with the world and experience the world and understand the world.” She shared that it was something that could be “exercised in a variety of forms (...) song, language, storytelling, even traditional activities like dancing or hunting or sewing or beading, jewelry-making,” but cautioned that, ultimately, “I don’t

know that there's a definition and I think that's kind of the point.” Furthermore, stated Bird, traditional knowledge is lived experience that grows with a people, and can take many forms:

I tend to stay away from the idea that traditional knowledge is relegated to the past. That tends to be something that I disagree with and I think that *we* are traditional knowledge. Our bodies, our lived bodies, the way we experience the world, the way that we express our knowledge. (...) There are a lot of ways that takes shape in the world (Bird, Interview 2017a).

The quality of knowledge of survival and of the landscape was also raised. Vance Sanderson, the manager of the NWT Métis Languages Program shared that, “traditional knowledge is something you use every day,” and that “there is no way to define it. It’s just living it.” For Sanderson, this has everything to do with understanding the environment and how to survive within in, “Traditional knowledge is survival, living on the land, learning your environment, passing down those skills, that knowledge. Being able to live out in an area where you need certain skills and knowledge to survive” (Sanderson, Interview 2017).

Traditional knowledge is not necessarily external to the people with which it belongs; rather, as many pointed to, people also belong to knowledge, living or enacting that knowledge, carrying it with them. Traditional knowledge is embodied knowledge, as many interviewees underscored, and is enacted how you live your life. According to Mary Cardinal, “traditional knowledge is my lifestyle. How I was brought up, where I came from, my background. Everything. Traditional knowledge is more than anything,” and the forms it can take include “language, medicine, your lifestyle” (Cardinal, Interview 2017). Traditional knowledge does not require a discernable expression, but rather, is lived and is carried on in one’s actions, mundane or otherwise.

Many also stressed the relationship between traditional knowledge, language, and oral tradition. Knowledge and language are inextricably and reciprocally connected. Entire worldviews and values are embodied a language, and therefore, the language with which a knowledge is communicated informs and transforms the nature of the knowledge. As Allen Turner explained, “the very language you use to describe things affects how those things are being perceived. Our language is part of the knowledge and part of how we perceive things. As our languages disappear, our way of interacting with the world disappears with it” (Turner, Interview 2017). The very language within which knowledge is carried, and the related modalities of transmission, are significant to the understanding the very state of that knowledge.

Echoing the importance of oral transmission of traditional knowledge, Petersen offered the following explanation, although he stressed that this is condensed, and limited to his experience, “Traditional knowledge for me, as a Lakota person, is the understanding of facts through an oral tradition, through stories and the foundation of our culture informing how I make decisions in the world, with respect for Nature and everything that exists.” Petersen stressed that the oral transmission of knowledge as significant to understanding the knowledge itself, “my culture is an oral tradition, and so traditional knowledge does come with all the stories and ways of thinking about the world.” Petersen continued, emphasizing the relationship between language and culture, “Our entire language is based on verb tense, with verbs being very powerful actions, very powerful” (Petersen, Interview 2019b).

The knowledge that is carried through a language and story relates to knowing how to live, how to survive, “Our stories, our language, they show that, and they inform how we

deal with sickness, with starvation, with surviving on a day-to-day basis, but also how we view our history and individuals in our society.” Understanding the specifics of this is necessarily complicated and nuanced. Put simply, the “how” of traditional knowledge is as significant as the “what” of traditional knowledge. As Petersen explains, this is “because it’s a verb-tensed culture, it’s not that you know something, it’s that you know how to do something” (Petersen, Interview 2019b). This understanding of traditional knowledge as process and not product is important to understanding how this informs and manifests in digital environments.

Like Sanderson and Cardinal emphasized, Kahentawaks Tiewishaw-Poirier states that traditional knowledge is the specific knowledge that a People has of the land and their environment, as developed and passed on over time. Traditional knowledge, says Tiewishaw-Poirier, is knowledge of your history and land as inextricably linked:

I would explain traditional knowledge as being a little bit of your history, like the history of your people, and also the history of the land that you're living on. It's hard to explain. It's a mix of the two because there's knowing about your family history and your people's history and everything that's happened to them, but also recognizing the history of the land, and how it's changed, and how we've impacted the land (Tiewishaw-Poirier, Interview 2020).

Because, according to Tiewishaw-Poirier, traditional knowledge is the distinctive knowledge of the history of a people and the land that they know (and that in turn, knows them), this knowledge is necessarily specific, and attempts to lump all Indigenous Nations and their respective knowledges into the same category is problematic:

It’s incredibly specific to different nations and territories. It's a big problem, I think, that there's this pan-Indigenous thing, traditional knowledge, like all Indians know all this stuff (...) A lot of our culture is based on where we were living and what happened at that time. That's

what I would say traditional knowledge is (Tiewishaw-Poirier, Interview 2020).

Unsurprisingly, nearly everyone identified the act or motion of being passed on and received as an essential quality of traditional knowledge; traditional knowledge has a lineage. Bri Alexander spoke of systems of belief that one generation gives to the next generation, regardless of how long the former generation has had this knowledge, describing traditional knowledge as “systems of the world, of the community, of the self. (...) Belief systems that are passed from one generation to the next. I'm not even going to put a time limit on it, because if my dad were to tell me something, I'd be like, “Ah, yes. That's traditional knowledge” (Alexander, Interview 2019).

As Scott Benisinaabanden shared, “traditional knowledge is something that’s been passed down in a certain way, with “the gravitas of ‘this has been passed down’” and continued that

If you listen to Elders speak, they'll always start off with, “This isn't my knowledge, this is something I was told.” I think that's kind of a call-sign of traditional knowledge — being told. You didn't make it up. (...) You're not there to add to it, you're there to pass on what you heard. And inevitably, those things shift and change on the fringes over time, but the bulk and the fundamentals of those stories stay the same. (Benisinaabanden, Interview 2015).

That knowledge grows and changes with Peoples as they adapt and change with their realities while maintain a constant core is another quality of traditional knowledge that many people spoke to. This is tied to identity and mediated through relationships, as Longboat shared, “I've had to do a lot of learning and un-learning about what Indigeneity is. I think it is being an active participant and in relation with Indigenous community, and that community also reciprocating with you and claiming you as some of them. I see that

traditional knowledge being communicated through those relationships” (Longboat, Interview 2019).

This relational, intergenerational quality was echoed by Amy Fredeen, who offered the following explanation of traditional knowledge:

Traditional knowledge is that knowledge that our elders or our parents feel is important to give us to succeed, in whatever age we live in. I think that traditional knowledge changes over time, as does the method of communication. (...) At the heart of traditional knowledge is values, but it's how those values inform how we operate, and how we live, and how we make connections with each other (Fredeen, Interview 2018).

Traditional knowledge can therefore be understood as the knowledge itself, but also the protocols that govern knowledge and the means by which knowledges are communicated and passed on, as they inform one another in an interrelated knowledge ecosystem. As Fredeen argues, the lineage of values that matter to a People are maintained and remain consistent, while the means for the expressing of those values changes to respond to the material realities of each generation, changing with the community and with the world. LaPensée emphasized that “tradition is actually malleable and ever-changing,” and that “tradition is constant change, and looking to, I believe, the stories and the core teachings as they are, being passed on through the generations” (LaPensée, Interview 2016).

Most interviewees also emphasized that their understanding of traditional knowledge was specific to their Nation and to their experiences, and that it was not possible to establish an umbrella definition of traditional knowledge that would accurately represent its significance to all communities and Nations. No one I spoke with necessarily contradicted the legal definitions introduced in Chapter 2, but rather, added to them, and stressed that traditional knowledge was beyond any one definition, description, or

expression. The qualities of traditional knowledge introduced above — of being passed on intergenerationally, of embodying a core set of values which are made known through specific processes, and the malleability of these processes — forms the basic sketch of traditional knowledge that will be further expanded throughout this chapter.

7.2 Game Worlds

Many Indigenous video games readily and recognizably represent, embody or express traditional knowledge. The in-game environment can contain representations of traditional structures — the longhouses in *Skins 3.0*, or a tipi on the Great Plains in *Tipi Kaga*. Video games can encourage players to learn Indigenous science, like in *Coyote Quest*. The audio and visuals available in video games can be drawn on to share songs, like the Anishinaabemowin Water Songs in *Honour Water*, or those in Inuktitut, Gwich'in, Anishinaabemowin, Cree, and Chipewyan in *Singuistics*. Indigenous languages are often communicated through games — Abenaki in Ashlee Bird's *Super Marios Bros. ROMhack*, Blackfoot in USAY's *Ksiistsikom*, Lakota accompanying tipi-building in *Tipi Kaga*, Kanien'kéha in the interactive storybook *Karihonniennihtshera* (2019), Anishinaabe in *Mikan* (2017), or Jalagi in *BLOOM* (2019). The clothing Skahìòn:hati wears in the *Skins* series, or the dilasulos Taline Adsile wishes to make for Meli in *BLOOM*. Traditional tools and objects can be used by players to help them complete an objective or quest — Nuna's bola in *Never Alone*, Skahìòn:hati's tomahawk and lacrosse stick in *Skins 1.0-3.0*, or Ienién:te's smudge bowl in *Skins 4.0*. The animated scrimshaw cutscenes in *Never Alone*, and the telling of the Kunuuksaayuka story (see Figure 7.1). These all meet the basic 'requirements' for traditional knowledge and are present in a digital environment.

While this demonstrates that many forms of traditional knowledge can be present, or at least represented, in digital contexts, I am more interested in the specific opportunities offered by video games that make them particularly suitable environments for holding these knowledges. In other words, why video games?



Figure 7.1: *Scrimshaw cutscene, in 'Never Alone.' Upper One Games 2014.*

Many of the people I spoke with for this thesis choose to work in video games because of their potential to hold knowledges and activate them in media-specific ways. As LaPensée shared, “Games, for me, are a way in which to portray teachings and stories through art, code, design, and audio” (LaPensée, Interview 2019). When a game is made with a good intent, or in such a way that upholds traditional protocols and values, when care has been taken to ensure only appropriate forms of knowledge are shared in this context, video games can ‘extend’ or ‘evolve’ the contexts for traditional knowledges. Many video games are made with storytelling in mind. This, according to Lewis, does not necessarily change the stories themselves, but rather, evolves the ‘story space.’ As Lewis explained regarding *Skins 1.0-4.0*, these games are “not necessarily taking that story and evolving it into the

next iteration of that story, but they're evolving the story space, they're evolving the cultural space, the myth space, however you want to say it, and adding things to it. The storytellers tend to be excited about that" (Lewis, Interview 2015).

Certainly, as I discussed in Chapter 3, video games can be interactive spaces of narrative. This can mean the re-mediation of existing stories, like in *Ksiistsikom* and the Kunuuksaayuka story in *Never Alone*. Games can also invite players to participate in the narrative of a prophecy fulfilled, like in *Thunderbird Strike*. But what was more for those I interviewed, was the immersion that video games enabled in order to bring players into the story space as active participants. The immersive quality of video games was often cited as an advantage for the telling of stories and passing on teachings. As Ashlee Bird argued, video games bring players into an action-based space, allowing them to actively engage with knowledge:

there are things you could learn about a culture through a game that is going to be a better teacher for you than any other source you might interact with that's trying to teach you about that culture, because it forces you to participate. (...) Reading, or watching a film, is not an action-based relationship. I think there are lessons and there are levels of understanding that can be cultivated from playing a game that you can't get anywhere else (Bird, Interview 2017a).

The immersive environment of a game allows someone to connect directly and enact their values within the space of a game, recalling Petersen's description of traditional knowledge as 'powerful actions.' This quality is why the teachings of interconnection in *Karihonniennihtshera* were best suited to a video game, according to Tiewishaw-Poirier, citing interactivity as a means to reinforce the knowledge of "the spirituality and the connection with Nature." She continued that video games

have that power to really immerse you in whatever it is the game is trying to say. It has an *affect*. It'll make you feel something. And that's what it's going to take for people to really understand Indigenous knowledge and land-based knowledge. There's a connection there that people just don't understand, and hopefully video games will be a way for them to be totally immersed in everything you're trying to get across (Tiewishaw-Poirier, Interview 2020).

Of course, video games come in different shapes and sizes, and so this immersion can be inspired in various ways, depending on the genre selected, such as role-playing, action and adventure, or simulation, and the player's placement in relation to the game world, such as first or third person. Play is essentially experiential and action-based (Giddings 2009), and the perspective from which a game is played can be reflective of traditional positionalities and relationships with the world. The first-person position in which *Tipi Kaga* is structured, for example, was chosen to convey the position of relationality to the surrounding environment. "The game is played very much from an observational standpoint," shared Petersen. "You have an active role in the world, but you're not the driving force of the world as the player (...) It's not totally centered around the player character or the idea of humanity being the center of the universe." This 'observational standpoint,' explained Petersen, mirrored position someone would learn tipi-building in community; through observation and trial and error, rather than as guided, step-by-step lesson (Petersen, Interview 2019b).

The varying levels of interactivity in which various genres of video games engage players make them suitable for many forms of knowledge. The primary focus of *BLOOM* is to teach language as embedded in a culturally specific interactions through relationships with non-player characters; Meli's closest relations. The RPG genre, according to Alexander, "solves all of our issues for reclamation work, where we're disconnecting language and

culture. (...) It is fun, it is interactive. (...) The RPG really allows cultural knowledge and context to come up naturally” (Alexander, Interview 2019).

Flack and Alexander sought to create a structure within the general RPG format that would also be reflective of the ‘paths’ — or processes — of traditional knowledge, and the relationships that structure them. “When I think of traditional knowledge,” said Alexander, “I think of loops and circles, like spirals. I think of something that is being taken from here and given here, and language is something that follows that path” (Alexander, Interview 2019). Certainly, the initial quest that the player undertakes follows this path as well, in which quest items are acquired through strengthening relationships and gifting, and ultimately, returning to where the quest begins, completing the loop. These actions are guided through those character interactions, which as Flack shared, meant that BLOOM could move away from unidirectional learning and towards the structure of reciprocal exchange and responsibility. BLOOM, “is not just learning and language, but being in the community,” Flack emphasized. “Through the dialogues, the character has particular responsibilities, even if it's little things like, ‘I'm coming here to ask for something so I'm bringing something.’ Or, ‘I'm helping them with something.’ (...) It points you to some of those value systems” (Flack, Interview 2020a). BLOOM therefore facilitates not only learning the Jalagi language and protocols, but reinforces the ‘paths’ of traditional knowledge by sharing language and lessons through relationality and responsibility within the game.

Video games have the potential to ‘enact’ knowledge, or encourage action, within the game’s environment. As Allen Turner explained, “There's a culture built in the actual actions that you're making. A game ultimately is about the kind of actions you get to take.

The actions you get to take to find that culture, and that confirm a particular culture” (Turner, Interview 2017). A game’s mechanics can be designed to support culturally specific in-game actions and take the in-game representation of traditional knowledges and imbue them with functionality. As Byrne distinguished, video games can mobilize what might otherwise be passive or static, “trappings” of culture, instilling them with function, explaining this difference between form and function as the difference between “a rug you put on your wall” and “the floor of your house” (Byrne, Interview 2017a).

Consider, for example, the extension of the function of smudging in *Ieníén:te and the Peacemaker’s Wampum*. Smudging, outside of the space of the game, is traditional knowledge, and its function has been extended within the space of the game, as a continuation of its function and significance outside the game. After finding her Tóta’s medicine bundle, Ieníén:te smudges and is visited by the Okwa:rí from her dreams. With his guidance, Ieníén:te learns that smudging can protect her by concealing her from the guards. It also allows her to purify the spirits, and return them to their resting places or release them from Sneaks’ influence. Broadly speaking, the mechanics here are invisibility and transformation, but are imbued with cultural specificity through the Okwa:rí’s teachings, and Ieníén:te’s use of the smudge bowl.



Figure 7.2: *Ienién:te Smudges the Ghosts to free them, in 'Skins 4.0.' Skins Collective and AbTeC 2013.*

The extension of the function of traditional knowledge within the space of a game need not necessarily be carried out through a character's actions. Consider, for example, the use of scrimshaw in *Never Alone*. As the Cultural Insight videos relate, scrimshaw are carvings in engraved in bone, teeth, and baleen, which serve to tell a story. In *Never Alone*, scrimshaw carving patterns and styles are transmeditated through the cutscenes, which support the narrative of the game, an extension of scrimshaw's storytelling function and an 'evolution' of the story space.

Game mechanics lend themselves well to teaching, as the player learns through actively participating in the knowledge, as opposed to witnessing it passively. The mechanics are, for many, why they chose to work in video games. "I work in games," shared LaPensée,

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“because you can have audio, and you can code-in mechanics that are expressing, potentially, Indigenous teachings. For example, a game where Gratitude is actually built-in as a function. How does that change the gameplay? Or Generosity?” (LaPensée, Interview 2016).

Teachings can be embedded directly into a game’s mechanics. Take, for example, the suite of mini games in *Gathering Native Foods*. The mini games invite the player to dig for clams, pick blackberries, and catch salmon in preparation for a feast. As LaPensée explained, the player is told at the beginning of the Salmon Catching how many salmon they are to catch. The player must cast a net in the river and move it strategically to gather the correct number of salmon, which are swimming down the river in groups of varying numbers. Unlike other resource-gathering games, like *Harvest Moon* (1996-) or *Animal Crossing* (2001-), in *Gathering Native Foods*, “if you overtake, you actually lose the game,” LaPensée shared. This was designed to “facilitate an experience where the player was not just 'click click click, take take take take,' because it creates that mentally, or that motion, or that movement of: take take, grab grab, where it's just about grabbing, endlessly, without any kind of real thought about how that would affect the next cycle of salmon coming through” (LaPensée, Interview 2016). These mechanics, of encouraging actions based on limitation, reinforce teachings of “stewardship, or just simply thinking of the next generation,” said LaPensée. “It activates the Seven Generations teaching or generational thinking,” which LaPensée described as “We must always be thinking of those who come after us as well as those who come before us” (LaPensée, Interview 2016).



Figure 7.3: Salmon Catching Mini Game, in 'Gathering Native Foods.' LaPensée 2014.

Mechanics of limitation, balance, generosity, and respect are present in many of the games considered by this thesis. These teachings are mediated through the hidden honour system in *When Rivers Were Trails*, or by the protocols players must adhere to in the mini games that feature in *On the Path of the Elders*. For example, the hunting mini game in the latter requires players to act with respect and follow protocol, lest they lose the game. Before beginning the hunt, the player is instructed by their in-game parents and grandparents how they are to hunt and how the “rewards” of the hunt should be shared. After arriving at Okemauu Tcistu’s camp on a neighbouring territory, the player must ask permission before hunting. Okemauu permits the player to take one bull moose. Hunting without permission, overtaking or taking a pregnant cow will result in a loss. The player will need to try again, this time ensuring their actions are respectful, that protocol is followed, and that they do not take more than they need. The game, through the guiding character of Chief Moonias, reminds the player that they need to act in accordance with protocol, and ensure their actions “respect all life.”

Teachings of interdependence and relationality can be reinforced through gameplay, as the final levels of *Wanisinowin* and *Terra/Nova* are designed to facilitate. Interdependence is the foundational mechanic in *Never Alone*, and was, for Fredeen, the most significant teaching in the game. “The most important lesson is that, even as strong or as resilient as you are as an individual, having someone you can work with and rely on is critical.” *Never Alone*’s mechanics are all governed through cooperative play from the moment Nuna and Fox meet. As Fredeen continued,

The gameplay itself is based on interdependence. You cannot make your way through the game and succeed without either playing with someone who’s playing the other characters, or toggling between the two characters (...) Each character, just like in the traditional village, has special gifts and abilities. (...) in order for the two to succeed — but in the traditional sense, for the village to succeed — all of those abilities have to be recognized and utilized. That was a big piece of our traditional knowledge (Fredeen, Interview 2018).

Action and knowledge are often reciprocally reinforced and can be informed by game content. In *Never Alone*, gameplay is informed by the storyteller, the cutscenes, and significantly, and by the Cultural Insight videos, which are then reinforced through the game’s puzzles and mechanics. As Fredeen shared, “you don’t just go out and so stuff without understanding. Those cultural insights were a way for us to reinforce what we do in our learning paths.” Just as the players meet the Spirit Helpers for the first time, they unlock the Cultural Insight video, *Sila has a Soul*, in which Sílá is described by Jana (Pausauraq) as, “the interaction you have with the air you breath, the ocean you gather resources from, the rivers from which you gather fish, the tundra from which you pick berries.”



Figure 7.4: Nuna and Fox interact with the Spirit Helpers, in 'Never Alone.' Upper One Games 2014.

The knowledge of this interaction is then reinforced through the game's mechanics. "One of the richest discussions we had was around the mechanic of the Spirit Helpers," shared Fredeen. During game design, while initially determining how "spirit helpers could show themselves in the game," the player at first summoned them by pressing 'X.' However, as Fredeen explained, "that's not at all our connection to the world around us. It's not that we call upon the spirits for help. They come to us when they feel that we need help." To better reflect this relationship (Figure 7.4), it was determined that "the mechanic of an interaction with the spirit helpers was not one where you called upon them, but that you moved towards them so they moved towards you, creating that connection" (Fredeen, Interview 2018).

All of these actions, of course, are carried out in support of — and guided by — the game's ludonarrative, which itself is based on the Kunuuksaayuka story. Mechanics, narrative,

content, and character function in support of the same teachings. In this way, as some interviewees highlighted, video games are akin to oral tradition. Emphasizing the capacity that games have to connect through mechanics, Byrne noted how this connection is reflective of the practice of storytelling:

What are your mechanics? How do they work? Does the player even enjoy them? (...) It's all about: are you connecting with the audience? It's the same thing with storytelling. It's not about you telling the story. It's about you connecting with your audience hearing the story (Byrne, Interview 2017).

A similar perspective permeates the world of *Terra/Nova*. As Ray Caplin shared, his design sought to recognize and imbue the in-game Earth with agency. In this far distant future, he shared, “Nature has adapted and changed in a certain way (and) has its own sense of agency.” Caplin discussed the relationship between the agencies of the characters as they developed concurrently with those of Earth. “The characters, they have agency, the humans. But then, Environment also has agency as well. (...) There's this interesting dynamic where, because the people living on the planet grew up with these plants, they're immune to the toxins that this plant gives out.” By designing *Terra/Nova*'s Nature with agency, Caplin reflected his own understandings of reciprocal relationality, whereby the land acts upon the characters, and the characters act upon the land (Caplin, Interview 2019).

This section has established that, at the first level, traditional knowledges can be held within or reflect by the digital environment of a video game. Furthermore, however, video games embody qualities of interactivity and immersion that make them uniquely suitable contexts for those knowledges. The following sections seek to expand this understanding of traditional knowledges in and of digital spaces by explaining how traditional

knowledges inform the game development process, and how in turn, the context of game development contributes to the body of traditional knowledge.

7.3 Making Games

As Carey Flack reasoned, “It’s not just *what* we do to create things we build, but *how* we build it and *how* we interact” (Flack, Interview 2020a). Traditional knowledge informs and is transformed by the processes of Indigenously determined game design. This section seeks to particularize the understanding of traditional knowledge as it is applied and developed through the making of video games. It will draw on the information presented in Chapter 6, to more specifically discuss not only how traditional knowledges and protocol guide the game-making process, but how, through intentional game design, can be generated as a result of these processes. As Longboat shared, “You wouldn’t think of game design as Indigenous knowledge, but there are ways to communicate Indigenous modes of thinking and ideas through the medium of game design and game creation” (Longboat, Interview 2019). This section discusses these processes.

At the first level, making a game can be understood simply as providing additional contexts within which traditional knowledge can be shared and discussed. It can prompt a community to come together for the purposes of the project and encourage intergenerational gatherings, in which connections are forged through storytelling and knowledge sharing. As the Skins Video Game workshops illustrate, sharing knowledge can be built directly into the curriculum. Not only are stories told in-community at the beginning of the workshops, but the workshop itself is dedicated to the telling and re-telling of these stories as they are remediated as video games. LaPensée, who helped develop the award-winning curriculum for the Skins Video Game workshops, says that

incorporating storytelling into the process game-making can be reflective of the reciprocal, long form that storytelling can take:

The stories can be told over a few minutes, a few hours, days, months, years, lifetimes. They're also intended to be revisited, and you're intended to get something different out of them potentially, depending on your perspective and how you are in your life. (...) Those aspects of traditional storytelling can definitely inform game design (LaPensée, Interview 2016).

"Storytelling is such a big part of Indigenous communities," shared Longboat, who worked as a mentor in the latest *Skins* workshop in Hawaii. "It's how we generate, but then also archive, traditional knowledge." Just as Lewis argued that video games can 'evolve' the story space, making a video game can function as an extension of the practice of storytelling. "A story can be anything in most cases," shared Longboat, and continued that

For the *Skins* workshops it's pretty clear because when we create, as a workshop, when we go to create a game with Indigenous participants, we start with storytelling. We start with that story telling portion and we let the game narrative, that's created through those workshops, grow throughout that first week. Then, the rest of the workshop is about learning the tools, and it's about taking that story that was birthed, and creating something new in this digital format (Longboat, Interview 2019).

In engaging with community to understand how to evolve the spaces for traditional knowledge in digital contexts, critical discussions around the protocols for those spaces are also necessitated. In other words, the act of re-mediating traditional knowledges in digital environments often also generates the need for communities to develop protocols to govern these processes. The making of *Never Alone*, for example, created the opportunity for the community to uphold, negotiate, and, in the case of the tailored contracts, create new protocols and practices for passing on traditional knowledges in

the context of a video game. The very process of making *Never Alone* forged many connections within and between communities, facilitating “a network of support” for the game that echoed “traditional support systems (...) in rural Alaska,” shared Fredeen. Traditional knowledge played an integral part of the development of the game, especially with regards to enacting the values of interdependence, she continued: “basing the entire development process on the value on interdependence helped put us off on the right foot to make sure we honored our traditional knowledge and incorporated it” (Fredeen, Interview 2018). Recognizing interdependence and implementing it through game development, as structured by the relationships forged between community, cultural ambassadors, and the CITC, created a foundation upon which those same values of interdependence could be communicated honestly within the game, by embracing them in the game’s development.

The process of game making can follow the structures, or ‘paths’ to use Alexander’s description, that support and govern traditional knowledge. While the making of *Tipi Kaga* was largely self-directed, it also involved critical feedback from fellow community members, which Petersen then sought to incorporate. As he described, “Lakota culture is very much about everyone working together to do something, and nobody really being an authoritative leader or a dictator. That’s not something that exists in our culture.” This understanding helped to shape Petersen’s game making protocol, which, unlike the top-down structures in the mainstream video game development, sought instead to uphold a “democratic process” with “everybody working together.” For Petersen, making *Tipi Kaga* was about “honouring those people’s contributions by titling them, by crediting them, and then by paying them fairly. That’s very much something that’s important to me and my

process.” Far from calls for ‘consultation’ which ‘pays’ through ‘exposure,’ Petersen insisted, “I’m not going to make a game if I can’t pay people” (Petersen, Interview 2019b).

Traditional knowledge can be recognized and upheld in the decisions game developers make throughout the game development process, however imperceptible in the final game. While making *Thunderbird Strike*, LaPensée made an unannounced visit to Fort MacMurray in Alberta, Canada, and the Syncrude Company. There, she witnessed and photographed the environmental devastation wrought by the oil industry, including a “yellow toxic cloud above the Syncrude Company structure,” buzzing with lightning. The photos LaPensée took then informed the game design. As she shared, “the waters are portrayed from photos that I’ve taken (...) The materials are very real, then. They are location-based. They are grounded in those spaces. So, there’s that aspect of the protocol, that’s respect for the land, respect for the waters.” Just as LaPensée sought guidance for sharing the Water Songs from *Honour Water*, she shared that she also sought guidance from elders and storytellers regarding the Anishinaabe prophecy of the Black Snake as she made *Thunderbird Strike*, to ensure that the teachings from the prophecy were appropriate to “be passed on through a game” (LaPensée, Interview 2019).

Ensuring that teachings, representations, and histories are passed on in such a way that honours them and does not unintentionally harm those who hold and care for those knowledges, those who receive knowledge, or the knowledge itself, was a concern most game developers raised. As LaPensée discussed regarding the making of *When Rivers Were Trails*, “there was a lot of processing that had to happen through this game because 1890 was a really tumultuous time,” sharing that many of the writers expressed how painful it was to write about the atrocities of land theft and forced relocations. The

making of *WRWT* then became not just about what to represent, but “how do you write about this in a way that is going to be empowering, and not just really down and out? What are the ups that we can focus on?” In response to this concern, many writers asked their communities for support and guidance, and because this was a participatory game for middle school classrooms, it was determined “we’re not going to include rape, we’re not going to include the extreme violences that would have happened.” Instead, *WRWT* focuses on historical accounts, family stories, and interpersonal interactions to bring the player into a safe yet empathy-driven learning environment (LaPensée, Interview 2019).

Working with and between communities to ensure protocols are followed can and does inform the game-making process for many of the games discussed in this thesis. Just as *Terra/Nova* was a means by which Longboat sought to understand what it means to direct Indigenously determined game design, making video games can be an exercise in learning how to understand, apply and nurture traditional knowledges and their protocols in response to digital environments. Coming together as a community necessitated by the making of *Never Alone* or various video game workshops, creates the context through which participants can contribute their unique skills and perspectives, and engage critically and intergenerationally with traditional knowledge.

The simple act of being together as a community with shared history, values, and a sense of identity, even within the passing context of a video game workshop, can facilitate knowledge-sharing. As Cardinal explained, bringing the community together facilitated learning through connection during the Fort Smith workshop. “We need community involvement here,” she urged. “I think a lot of others want to come and sit and learn. Just like what we did. (...) I think the best way to get things out is learning in a small circle,

have your own set up somewhere, and make people come there. (...) I think a lot of kids would come out and do that. Get whoever wants to come and get involved. I think that would be more fun” (Cardinal, Interview 2017).

The key to learning in the Fort Smith workshop was the experiential process of trial and error. As I discussed in the previous chapter, the guiding pedagogical principles of the Fort Smith work was that of productive failure. The workshop provided the opportunity for participants to try their hand with new concepts, methods, and technologies — and fail. This was not only to alleviate the pressure of perfection, but to help cultivate the knowledges of those processes. “Failure is super important for knowledge,” related Byrne. “You can't just learn things and get it. Nobody does that.” As Byrne emphasized,

Knowledge is something that you can transmit. If you can't transmit, it's not knowledge. (...) Being able to just do something is an ability. Being able to explain how to do it is knowledge (...) I think for everybody, it's how we build. This idea of standing on the shoulders of giants, that's how we grow in knowledge. Taking old knowledge, applying it, learning, and then creating new knowledge and then passing that on (Byrne, Interview 2018).

Making a video game can be simply about the act of making, failing, learning, and trying again. In other words, the act of making a game is not always about the product, but about the process, the cultivation of knowledge in and of emerging materials and environments. Although *BLOOM* was indeed developed collaboratively with the Cherokee Nation, Carey Flack expressed a desire to further the lessons she and Alexander learned during game development, to support game making processes that more actively engage community. Flack argued that in order for game making to be of traditional knowledge, community members need to be directly involved in every step, and continued that

I live by the idea that it's not just what we do but how we do it. The journey and the process of becoming is just as important as the end result. So, would I say (the making of *BLOOM*) is the best embodiment of traditional knowledge? No. But I think it was an attempt. It was kind of an experiment, and a way of learning what is the best way and bringing good questions up that someone can learn from (Flack, Interview 2020b).

Failure, as Byrne encourages, or attempting or experimenting, as Flack describes, can generate knowledge of the process. This process can then be informed and structured by protocols which ensure the process upholds core cultural values. As LaPensée explained, traditional knowledge can be understood as the specific processes that activate or render cultural values into being:

When we say traditional knowledge, what I would refer to as the specifics. Plant teachings, or how do we use those medicines? Is it safe to use the root just as much as it is to use the leaf? Do you use the leaf for different purposes than the root? As a tea or as a salve, those kinds of specificities to me are the knowledges. The cultural values are the framing for the ways in which that knowledge is passed on, or is facilitated, or the responsibilities we have to that knowledge (LaPensée, Interview 2019).

These specifics — the “how” of traditional knowledge — are as significant as the “what” of traditional knowledge. Video game development often involves critical decisions around what traditional knowledges should be shared, if any, and how traditional protocol might inform the development process. While existing protocols often informed the making of many of the games described in this thesis, making video games also often encouraged or necessitated the development of practices, processes and protocols in and of video games and digital environments. Just as LaPensée describes, these require specificity: they are media-responsive, and specific to a community. They can even be specific to a family. For example, during the making of *Foxtales* (2015)—the *Never Alone* expansion in which Nuna and Fox adventure through the story of ‘The Two Coastal Brothers’ — the CITC consulted with the Goodwin Brothers, whose family was most

associated with this story. Together, they determined that for the Goodwin family, it was more appropriate that the legal arrangement be made with all surviving children, not just the eldest child as it had been for the Kunuuksaayuka story. As Fredeen shared, “both the families were Inupiaq, but they held their stories in different ways, and we got down to specializing it for the family,” (Fredeen, Interview 2018), demonstrating the importance of flexibility in tailoring these contracts for traditional knowledges, as protocols often requires a great deal of specificity.

Game development can take many forms, whether it be through community collaborations and commissions, independent game design, community-driven video game development workshops, or the making of a Triple A game like *Never Alone*. Game making is an opportunity to engage with and negotiate traditional knowledges and related protocols for digital contexts, and often involves the creation of specific processes for how traditional knowledges should be shared in digital environments, in a manner that upholds and often expands protocol. Increasingly, as traditional knowledge embraces and informs digital media through processes like video game development, new protocols and practices will be developed, contributing to, as I will argue in the final section, the development of *tradigital* knowledge.

7.4 Playing Games

This section will discuss the act of gameplay as a distinct phenomenon that can ‘activate’ game worlds and the knowledges they hold. While a game maker may indeed intend for their games to embody or contain traditional knowledge, the receptivity of the player will determine whether the teachings, languages, and stories live on outside the game world. This section will address the reciprocal qualities of traditional knowledge which make it

difficult to ‘measure’ a game’s ‘success’ in passing on knowledge. Therefore, rather than focus on ‘proof’ that traditional knowledges can be passed on through play, I will focus instead on the concept of play, highlighting instances of play in which feedback was obtained or player interactions observed. The information presented here is based on what interviewees shared about their experiences either playing the game, or observations during playtesting.

Playing a video game can mean participating in traditional knowledge. If gameplay is to be understood as an event (Giddings 2009), then the ‘event of play’ may be especially suitable for living forms of knowledge that exist as they are enacted, carried out, performed, or completed. That is to say, traditional knowledges that are intangible, or require expression through action.¹¹ The act of play in and of itself activates or engages knowledge, just as LaPensée explained regarding *Honour Water*. “By singing these songs,” she shared, “we really are healing the water, and healing ourselves. To me that’s a direct impact, or active impact” (LaPensée, Interview 2016). Indeed, the very act of playing is and has always been a critical part of the generation and growth of knowledge. As Allen Turner explained, “traditional knowledge comes out of some level of play and exploration, right? We are actively building relationships with the world around us.” Play is an opportunity to engage in culture and expand it through play. “We affirm and confirm culture through play,” continued Turner, “all those little bits of play are confirming cultural roles, cultural structures, cultural expectations.” Just as Huizinga (2016)

¹¹ As I will argue in greater detail in the following chapter, actions carried out through gameplay are different in nature than those performed in ‘real-world’ embodied action and therefore cannot replace them. However, as this chapter concludes, play and virtual environments provide specific, virtual contexts within which *tradigital* knowledges may be generated and passed on.

contends, Turner continued that something as simple as a game of chess has a “component of a cultural expectation of why you're doing what you're doing” (Turner, Interview 2017).

As I will discuss in the following chapter, player outreach and interactivity are often key motivators behind game development. Connecting with players is, naturally, the reason many game developers make games. Video games offer not only the opportunity for Indigenously determined representation, but of Indigenously determined mechanics, guiding the players’ in-game actions. “Any moment I have to get an actual Indigenous design perspective into a project,” shared LaPensée, “I’m going to take that opportunity, because it's not about me, it's about the players, it's about getting as many players interacting in Indigenous ways as possible” (LaPensée, Interview 2016).

Interacting in Indigenous ways can take many forms. While the successes of a triple A game like *Never Alone* demonstrates the potential for video games to reach a global audience, the success of a game will cannot always be measured in sales and player reviews. For Fredeen, what was even more encouraging was the reception that *Never Alone* achieved within the communities that the CITC serves. During community playtesting and playing in school after the release of the game, Fredeen noted the immense pride in their culture that she witnessed from the Native kids in classrooms. What is more, she shared, was that, through the act of gameplay, the players of the game were not only listening to the stories, but actively participating in their making:

I think one of the most amazing things that I realized after seeing people play the video game (...) I realized they were the storytellers. They were playing the game and experiencing the role of a storyteller in a new way. And they didn’t realize it either, but I think being able to engage in a story at that level is a new type of storytelling. (...) You create the story as you

go along, but you're still engaged in the total storyline of the Kunuuksaayuka story (Fredeen, Interview 2018).

Who is playing the game is as important as the game being played. As many game developers noted, although a game may be structured to pass on knowledge, this requires a degree of reciprocity between the person giving or gifting and the person receiving knowledge. Video games can enable this reciprocity; as Carey Flack explained it "You interact with the game and the game interacts back with you" (Flack, Interview 2020a). However, this reciprocity also means that learning through games is dependent on the positionality and receptivity of the player; they, too, have a responsibility to engage with the knowledge. "It's not just because you play 'this game,'" shared LaPensée, "you're going to learn something. I try to get away from this idea because there is this idea that "Games can change the world." (...) People choose to change or they choose not to change or if they're listening or not" (LaPensée, Interview 2019). Echoing LaPensée, Byrne emphasized

I don't think there's anything ever that games could do to make or entice players to take personal responsibility of the knowledge that they learned from those games. That is something that only comes from your background, from your sense of ethics or morality. That's not something a game can teach you (Byrne, Interview 2017).

While the intention of a game may be to pass on traditional knowledge, the success of a game in doing so ultimately relies on some degree of reciprocity between the player and the game. As a result, games are necessarily limited, both in terms of what they are able to convey, but also by the players themselves, "I don't think (a game) can teach you everything about a culture, just because it's hard for anything to teach you everything about any particular subject matter or group of people. There are limitations there,"

shared Bird, and continued that “some of those limitations come from the person playing the game, like what are they taking away from it?” (Bird, Interview 2017a).

While teachings may contribute to and be embedded within a video game, LaPensée makes the distinction between sharing a teaching, which a game can do, and the act of teaching itself, which is more nuanced. “‘Teachings’ is like an entity of a thing,” clarified LaPensée. Teachings can inform game making and be embedded in the game environment. However, the ability for a game to pass on these teachings is ultimately dependent on the player’s willingness to engage with the content. As LaPensée continued, “Can games teach? Can they educate? Well, only insofar as the player wants to learn” (LaPensée, Interview 2019).

Assessing receptivity is not only difficult, but contradictory to the relational nature of traditional knowledge. Just as Amy Fredeen stressed that the relationship and trust building that the making of *Never Alone* encouraged could not be a “transaction,” playing games of traditional knowledge cannot be transactional, either. As LaPensée reasoned, “‘teaches’” is perhaps not the correct word to describe what games conveying lessons do. She instead offered the words, ‘facilitate’ or ‘encourage,’ and further elaborated,

I’m trying to lean away from the term ‘teaching’ or ‘education’ because there’s this sort of value system behind it of a transaction of learning: “If you play this game, then you will know these facts or be able to remember the names of these places or remember the names of these people in order to prove you know knowledge about this time period or these people or this story” (LaPensée, Interview 2019).

Thinking of teaching and learning in this ‘transactional’ way, according to LaPensée, is not an appropriate way to understand the movement or transmission of knowledge. Many of the games discussed in thesis, however, are designed to accompany curriculum,

or designed impart knowledge, in various ways. Regarding language-learning goals of *BLOOM*, Alexander discussed how difficult it would be to assess the “success” of a game in teaching the language to a player, as it depends as much on the player as it does on the game. “We were trying to figure out with our first iteration, how to do it,” shared Alexander. “‘How much of the language do they retain?’ But it’s also, ‘how much time has passed? How much time have they put in? How much did they know before they came in?’” (Alexander, Interview 2019). Because of this, the experience of play will be uniquely shaped by the positionality of the player, their predispositions and experiences before play, and their interactions in the game world during each instance of play.

Of the education-oriented games discussed in this thesis, only *When Rivers Were Trails* has data regarding player experience, which I will review briefly. To better understand the impact of *WRWT*, LaPensée and Nicholas Emmons, the Program/Development Officer with the Indian Land Tenure Foundation, partnered with 5th – 10th grade teachers across the United States in a pilot study on “whether the game engages students in Indigenized education, with the goals of deploying the game more widely with a teacher’s guide and of designing future studies.” (LaPensée et al. 2019). Based on the survey results of fifty-one students and four teachers, this study resulted in recommendations for best practices on integrating the game with the Lessons of Our Land Curriculum, the Indigenous history curriculum which the game is designed to accompany. Participating teachers had the option of pairing this game with the Lessons of Our Land Curriculum, or having the students play *WRWT* separately. This study found that while students recalled the facts — the name of specific locations, Nations, historical events — better when *WRWT* was paired with the curriculum, what was constant in both scenarios was the empathic

connection the students made during their in-game experience. As LaPensée shared, students who played the game

can't necessarily name the nation they came across when a particular incident happened or what date it was or when a historical moment unfolded, but they can tell you that people were hungry and that their land was taken from them, and that it shouldn't have been, and that there were interactions that shouldn't have happened, and how it impacted people (LaPensée, Interview 2019).

Playing the game from first-person encourages an empathetic connection to the playable character's experience. "They keep framing their interactions as 'I,'" shared LaPensée. "I came across this person and they were hungry. I gifted them. I couldn't gift them. I had nothing to give, and I felt terrible that I couldn't help them.' Whatever the outcome was for those experiences, they relate to it as an experience that they are having" (LaPensée, Interview 2019). As the study concluded, students who played *WRTW* in addition to the curriculum "retained broader themes regarding the impact of allotment on Native peoples, such as 'lack of food,' as well as cultural practices, such as how 'cutting hair is a sign of loss'" (LaPensée et al. 2019, 84).

Games Acting Back

Because the act of play is ultimately reciprocal, as Ashlee Bird attests, so much of a game's success in imparting a teaching is dependent on the player's existing experiences, which will inform their willingness and ability to interact with a game:

There are limitations in terms of sending any message or trying to create any space with video games. I don't think that has to do with so much of what video games are, as with how games have been trained to read them. The problem is not necessarily with the game itself, it's with the way people read the game, and the way people interact with the game (Bird, Interview 2017a).

Echoing this, LaPensée asked of *WRWT*, “Is it on a game if a player blows through all the character scenarios and they don't actually read anything at all, and they're really just rushing to the hunting game?” (LaPensée, Interview 2019).



Figure 7.5: Player meets their Auntie, in 'When Rivers Were Trails.' LaPensée and the Indian Land Tenure Foundation 2019.

Video games, however, are not without consequence. Mechanics are the actions a player may carry out in the game world, but are constrained by the rules of this world (Sicart 2008). *When Rivers Were Trails*, for example, is designed in such a way that the above-described hasty gameplay yields poor results, and there are consequences for disrespectful or inattentive actions. The game is structured to teach players how they should act to balance their wellbeing and uphold their honour. Early in the game, the player will meet two characters, an Auntie and a Grandmother (see Figure 7.5). As LaPensée summarizes, these characters will remind the players, “you are a visitor in somebody else’s territory, so what’s the protocol for your interaction?” Those who fail to heed the advice given by the Auntie and Grandmother, according to LaPensée’s

observations, quickly die in the game: “They do figure out that they do need to pay attention and read, otherwise, they're going to potentially kill themselves pretty quickly. They actually slow down and pay attention to what they're doing” (LaPensée, Interview 2019).

In *WRWT* the players' choices determine the outcome of the game, beyond ‘win’ or ‘lose,’ as dishonorable actions will alter the storyline and interactions made available as play progresses. A game with limitation, respect, or balance mechanics is structured to encourage certain actions on the part of the player; just as Flack argues that “game(s) interact back,” the player acts upon the game and the game acts back. This interactive process allows players to practice enacting traditional knowledges within the space of a video game, which often teaches what those knowledges are and how to practice them, while simultaneously reinforcing these lessons through in-game consequences. If traditional knowledges can be understood, at least in past, as those specific processes through which values are enacted, this can at the very least be ‘played at’ in video games.

Consider, for example, the in-game consequences on over-fishing or over-hunting in *Gathering Native Foods* and *On the Path of the Elders* (Figure 7.6), respectively. The player can choose to take actions that heed the advice of their family and elders, and enact, however microcosmically, the values of respect, balance, or generational thinking through culturally specific, in-game processes. The experimental and safe space of ‘play’ allows, as Turner emphasized, for the affirmation and confirmation of culture, as the game is structured to act back upon the player's actions. Failure to actualize these values has in-game consequences, however, ‘grandmother mechanics,’ as LaPensée described, allow players to try and fail, and try again, until they are successful. Just as Byrne

encourages, playing is an opportunity for generating knowledge through failure. Although, as Bird argues, it is difficult to teach how to 'read' and interact with games, increasingly, innovative game design allows for gentle, reciprocal instruction to occur in in-game environments (LaPensée, Interview 2016; Byrne, Interview 2018; Bird, Interview 2017a).



Figure 7.6: Hunting Game, in 'On the Path of the Elders.' Mushkegowuk Council

7.5 Addressing the Old and the New

This final section addresses the false binary of the 'old' and the 'new' that initially prompted this thesis. To do so, it will address the division — perceived or otherwise — between the 'old' and 'new,' with particular regard for video games which express

personal and contemporary Indigenous experiences as the emerging traditional knowledge of the future.

Traditional knowledge, as I discussed in Part I of this thesis, is neither old nor new. Rather, as many scholars have elucidated, ‘traditional knowledge’ gestures towards the cultural contexts and protocols within which knowledge is governed and to which it contributes, as part of a system of intergenerational ways of knowing. As Benisinaabanden argued, what is presently considered “traditional” has everything to do with how long a culture or community has had with a materiality, in order to gain knowledge of it and bring it into its existing body of knowledge:

The classification of ‘traditional’ is such a moving line. That’s why I think they use ‘ish’ on stuff. ‘It’s traditonal-ish.’ It’s all comparative. My iPod is more contemporary than my Walkman, so, is that traditional audio equipment? I don’t know where that line in the sand is. (...) For me, it’s really shades of grey on a continuum (Benisinaabanden, Interview 2015).

Comparing a rattle made of turtle shell to one made of any newfound or introduced material, Benisinaabanden shared, “I guess you could say, right now, the other one is more traditional-ish, but maybe in 200 years, the other rattle will be the new traditional. Everything has its time of newness, and I think it’s dangerous to think tradition is ‘oldness’ and contemporary is ‘newness.’” (Benisinaabanden, Interview 2015). Like Benisinaabanden, Amy Fredeen shared that the although the means and materials by and through which traditional knowledges are expressed or communicated shifts in accordance with technology as it develops over time, traditional knowledge maintains a lineage and a core set of values:

I’m the third generation removed from a subsistence lifestyle. My great-grandmother was born in an area with no power or running water, no

phone lines (...). The way she passed down knowledge was through stories and through one-on-one contact. But a couple generations after that, you live in two different cities, you're [communicating] via phone, so the way you pass on those lessons, and the lessons that need to be shared, are completely different, but the underlying values are the same. (Fredeen, Interview 2018)

The perceived divide between the 'old' and the 'new' in traditional knowledge often results from very real shifts in what is recognizably and materially new. Traditional knowledge can be understood — broadly — as core values that are practiced and made manifest through specific processes, which are developed by a collective through experience in and of those materialities over time. Thus, traditional knowledge is neither 'old' nor 'new,' exactly, but the process of continuous (ex)change of practices and protocols through which values are expressed and passed on.

Just as Fredeen noted, Lewis shared that while core values and perspectives are passed down, the means of communicating them necessarily responds to their contemporary circumstances: "How do we actually go about actualizing those thoughts, or saying that the way we go about actualizing those thoughts is exactly the same way as they did it 500 years ago? That, to me, is just craziness. We're in such a different material culture than we were then." Lewis continued, urging that actively responding to shifting materiality as they become known and relevant in order to maintain those core values makes traditional knowledge 'time resilient.' "This idea that we need to keep doing the things that our ancestors did," shared Lewis, "is very problematic. I think respecting and maintaining a way of looking at the world that our ancestors held — now that is something that is more time-resilient." (Lewis, Interview 2015)

Why then, the perceived divide between the 'old' and the 'new,' the 'traditional' and the 'contemporary'? If these divisions do not accurately represent the realities of traditional

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knowledge, why do they continue to surface in discussions regarding traditional knowledge and related concepts, such as authenticity? As Carl Petersen explained, the divide between old and new knowledges “only exists because of colonization” (Petersen, Interview 2019b). Apparent divides between ‘old’ and ‘new,’ ‘traditional’ and ‘contemporary’ are those fueled by shifting material, economic and social realities and inequalities. As Petersen shared,

My great grandparents, their great grandmother was born in 1850, the year before the first treaty between the Americans and my tribe. And she died in 1952, so she lived to be 102 years old. And in her lifetime, her tribe was completely decimated. She was a prisoner of war for 50 years. And by the time of her death we had a tribal government again, and we had some sovereignty back, but we were still very dependent on the Americans and still very much in poverty as we are today, even another 50, 60 years later. That divide is a divide of genocide (Petersen, Interview 2019b).

Indeed, circumstances — economically, socially, and materially — have shifted drastically as a result of colonization. However, as Jason Lewis shared, efforts to petrify or return to traditional knowledge to a pre-colonial state and claims to authentic, unchanging cultural distinctiveness — these too are “a reaction to colonialism,” and the ruptures it has caused. The desire to return to an imagined and unadulterated past, according to Lewis, is multifaceted:

Part of it is claims to First Nationhood and First Peoplehood that are in some sense reliant on you being able to make an argument that makes a clear cultural line between those First People and you as a descendent of a First Person. (...) it’s a much more complicated argument to go, “Okay, this ritual started like this, and then it transformed to this, and then it transformed to this, and then it transformed to this, and then it transformed to this, and here we are today.” It’s much easier to say, “We’re doing the same thing they’re doing 300 years ago.” (Lewis, Interview 2015)

According to Lewis, the pressure to maintain a certain way of doing things is a reaction to colonization; paradoxically, colonization has undeniably presented an immense threat to the fortitude of traditional knowledges in the first place. As I discussed in Part I of this thesis, colonization forced many divisions that sought to sever the essential connections forged through the continuous development of traditional knowledge over time within a community (Edwards 2020). However, the impact of colonization has not meant, as the ‘Vanishing Indian’ trope claims, that traditional knowledges have simply disappeared as a result of colonization, but rather, that they have shifted as a consequence of it, pushing back against it. This is not to say that all traditional knowledge that has been passed on throughout the brutal attempts to assimilate Indigenous Peoples is merely reactive to or defined by colonization, but that the processes and practice of ‘survivance’ has, for many, become a vital part of their traditional knowledge.

“Indigenous knowledge is alive,” shared Allen Turner. Traditional knowledge, he continued, is “always a combination of what it is, plus what it’s come in contact with.” When it is shared, it “takes root in you and it mixes with your knowing of the world until it becomes its own new knowledge, and you can share that with somebody else” (Turner, Interview 2017). Traditional knowledge can be understood as the connective tissue between what is known and what is becoming; the exchange between the cumulative knowledge that a people have generated and passed on over time, as it meets and responds to shifting contemporary realities. Traditional knowledges are diverse and culturally specific, and often regulated by Nation or community-specific protocols, which, in turn, participate in traditional knowledges they govern. As I discussed in Chapter 3, what is understood to be ‘traditional’ or ‘traditional knowledge,’ is often based on the very misrepresentations that so many Indigenous video games seek to address. Recalling

her time at Sheridan, Meagan Byrne spoke to the pressure she often felt to make a game that read as 'traditionally Indigenous' by externally determined standards. In class, she was sometimes confronted by teachers whose feedback was, "Well, that doesn't *feel* traditional," to which Byrne replied "all you know about tradition is based on spaghetti westerns (...) There is tension there because I'm like, "Don't talk to me about what 'feels traditional' because you don't know what tradition is" (Byrne, Interview 2017). Just as Bird argues, traditional knowledge will not always be legible outside of the community or individuals that holds it; however, this does not mean it does not participate in the larger context and processes of traditional knowledge.

Consider the Indigenous video games presented in this thesis that do not contain what is recognizably traditional knowledge, like the meditation on identity and lingering trauma addressed in *Wanisinowin*, the pivotal moment of first contact reimagined for the future in *Terra/Nova*, or the unknowing complicity in colonization *One Small Step* presents. Consider the feelings of helplessness and loss in the wake of colonization evoked by *Invaders* or *Blood Quantum*. Even those games that do not overtly reference, embody, or express what is legibly traditional knowledge may still be considered to be *of* traditional knowledge. The qualities that make something 'Indigenous' or 'traditional' are not always readily perceptible. As Ashlee Bird explained,

There can be Indigenous aspects of a game that have nothing to do with Indigenous communities or stories (...) The lens with which you play a game, how you're reading your interactions with the environment in the game. Is there combat in the game? How does it work? What is the focus of the game? What is the goal of the game? I think those types of things can say a lot about Indigenous ways of knowing (Bird, Interview 2017a).

The knowledge of survival, of the experience of colonization and the trauma it spurred is not necessarily separate from traditional knowledge. As I noted at the beginning of this

chapter, traditional knowledge can be understood as the knowledge of how to survive, of knowing one's environment, and acting in accordance with culturally specific values and protocols within that environment. Knowing how to survive despite oppressive assimilationist policies and genocidal laws, understanding these conditions, and keeping culture and knowledge alive during these conditions – this, too, participates in and informs traditional knowledge. As Longboat so argues, traditional knowledge did not come to a standstill post-contact. Rather, it has grown and shifted in response to the conditions of colonization. As he describes, Indigenous knowledge is

all of the things we've learned through colonial oppression as well, and how to stay safe in colonial society. These are things that I don't have to employ, but I recognize, and I want to remember it in everything that I do. It's why I support Indigenous initiatives. It's why I wanted to create an Indigenous video game (Longboat, Interview 2019).

Tiewishaw-Poirier expressed the interchange of knowledge as something that is practiced and passed on through “individual experience that is also experienced by a very specific group of people,” and that this knowledge responds to the experiences that a group of people share over time. She described traditional knowledge as, “‘This is this medicine,’ or, ‘This is that ceremony,’ but then also, ‘This is our lived experience as Indigenous people living in this country, going through all these histories’” (Tiewishaw-Poirier, Interview 2020).

In-game experiences and narratives that address post-contact experiences are not necessarily divorced from traditional knowledge simply because they express an individual perspective, as opposed to one that is held or regulated by a community. Neither are they necessarily “less” traditional because the hurdles the playable characters face are contemporary or even imagined in the future. Ilenién:te must overcome the

challenges of the theft of cultural property and fight for the repatriation the Peacemaker's wampum; Wani must confront lingering divisiveness between two communities and find her own belonging and identity within and despite this tension; Meli completes her quest by re-connecting with her community and developing her understanding the Jalagi language; Ietsistohkwaroroks learns from her Tóta about the importance of recognizing and honouring the interconnectivity of all living things in response to an event at her school; Thunderbird sparks Indigenous activism and does battle with the tar sands and pipelines; Terra and Nova overcome their misgivings and instead enact the value of cooperation in a world far in the future.

The experiences these games communicate and embody, which can be enacted through gameplay, define for many those “lived experiences” that contribute to ever-emerging bodies of traditional knowledge. They contain within them knowledge of how to enact core cultural values within the context of contemporary realities. They speak to the knowledge of survival, or the fight for sovereignty and land rights, of the need to protect one's community and heritage, of the necessity of honouring the land and recognizing interconnectivity despite shifting material and social realities. Many of the character's narratives or challenges specifically address how to honour core cultural values in contemporary settings. They present a compelling argument against the easy binary of ‘old’ and ‘new,’ exemplifying instead a dynamic continuum of knowledge that responds to and shapes emerging realities.

7.6 Conclusion: *Tradigital* Knowledge

This chapter concludes by arguing for the validity of *tradigital* knowledges — that is, the knowledges in and digital environments, as they inform and are transformed through the

making and playing of Indigenous video games. As this chapter established, traditional knowledges can inform game making, be held in the 'space' of a game and can be engaged and connected to through gameplay. Here, I argue that *tradigital* knowledge is not only the translation of existing knowledges, practices and protocols into digital environments, but the knowledge that arises in response to and within those environments.

As this chapter has thus far argued, traditional knowledge can be understood as the interrelated system of culturally specific values, processes, and protocols. Technology — and by extension, digital technology — has always informed and been informed by these culturally-specific systems. Indeed, as Bri Alexander highlighted, “technology is the application of knowledge” (Alexander, Interview 2019). Technology and traditional knowledge — if they can be distinguished at all — shape one another, and therefore, as material realities shift, the knowledge of how to interact with that technology in accordance with cultural values shifts as well.

“Indigenous knowledge is knowing that things are always in motion,” shared Turner. “It’s understanding that your relationships aren’t static” (Turner, Interview 2017). Digital media increasingly defines the nature of contemporary landscapes, not only with regards to the increasing presence of digital hardware in the physical world, but also in terms of the digital landscapes within which we interface and connect. Traditional knowledges, as they always have been, are responsive to these changing conditions. Traditional knowledge may be understood as the processes through which core cultural values may be enacted in a given context; therefore, if the traditional knowledge of a subsistence lifestyle, for example, means knowledge of the land, of plants, how they should be collected and prepared, of animals, and where to hunt, and how this may be carried out

respectfully and sustainably — what, then, are the traditional knowledges that help to enact those cultural values in the 21st century?

I would submit that Indigenous video games that actively seek to engage, transmediate and pass on traditional knowledge are what nascent, emerging forms of traditional knowledges for the 21st century. The acts of making and playing increasingly may be defined as bringing ways of knowing into being through specific processes. As LaPensée shared, “What we can pass on as we're creating in this space, is actually more about the process, and it should be more about the process of interacting with technology than about the 'what should be represented'” (LaPensée, Interview 2016).

More than simply digitizing existing knowledge, increasingly, knowledges are born digital. *Tradigital* knowledge is the knowledge in and of the digital world. Not only can video games facilitate knowledge sharing and preservation, but knowledge also responds to and participates in the means and media of its dissemination. Digital spaces expand and redefine the borders of community and the bounds of our relations. As Carl Petersen emphasized as we spoke about the divides, perceived or real, between physical and digital spaces, “I’m from the reservation, I’m from the community, I’m from the College, but just as much, I’m from the internet and I exist online, more than I exist in ‘the real life.’” (Petersen, Interview 2019a). We are forming relationships with and within digital environments, and although not all forms of traditional knowledge are appropriate for “digitization,” the act of critically engaging with digital media, in this case, through video games, generates the knowledges of those spaces.

Longboat encapsulated the apparent paradox in understanding knowledge as being in a constant state of responsiveness to shifting realities, and anticipating the present contributions to a community's overall body of know:

Traditional knowledge is such a complicated term because you think 'traditional' and you think of the past. You think of time before colonization, but we also have all of these experiences and knowledge that were formed after that and will continue to be formed as we move forward. Hopefully Terra Nova is traditional knowledge because it came from me, and I am a Mohawk person. (Longboat, Interview 2019)

Just as Benisinaabanden emphasized, everything has its time of newness. Today's 'new' may well be tomorrow's 'traditional,' and likely, already is.

I would submit that these games are what may be the nascent forms of traditional knowledges – meditations on what it means to be Indigenous in the 21st century. That is because of the specific processes they help to shape, of bringing ways of knowing into being through specific processes. As LaPensée shared, "What we can pass on as we're creating in this space, is actually more about the process, and it should be more about the process of interacting with technology than about the 'what should be represented.'" (LaPensée, Interview 2016)

More than simply digitizing existing knowledge, increasingly, knowledges are born digital. *Tradigital* knowledge is the knowledge in and of the digital world. Not only can video games facilitate knowledge sharing and preservation, but knowledge also responds to and participates in the means and media of its dissemination.

Indigenous video games need not necessarily be burdened with the responsibility of 'authentically' reproducing traditional knowledges as they exist outside the game space.

As I will discuss in the following chapter, video games cannot and should not replace existing practices, relationships, ceremony and other forms of existing traditional knowledges that developed external to the context of video games and digital environments. Rather, video games have an authenticity that is as unique to their materiality (or virtuality) as any other cultural practice. This is *tradigital* knowledge — the knowledge in and of digital environments, like video games, that participates in the same spheres as other forms of traditional knowledge, with its own distinct qualities.

Chapter 8

THE PROTECTION OF TRADITIONAL KNOWLEDGE

As the previous chapter established, traditional knowledges can be embedded in and expressed by video games, they can inform and be informed by the making of video games, and can be passed on through intentional, reciprocal gameplay. This knowledge in and of digital environments does not only mean the digitization of knowledges developed outside digital realms; it also means the knowledge and related protocols that are currently being developed in response to these realms as Indigenous individuals and communities establish relationships with and within digital environments — what I have termed tradigital knowledge. How do these insights, then, address the research questions I outlined in the introductory sections of this thesis? What impact might the ever emerging and the nature of traditional knowledges have on its understanding in legal scholarship, law and possible protection? What insights do video games of traditional knowledge hold for understanding the nature of traditional knowledge and their protection, and what role might video games play in the non-legal protection of traditional knowledge?

This chapter will address these questions, using the evidence presented in the previous three chapters to address the legal definition of traditional knowledge and the related legal strategies described in Chapter 2. It will argue that, while limited in their practicability, video games made by and for Indigenous communities and individuals participate in larger efforts to protect traditional knowledge. It is divided into three

sections. The first section addresses the concerns regarding the ill fit of intellectual property law for the protection of traditional knowledge introduced in Chapter 2, adding participant insights to existing legal scholarship. Following this, the second section will provide an overview of the risks and limitations of digital media, and video games in particular, for communicating and passing on traditional knowledge. The final section addresses the concept of protection broadly, highlighting the many benefits of video games for the robust, protection of traditional knowledge.

8.1 Confirming the Challenges of IP Law

Over the course of this research, the feedback shared during interviews regarding the governance of traditional knowledges has confirmed IP's imperfect fit for their protection, as introduced in Chapter 2. In this first section, I will share interview insights which substantiated and added to existing criticisms of IP law — and more specifically, copyright — for the protection of traditional knowledge, highlighting the incompatibilities between the underlying logic of IPRs, with specific regard to the concepts of property and ownership.

IP & Traditional Knowledge

When I spoke with Jason Lewis about AbTeC's strategies for knowledge governance during the Skins workshops, I asked if he saw a divide between the final product (the video game, which is, as their consent forms specify, owned by the Skins Collective), and the knowledge held by the community that the Collective drew on to create the games. In other words, is there divide between the knowledge that inspired and informed the Skins workshops games, and the expression of those knowledges within a video game. He simply answered, "No greater or lesser than the divide between a Culture and the stories

it tells.” (Lewis, Interview 2015) Traditional knowledge, as the previous chapter established, may be understood as a reciprocal exchange between the knowledge and the expression of the knowledge, each informing the other in response to shifting conditions and materialities. This understanding of traditional knowledge as being an exchange or motion, perhaps more akin to a verb than a noun, challenges many of copyright’s most fundamental assumptions, such as subsistence and fixation.

This research began with copyright. As I discussed in Chapter 2, one of copyright’s most fundamental tenets is the idea/expression dichotomy, which seeks to incentivize innovation by providing exclusive rights to original expressions for a limited time, while preventing a monopoly on ideas. My first inclination, at the beginning of this thesis, was that traditional knowledge was more closely affiliated with the ‘idea’ half of this dichotomy, and so its protection would not be possible by means of an expanded copyright—for this and myriad other reasons, highlighted in Part I of this thesis. However, as I spoke with and learned from Indigenous storytellers, elders, artists, academics, and video game developers over the course of this research, it became increasingly clear that traditional knowledge is often more complex than this. It may be better understood as the exchange between ideas and their expressions, in a reciprocal, intergenerational and ongoing dialogue. It occurs and thrives somewhere in between what is known and what is expressed, in a feedback loop, one informing the other and back again. Both Elizabeth LaPensée and Bri Alexander have described this ‘motion’ of knowledge’ as ‘loopular’ and as moving ‘in a loop,’ respectively (LaPensée, Interview 2016; Alexander, Interview 2019).

Traditional knowledge necessarily responds to shifting material, economic, and social realities. It can be understood as knowledge which emerges between the ideas and their expression. The two are not often divisible, as the values (ideas) inform the processes (expressions), and vice versa, in reciprocal exchange. The evidence presented in these chapters suggests that traditional knowledge is indivisible and often indistinguishable from its expression. Recall for example, Mary Cardinal's definition of traditional knowledge: "traditional knowledge is my lifestyle. How I was brought up, where I came from, my background. Everything. Traditional knowledge is more than anything," and it can be expressed, according to Mary, through "Language, medicine, your lifestyle." (Cardinal, Interview 2017). The "ideas" of traditional knowledge, and their expressions—language, medicine, the way one lives—are enacted as one indistinguishable phenomenon.

As Chapter 6 discussed, Indigenous video game developers often engage directly with intellectual property concerns and the protection of traditional knowledge during game development. The IP management of *Never Alone* offers a compelling insight regarding the idea/expression dichotomy. While I was not able to access a copy of the contract itself, based on Fredeen's explanation, the contract—in response to gaps in protection for traditional knowledge and traditional knowledge holders—seeks to acknowledge and protect the true authority over the Kunuuksaayuka story, regardless of its expression (which is protectable) in *Never Alone*. At least within the bounds of the relationship between the signees, control over the Kunuuksaayuka story, regardless of its expression in *Never Alone*, rests with Minnie Gray and her descendants.

Taking steps to provide greater protection for traditional knowledges and the people who hold them is often informed by the impact property law continues to have on Indigenous communities. The contracts signed by Minnie Gray during *Never Alone*'s Inclusive Game Development Process, or those signed by the Skins Collective specifying the ownership of the intellectual property in their respective *Skins* game, were strategies designed to merge community protocols with Western law. Of course, contracts are limited in scope; Gray's contract does not provide legal protection for her family beyond the bounds of the contract she holds with the CITC and E-Line Media. The IP held by Upper One Games is subject to all of copyright's rules, like expiration. The wider world is not required to recognize ownership of the Kunuuksaayuka story beyond the IP protecting its expression in *Never Alone*.

The undefined locus of traditional knowledge challenges many of the pillars of copyright. Certainly, it presents a challenge to any attempt to define or prove its subsistence. As I discussed in Chapter 2, traditional knowledge—as it is understood by WIPO—includes all forms of traditional knowledge, traditional cultural expressions, and genetic resources, however, attempts to distinguish between these different qualities of traditional knowledge are also challenged by the evidence presented by this thesis, which would suggest that these categories participate in one another simultaneously, each contributing to the reception and production of knowledge.

The incompatibilities between copyright's structure and the movement of knowledge might be illustrated by considering oral tradition and storytelling. Where do stories exist? With the storyteller, or with those who have listened to the story being told, who may one day tell the story themselves? Does it simply 'exist' beyond any single telling, somewhere

between what it was when it was heard, and what it becomes when it is told? Correspondingly, where then does *tradigital* knowledge reside? When making a video games, does it exist within the larger body of communally held knowledge that informed the game's making? Is upheld and expressed in the making itself, the process of game development? Can it be held within the code, by the characters in the game, through mechanics? Is it activated and engaged through gameplay?

Just as in storytelling, traditional knowledges in and of video games occurs in the discursive spaces between making, being, and playing, as they inter(re)act with one another. Indeed, as Ashlee Bird explained, a video game, in many ways, upholds the same patterns as oral tradition:

Games are oral tradition in a lot of ways. (...) They're told by a group of people. Everybody who plays it interacts with it in a completely unique experience based on their physical body, their existence in the world, their experiences, their understanding. (...) We're playing as individuals or participating as a community in this one story, and thereby giving it broader meanings and broader ways in which it's going to go into the world, that's what oral tradition does to a certain extent. It's always changing based off of who is telling it, where it's being told, who's hearing it, how they're understanding it, the ways in which they're going to take that into the world, and it's going to impact their lives. Games absolutely can do that. (Bird, Interview 2017a)

Traditional knowledge, understood as that which occurs in energetic 'in-between' spaces, therefore relies on a network, a community, that holds it collectively and intergenerationally. It requires relationality, drawing on interconnections and existing within them. As many participants highlighted, knowledge is embodied — felt and known through individual and collective experience; as Bird concluded, "*we are* traditional knowledge" (Bird, Interview 2017a). How can subsistence requirements, categorizations,

and the concept of 'ownership' apply to something that is embodied, relational, which flourishes through dynamic exchange?

Ownership

While the innovative approaches undertaken by the CITC and Skins addressing the gaps in IP protection are able to provide protective measures through intentional process of Indigenously determined game development and within this community-determined space, there remains no formal legal right to discourage or penalize the exploitation of traditional knowledges. While everyone I spoke with agreed that misrepresentation and misappropriation is inappropriate at best and deeply harmful at worst, most found IP's underlying logic equally inappropriate and potentially harmful. Perhaps most contentious of all implications inherent to IP-based protective measures is the resolve to expand the concept of property and therefore, of the concept of ownership, and map these onto traditional knowledges. Confirming again the criticisms discussed in first chapters of this thesis, no one I spoke with agreed that 'ownership' and 'property' were the correct concepts to describe the relationship between traditional knowledge and the people with which it belongs and with whom it is nurtured.

For some, 'traditional knowledge' cannot be owned is because it is more akin to a relation than it is to property; one's responsibility to another entity. "I don't think it's property," shared Ashlee Bird. "It's like the land in a lot of ways: it's not property, but it's something that we should take care of." Bird compared the relationship with traditional knowledge to that of a relationship between a parent and child:

You don't own your kids, but you're responsible for looking out for them, and doing what's in their best interest and making sure they're going into the world in a good way and that the world is interacting with them in a

good way (...) There is a mutual responsibility of what that knowledge does for us and what we do for it. (Bird, Interview 2017a)

Bird explained that during game development, if she required guidance on sharing traditional knowledge that had not yet been made publicly available, she would consult her Tribal Council. However, even as a community-recognized leadership body, the Council does not “own” the knowledge they advise on; according to Bird, “they don't own it, but they have the power to say whether or not it should be distributed (...) They are safe keepers of the knowledge, not owners.” She also offered term ‘authority’ in lieu of ownership but cautioned that “it's dangerous to have there be one spokesperson. I think in any community you should get a variety of voices, because that's what makes the community.” (Bird, Interview 2017a)

Multivocality in governance was significant to many participants. As Jason Lewis expressed, part of the problem with ownership rights is their rigidity with regards to identifying and allocating exclusive rights to specific, defined bodies. “The big issue about the community licensing,” he emphasized, “is it's so unclear who would actually do that.” (Lewis, Interview 2015) Many Indigenous communities recognize different leadership bodies within the community, for example, traditional tribal governments or the federally recognized band councils in Canada. Leadership and expertise may be held by other community organizations, like Language, Culture, and Education Centers. Authority and guidance on how to respect and actualize traditional knowledge may come through a personal relationship with an elder, a storyteller, a faith keeper, a drum carrier, or a knowledge holder — to name only a few. Traditional knowledges exist, argued most people I spoke with, within the community as a whole, and are regulated between various bodies.

Tiewishaw-Poirier highlighted that the concepts of ownership embedded in property law risks missing the nuance of traditional knowledge as it relates to the land, the community that depends on that land, and the individuals within a community. “It's like putting a square piece through a circle hole. It's just not going to work.” She shared that strictly defining ‘owners’ negated complicated histories and identities; “Ownership seems too exclusive (...) What about people who are only half or people that were adopted out and never knew and are reconnecting?” Echoing Bird’s recognition of the responsibility towards traditional knowledge, she instead described her relationship with and understanding of traditional knowledge as, “a responsibility to yourself, and to the land, and to your history, and all of your ancestors, and all of your descendants who haven't come yet.” (Bird, Interview 2020)

Many emphasized that the collective, process-oriented nature of traditional knowledges made ‘ownership’ an impossibility, as the imposition of ownership would fundamentally alter the processes that define traditional knowledge. This is because, as so many emphasized, traditional knowledge is about action and process. According to Bird, it is the *use* of knowledge, not the ownership, that traditional stewardship regulates. “Who has the right to *use* the knowledge?” she emphasized. “Use is something that's important, that's where you get the caretaking of who is using this and for what. So, I would be someone using the knowledge. Obviously, I participate in the knowledge and the knowledge is something that's a part of my life but putting it into a game where it's going to be interacted with by other people is using it for a specific purpose” (Bird, Interview 2017a). Using knowledge towards a specific purpose, as Chapter 6 highlighted, often requires a great deal of learning and deliberation with knowledge-holders. As Byrne

expressed, there are community-specific protocols that inform how knowledge should be used, how they are passed on and by whom:

Ownership's the wrong word. It's, "who's allowed?" (...) From my limited experience with storytellers, certain stories are allowed to be told to certain people at certain times in their lives. So, it's who's allowed and then also who's allowed to carry it, who's allowed to have that knowledge and pass it on. There's ways of passing it on that are appropriate versus inappropriate." (Byrne, Interview 2017)

LaPensée similarly noted that the intertwined nature of traditional knowledge made its possession as property an impossibility. "Collective knowledge, blood memory, how does anyone ever own that?" she asked. "I don't think you can." As I discussed in Chapter 7, LaPensée explains traditional knowledge as specific processes. Introducing the notion of ownership into the processes of traditional knowledge therefore risks antagonizing them, thereby jeopardizing —not protecting — traditional knowledge, by encouraging a shift in its nature:

It's too intricate to make this legal, but I think it's about the process. So, I accept what comes to me, and I'm not in a position of reaching, I'm not out there grabbing and trying to take. And that very notion, or the literally the motion of how I am creating determines how it is then expressed into the world. (LaPensée, Interview 2016)

LaPensée continued, explaining that 'reaching' for traditional knowledge — rather than receiving it — by googling it, for example, contradicts the intent of the knowledge and how it should be accepted or earned. "You just have to have trust in this process, that what is intended to happen will happen," she shared. "Coming from that place, working from that place things will be done in a good way that way. (...) That's not owned; that's what is intended." Because receiving knowledge has more to do with intentional passing,

stated LaPensée, it can “never have any kind of copyright in that sense, or benefitting from it in that way.” (LaPensée, Interview 2016)

According to Petersen, ownership is not the right concept to describe *Tipi Kaga* and the traditional knowledge it communicates. “You could say it's more of a traditional knowledge, it's conveyed through a digital medium, but that doesn't make it a tangible piece of property in the same way that others would think about their software.” When I asked what words or concepts described his relationship with traditional knowledge, he offered instead ‘Culture,’ and continued, “I'm creating something to add to a culture as a creator. That's one way to think about it. (...) I'm, as a creator, putting myself and the knowledge that I've accumulated into the world through a digital medium, in support of traditional knowledge of my people. (...) That's the goal.” (Petersen, Interview 2019b)

The Negative Consequences of Well-Intentioned Law Making

Folklorist Valdimar Hafstein has cautioned against the temptation to contain culturally diverse objects and practices neatly under the definition of ‘heritage’ to facilitate their protection. “To label a practice or a site as heritage is not so much a description as an intervention,” he writes. “In fact, heritage reorders relations between persons and things, and among persons themselves, objectifying and recontextualizing them with reference to other sites and practices designated as heritage.” (Hafstein 2014, 36). As Haftsein highlights the risks of the loss of cultural nuance for the sake of protection under heritage frameworks, some interviewees also expressed concern about resigning traditional knowledge to ill-suited frameworks developed outside the community in order to qualify for protection. That is, the risk of too quickly accepting protective measures based on the expansion of Western laws and logic — as a reaction against Western colonialism —

would only further contribute to the state of precarity in which these systems have already placed traditional knowledges. As Scott Benisinaabanden warned, in order for intellectual property to be an effective defense against misappropriation, this would require a total buy-in within and across hundreds of diverse Nations. “For Western copyright to work,” he mused, “I guess you’d have to fully invest in the system and say, ‘Alright, I want to copyright everything.’” He added that the top-down codification defining the relationship between Indigenous and their knowledges risks jeopardizing the diversity of knowledges within and between communities by imposing rigid, definitional frameworks:

It becomes very tricky to codify how you work with Indigenous knowledge, because Indigenous knowledge is so varied, it’s so many different communities. (...) When you walk into a different sweat lodge here, and they want me to do something differently, then you need to be flexible enough to say, ‘Okay’ (...) You have to be prepared to totally shift your modalities in terms of what to expect and what those are with different communities. (Interview 2015)

Many participants lamented the gradual shift in understandings and relationships with traditional knowledges towards those of ownership as a result of the dominance of property law. Just as Amy Fredeen maintained, in Chapter 6, that the introduction of notions ‘property’ and ‘ownership,’ signaled a changing awareness of relationships with the land, LaPensée argued that “copyright has affected (...) our relationships with one another,” and that related legal practices concerning ownership, licenses, and permissions are “a sad indicator of how we are changing our relationships to one another to negotiate around ideas of property or copyright.” (Interview 2016). Sanderson similarly reflected that notions of ownership are inherently ill-suited to traditional knowledge, which he connects to relationships with the land. “I’m not sure anything belongs to anybody. The land belongs to itself, the people are here to respect it, and live

on it.” Like Fredeen cautioned, the imposition of concepts of property risks distorting the dynamic between the people and the land; as Sanderson argued, the land and the knowledge it offers cannot be owned as “the land owns us, because we have to survive by it” (Interview 2017). This is not dissimilar to the friction that exists in land claims disputes; that is, the friction between Eurocentric notions of property and ownership on the one hand, and on the other, Indigenous conceptualizations of territory, which may instead be relationship-centered and “borderless,” based on complex kinship ties and ancestral bonds to the land (Thom 2009).

The language of ‘ownership’ complicates the relationships and responsibilities that define the intergenerational aspect of traditional knowledge. As Turner shared, “The very language you use to describe things affects how those things are being perceived. (Interview 2017). Ashlee Bird similarly cautioned that “when (traditional knowledge) is conceived of as property, it can be protected, but it also then inherently belongs to a certain group of people. And when something belongs to a certain group of people, how does it change with the people that are coming after?” (Interview 2017a) This question raises a valid concern: what iteration of traditional knowledge is meant to be protected? How can knowledge grow and shift intergenerationally when one generation ‘owns’ one iteration of it? As I discussed in Chapter 2, the intergenerational nature of knowledge poses many challenges for a modified ‘TK IP.’ IP only functions because of limitations, expirations and the release of information and expressions into the public domain. The intergenerational nature of traditional knowledge, of course, also challenges the requirements of originality and innovation, as understood in copyright and patent law; generally speaking, IP law seeks to assert originality and newness; on the other hand, traditional knowledge, while innovative, is ever acknowledging its lineage.

As Jason Lewis explained, the push for IP-based protection is ultimately flawed, as it risks duplicating the values inherent in the predatory practices of capitalist individualism from which communities are seeking protection, and in so doing, transforming the language a community uses to describe their many unique, diverse traditional knowledges. According to Lewis, 'TK IP' is, "a reaction to (...) "predatory transformation," meaning, taking something that's been known—a plant, an herb, or a way of doing things (...) and turning that into something that makes money. And that's bad, trying to lock that up so that even the people who used to do it can't do it anymore." He continued that while it is understandable to want to protect traditional knowledge from misappropriation, that legal efforts based on an ownership model, are, in fact "a total reaction to that regime, and unfortunately, it's the only language the courts speak, traditionally." What is perhaps as harmful, in the long-term, is accepting the lexicon of 'ownership' and 'property' in a bid to protect traditional knowledges from Western legal sy "I think we have to be very careful," shared Lewis, "about letting that become the language that we see as appropriate, or the most appropriate way of talking about that stuff. (Lewis, Interview 2015)

Tiewishaw-Poirier echoed similar concerns, stating that bending traditional knowledge to conform to the logic of inherently ill-suited frameworks will ultimately only protect interests of the systems from which it was borne. "You can't just go through that kind of system knowing that it's not 100% accurate and it's not only *not* working for you, it's working to the advantage of some shitty ass big corporation or a Western ideology (...) that may or may not be actively trying to colonize traditional knowledge, the concept of it, to make it fit inside their framework" (Interview 2020). As Dutfield (2017) has asserted, the 'value' of traditional knowledge cannot always be represented monetarily.

When Carl Petersen received funding from Running Strong for American Youth, in support of the development of *Tipi Kaga*, he was confronted with the expectation from the funding body that he should try to make a profit from his game, but that this conflicted with the goals of his game company, Northern Plains Games:

Our mission of imparting the culture and helping people learn the language doesn't fit well with capitalism in my mind. You shouldn't own those things, and you shouldn't copyright them, you shouldn't trademark them. At the same time, they need to be protected against, especially non-Indigenous people, that would subvert them for their own means (Interview 2019.b)

Relatedly, another criticism of copyright for traditional knowledge are the financial barriers that will likely continue to exist should a legal right to traditional knowledge ever arise. Just as Comaroff and Comaroff (2009) cautioned that existing and unaddressed financial barriers within Indigenous communities will likely hinder the success of any claims brought against corporations seeking to exploit traditional knowledges, Scott Benisinaabanden noted that, even if there were a copyright for Indigenous knowledges, Indigenous individuals and communities may not have the means and resources to enforce these rights. There are many additional societal and financial aspects to consider when considering the fairness of a legal right. “The problem is that Indigenous people, pretty much across the board — not too many people have endless bank roles to sue Ralph Lauren,” shared Benisinaabanden. “So, when we start talking about legal copyrights, it becomes really difficult because, it’s like ‘well, does it even matter? People can violate my copyright all they want because I can’t afford to fight it.’” (Interview 2015)

Participants expressed many legitimate concerns about IP — not only its unsuitability with regards to the limited protections it could offer, but also because it threatens to distort traditional understandings of and relationships with traditional knowledge, while

failing to address the underlying economic disparities which might hinder effective protection. It stood to reason for many participants that the expansion of the same logic of capitalism that currently functions to exploit traditional knowledges cannot or should not be applied for their protection.

There are of course, existing practices outside the purview of Western law, developed by Indigenous communities to regulate and protect traditional knowledges, both within the community and from external exploitation. As this chapter will conclude, another means of protecting traditional knowledge in the absence of adequate legal measures is supporting those efforts which bolster the fortitude of traditional knowledges for coming generations. Indigenous video games participate in these efforts. However, before extolling video games for their many advantages, the following section will address their limitations.

8.2 The Limited Practicability of Video Games

As I will argue in the following section, Indigenous video games offer opportunities for the protection of traditional knowledges. However, before discussing the many benefits of Indigenous video games, this section will review their pitfalls and limitations, presenting interviewee feedback regarding what representations or traditional knowledges are considered inappropriate or ill-suited to digitization in a video game and why, as well as the barriers presented by the digital divide. It will also address what is potentially lost in the transmediation of traditional knowledges into video games.

Limited Outreach

While outreach and education can be facilitated by a video game, it is important not to overstate the impact a video game can have with regards to changing perceptions and addressing misrepresentations in digital environments. When I spoke with Meagan Byrne about the potential for video games to draw on their broad distribution to address misrepresentations, she agreed that they might, but asked, “Are the kind of companies that have that kind of reach going to want to do that? (...) If we're specifically talking about changing perceptions, then you do need to have mass appeal, or it does need to be in something that a lot of people are going to want to pick up and consume.” (Interview 2017) Although, as I discussed in Chapter 3, video game development software is increasingly affordable and the platforms on which video games are distributed are facilitate direct maker-to-user connection, the games with the broadest outreach remain those produced by mainstream Triple A game companies and tend to reproduce tried-and-true mechanics, characters, and narratives. As Ashlee Bird emphasized, “I don't know that there's diversity in what I see, who I see making games, and who I see the majority especially of big budget games being made for. Games are still, it's pretty safe to say, made by straight, cis white men, for straight cis white men to a large degree” (Interview 2017a).

Content Limitations

In addition to limitations regarding impactful outreach, the game developers I spoke with also emphasized that video game are simply inappropriate for some forms of traditional knowledge. As I have discussed in the previous chapters, many of the developers I spoke with make careful decisions regarding what is and is not appropriate to share during the game making process. Chief among their concerns regarding some forms of traditional knowledge was that digital environments facilitate rapid and wide distribution, unlimited

or uncontrolled access, and amplify the risks of misappropriation or misuse of information, representations, and knowledge made accessible in digital environments.

The aim of the video games presented in this thesis is to create thoughtful representation that bolsters accuracy and avoids contributing to further misrepresentation and misunderstanding. As LaPensée shared, “Some things are not safe to publish, not because we're protecting protocol, but we're protecting how we're perceived by non-Indigenous scholars or communities, whatever the case may be.” (Interview 2016). Representations in digital environments lack the specificity and in-person relationality of in-community contexts. During the making *Never Alone*, for example, it was determined that representations of whaling would be inappropriate to share outside of the community because they risked further contributing to the misunderstanding of Alaskan Native culture to the wider world. As Fredeen explained:

Whaling is such an important part of our culture (...) One particular group of community members were like, “We should show off our whaling skills.” But with all of the press and all of the negative pushback Utqiagvik and other North Slope communities have received on whaling, there was another group of people who were like, “No, not at all.” So, we ran it up the pole, and we ended up deleting all of this footage (...) It was the right thing to do.” (Interview 2018)

As Fredeen explained, whaling and the cultural significance of whales is ultimately present in the game, with an entire level taking place inside the body of a whale, and a cultural insight video dedicated to explaining the cultural significance of whaling. However, incorporating whaling as an aspect of whaling was deemed inappropriate because of the potential harm it may have caused. A repeated message when the CITC were determining what to share and how to share it was, “You have to protect our young men.” The decision to omit whaling was taken in support of this protection. “A generation

ago, all of the leadership of the Native corporations and tribes were men,” shared Fredeen. “It’s the exact opposite now, because our young men are falling through the cracks. They’re losing their place of value because of what the Western influences have, whether it’s because they value sports over traditional knowledge, or they get attacked because of the practices.” (Interview 2018)

The video game developers I spoke with for this thesis often highlighted that, upon release of their video game, they do not have control over who plays it and how they play. Just as *Never Alone* omitted whaling from gameplay to circumvent misunderstanding and possible harm, some game developers shared that they avoided or omitted some representations and actions from gameplay, identifying the empathy and identification with one’s playable character that video games often encourage — indeed, one of the strengths of video games — as risking imbuing a sense of ownership in relation to certain narratives and knowledges. As Elizabeth LaPensée shared, “when you are playing a game and you are embodying that character, you become that and you experience that in great depth. That can be extraordinarily powerful, and it can also be extraordinarily problematic.” LaPensée continued that the empathetic connection a player can make with a character’s experience through gameplay is not always a desirable outcome:

You are this character and you're living this experience, and people start to talk about it as if it is them. This is largely why (...) in my own personal work, I've never portrayed an Indigenous (lead) character, because of that 'I' mentality, and that 'I' thinking. People take ownership over those characters and over those experiences, 'Now I am this tribe, now I am these people,' I think is a problematic construct that can be created through gameplay. (Interview 2016)

Like Nakamura cautions against online ‘identity tourism,’ (1995), the over-identification with a playable character and their experiences can lead to what Byrne has called, in

conversation, in-game “trauma tourism.” As Ashlee Bird flagged, “Indigenous trauma can be co-opted,” and therefore, games representing traumatic histories and experiences need to be developed “somebody who is going to be understanding of the community and do the research that needs to be done.” (Interview 2017) So too can the representations of non-player characters facilitate the dehumanization of minorities by ‘gamifying’ stereotypes and permissible acts violence within the space of a game (Ibrahim 2015).

Perhaps most significantly, certain forms of knowledge are simply not appropriate for digital environments, or video games more specifically. I am not able to share the details of some of the information signalled to below. Some details are confidential or are governed by strict protocol, such as rules regarding what time of year or day they can be shared. I will therefore avoid sharing specifics because I am not qualified to do so, nor am I able to regulate what time of year or day this thesis will be accessed. Other times still, interviewees were prohibited by protocol to share details, and so these, too are absent from this research entirely. I will therefore discuss this generally.

Generally, nearly everyone I spoke with identified sacred and ceremonial ‘objects’ — I hesitate here to use the term ‘object,’ because it does not always accurately represent living entities and spiritual beings, rendered or expressed in material form — as inappropriate for representing or sharing in video games. What specific ‘objects’ are considered inappropriate for video games varies between and even within communities. Any ‘objects’ that had limited use and access within communities were often not included in video games, nor were ‘objects’ that are alive or directly represent someone who has died, ‘objects’ associated with or used for healing, or ceremonial ‘objects’ and apparel used simply for decorative purposes in game, to make a game or character appear

‘Indigenous.’ Many people also emphasized that it was not appropriate for ceremonies to be represented or simulated in video games, as they lacked the necessary connectedness to community and knowledge-holders to make them meaningful. Making these available in video games opened them up to uncontrolled access, thereby making it impossible to monitor and uphold protocol.

Some forms of knowledge are inappropriate because video games remove the vital, personal connection of direct mediation and guidance. As Mary Cardinal explained, traditional medicines require a relationship and a teacher; someone who is learning about traditional medicines needs someone to teach them how to use it, not dissimilar to the ‘motion’ of giving and receiving that LaPensée described. “I don’t think you could do anything with video games with traditional medicine,” she cautioned. “You could learn them through teaching. I could bring root to you, and I can explain to you what this is for, what kind of root it is. But it’s not a playing game.” (Interview 2017).

Uncontrolled access to knowledge in digital environments — without the necessary knowledge of the land, connection and responsibility to community, or guidance from a knowledge-holder or elder — can mean that while a community-generated and regulated board game is appropriate, it is not appropriate as a video game. *The Gift of Food* (2014) is a board game about gathering and balancing foods and medicines, made in direct collaboration with the Lummi Nation. Designed by Elizabeth LaPensée under contract by the Northwest Indian College on the Lummi Nation in Washington State, *The Gift of Food*, was originally conceived of as a video game, but through the collaborative development process with the community, it was determined that a video game would be inappropriate for their needs. Making game, explained LaPensée, was “about passing on

knowledge specifically within a community at their request.” She explained that, after a year of working with the community, it was determined that the ecological knowledge communicated by the game. “There are certain teachings in (*The Gift of Food*),” shared LaPensée, “that would enable people that they did not want to know about what time to come and get things from certain ecosystems.” It was therefore decided that this game “cannot be played with people outside of their community because it contains within it what they refer to as traditional knowledge,” which she described as the “specific teachings about the gathering of and the locations of and care of and reciprocity to traditional foods.” (Interview 2016)

The Gift of Food was not only confined to an in-community board game; the land represented on the board is fictitious to protect the animals and plants on Coast Salish territories. “The landscape on the board is not actually real, all of the ecosystems are very real and how they relate to one another is very real, but it's not actually a real arrangement of the land. The reason that was done in that game was in order to protect where animals and where plants actually are.” While accurate representation is important, shared LaPensée, what was more important was that the care and protection for the land was upheld by the process of making the game “*The Gift of Food* (...) ended up being shared only in close communities in order to protect the foods and the knowledge around when would be best to gather those particular gifts, because there is a threat of people learning and then abusing that information.” The specificity of the traditional knowledge communicated by *The Gift of Food* meant that having a physical board game would help to control distribution and play and is “restricted for in-community use.” (Interview 2019)

The Digital Divide

This question of access to knowledge did not only apply to ensuring ecological knowledge could not be shared outside the community and unintentionally exploited. As LaPensée described, the decision to make a board game instead of a video game was also made to facilitate access within the community, which contends with the challenges of the digital divide. As LaPensée continued, a video game was not appropriate, because “the community said, 'We're on the other side of the Digital Divide, so it's not practical for us.'” One of the reasons for this was the lack of access to computers within the community, explained LaPensée, “They don't have computers in the classrooms, or in the community centres, and very rarely even in homes,” and continued that someone advising from within the community warned that “if you make this, nobody's actually going to be able to play it.” As LaPensée concluded, “That's useless to me, the point is for people to play.” (Interview 2016).

The digital divide was often among the concerns and limitations that many game developers highlighted when we spoke. As I discussed in Chapter 3, the question of access to digital media is multifaceted, and involves barriers regarding not only connectivity and access to the internet, but barriers of ability or experience with digital media, financial barriers, and generational barriers, among others. Although video game development software is increasingly affordable, and sometimes free to use, the hardware required to use this software is costly. This poses a challenge to both individual game development, youth workshops, and community collaborations. As LaPensée highlight, although the CITC had the capital to invest in the development of *Never Alone*, this will not always be the case for other communities:

It's actually not really that reasonable to ask communities to give money that could be used for a lot more immediate needs, into developing a game. I do not think that games are automatically the answer, they're just an additional way, to reach youth, is one way but also to interact with traditional teachings and with knowledge and with language and the art and stories. (Interview 2016)

Financial barriers exacerbate the digital divide. WAMP's Davis Heslep spoke to the Northwest Territories' limited access to the internet, with many of the more northern communities only having access to very basic connectivity. Heslep, who has held digital media workshops through WAMP's *Hackspace* initiative across many northern communities, stated that access barriers in the North mean, "you can't interact with the rest of the world the way the rest of the world can, which I think is horrible." As he shared, "we pay a ridiculous amount for our ability to be connected," noting the Northwest Territory's "horrible infrastructure." (Interview 2018). Petersen equally noted that financial barriers, regardless of the availability of an internet connection, remain an access issue. "It's blocked behind a paywall. The internet's not free. Electricity's not free, and devices to access it definitely aren't." (Interview 2019b)

Many interviewees also highlighted the generational barriers that limit the practicality of video games. As I discussed in the previous chapter, meaningful gameplay is not only dependent on the game itself, but on a player's experience and ability to interact with the video game. "There's definitely a generational, not divide, but separation to some degree that we need to be conscious of," cautioned Longboat, reflecting on his younger sister's digital literacy compared to his grandmother's. "I've been thinking about how you hold knowledge in digital spaces because our experiences are so varied based on how long, relative to our age, we've had interfacing with it." (Interview 2019).

Longboat continued that there are important perspectives that are not represented in digital environments because of the digital divide. “Elders, who are people who hold an incredible amount of important knowledge that can be accessed upon their offering,” he communicated, “I think something like a drum circle would be very easily recognizable to them, but something like 360 Video or VR might not.” Because their contributions are often absent, or one step removed, from the game making and game playing, Longboat shared that “there would be something that would be lost if those types of people, older people, wouldn't be able to be in those spaces where these conversations are happening. That's something we have to be mindful of.” (Interview 2019)

Some of these generational or experience-based barriers can be addressed through playtesting and actively seeking feedback, as well. Bri Alexander recalled that while sharing *BLOOM* at the indigital space at imagineNATIVE in 2019, she received feedback from an older woman who was not able to play *BLOOM*. She explained, “I was talking to a lady about it, and she was like, ‘Oh, I'm too old for video games. (...) I don't understand how the instructions work,’ and I was like, ‘This is great feedback. You could help make better instructions.’” (Alexander, Interview 2019). Indeed, there are opportunities to make video game more accessible through community-engagement and education, and in gathering feedback to ensure controls and instructions are legible to audiences of varying ability. However, this would require specific conditions in which individuals would be supported to learn how to interact with and within digital environments.

Culture as a Second Culture

Video games may also only be able to simulate or represent “the real thing.” As Petersen describes *Tipi Kaga*, “it's literally putting up a tipi. It's a simulator. I tried to get as close

as I could with the resources I had. All the mechanics are literally the steps you would take to put up a tipi, the dialogue is the way it was explained to me.” However, he went on to express that, in the ‘real world,’ “you wouldn’t tell them, because they’d be a little kid watching it the whole time,” and described learning about tipi building through his simulator as “teaching culture as a second culture.” This is because, “if it was a first culture, you’d be watching your parents do it, or relatives” (Petersen, Interview 2019a).

Many aspects of traditional knowledge, agreed nearly everyone, are simply ineffable. While Petersen acknowledged that engaging with culture through secondary sources is not necessarily wrong, the act of watching and learning, of absorbing processes in ‘the real world’ as they mundanely occur, is difficult to simulate in a game, and impossible to replace. As Longboat emphasized, “Even though digital media is super important, we can’t forsake these other aspects of who we are, too. I think it needs to be a balance.” (Longboat, Interview 2019). Digital media should be used as a tool to amplify existing means of connection and communication, not replace them.

Just as Mary Cardinal cautioned that certain types of knowledge require mediation through relationships, Scott Benisinaabanden argued that relying exclusively on digital media risks rendering otherwise experiential knowledge, mediated through a teacher-student relationship, dead. “There is a physical, energetic element that is formed in traditional student-teacher relationships,” he shared. “Ceremonies and songs are experiential (...) If you listen to Youtube Powwow, sounds great. But if you stand next to a drum, you feel it, it’s literally air, the air is moving around you, because it is an experiential, physical thing.” What is more, continued Benisinaabanden, is that seeking information exclusively in this way fundamentally shifts the relationship with that

knowledge; “the danger is, ‘I’ve seen it on Facebook’ or ‘I’ve seen it on Youtube, therefore I know,’ or ‘I’ve read it in a book and therefore I know,’ which is a problem for all cultures, not just Indigenous cultures,” and that the loss of the experiential, relationship-centered quality of traditional knowledges in favour of the digital renders that knowledge dead. “If you only ever learn from the digital, the experience is dead. It’s just a dead knowledge.” (Benisinaabanden, Interview 2015).

Although video games — and more broadly, digital archives, online learning tools, and the YouTube videos Benisinaabanden described — can be expedient means of archiving information, there will always be a loss of some of the qualities of existing knowledges when they are digitized. Although “one of the easiest ways to preserve something is to digitize it,” argued Jason Lewis, “you have to recognize, you’re going to lose some of it. The trade-off is that you can move it around and share it, but the other downside is the digital is so fragile” (Lewis, Interview 2015).

Byrne cautioned that while some enthusiastically endorse video games, insisting that “everything should be up for digitization and gamification,” that, “there are experiences that I think would be cheapened by it. Not even just cheapened. I think it basically comes down to, ‘Can you actually communicate that to your audience? Or does it become titillation or something cool?’” (Byrne, Interview 2017). Simply put, some things cannot and should not be communicated or experienced through video games, at least not exclusively. The interpersonal connection, just as Mary Cardinal discussed with regards to traditional plant knowledge, and responsibility to one another is difficult to replicate in digital environments, as they currently exist. Consequence and responsibility are often

key facets of intergenerational, community-centered teaching and learning. As Byrne continued:

With the digital, you just don't get that human connection the way you do with the physical space. (...) It's why I would never want traditional ways of teaching to be replaced. I think that's the way a lot of people were talking about, "Record them. We'll make dictionaries, we'll write books." It's not the same. You can put down a book, you can't really walk away from an elder, at least not with some sort of consequence. (Byrne, Interview 2017)

While it is important not to overstate the role that video games, and digital media more broadly, play in ongoing efforts to revitalize and strengthen culture and traditional knowledge, they do play a part. As the following section will argue, Indigenous video games, and other related efforts to archive, preserve, or support knowledge and culture in digital environments, despite the above-described limitations and risks, participate in the fortification of traditional knowledges and the structures that govern them by supporting their continued presence, relevance and legibility to the coming generations.

8.3 The Protection of Traditional Knowledge

While protection against the exploitation of and predatory profiteering from presently unprotected intergenerational, community held knowledges is desirable, the further expansion of laws founded in Western logic is not without concessions and complications. Modifying existing IP law or creating *sui generis* legislation founded in the same principles risks not only offering imperfect protection but, as I explained in the first section of this chapter, altering the very nature of the stewardship of traditional knowledges by bending them to conform to ill-suited frameworks for the sake of protection. As it stands, in Canada and the United States, comprehensive legal protection for traditional knowledge that could function to prevent or discourage exploitation without distorting the

knowledge itself does not appear imminent, nor does the recognition of customary laws, or indeed even meaningful implementation of UNDRIP that would recognize sovereignty and customary law nationally, let alone internationally. How, then, can traditional knowledges be protected?

I would submit that protection against misappropriation and exploitation is only part of the answer. Protection also means supporting community efforts which foster robust intergenerational connections and strengthen traditional knowledges by diversifying the means by which they are held and transmitted. This final section will discuss the part that Indigenous video games play in the protection of traditional knowledges, as they respond and adapt to—and increasingly shape—digital environments.

Urgency

One point remained consistent across virtually every interview I held for this research: the immense sense of urgency that elders, storytellers, artists and video game developers expressed when discussing the fundamental obligation to pass on traditional knowledges to the next generation. As I discussed in Part I of this thesis, colonization willfully disrupted Indigenous ways of knowing and the systems that carried them forward. The trauma of this disconnection has had a lasting impact. As LaPensée urged, video games are “a direction we’re moving in out of the need. We’re at a critical point where there is a suicide epidemic of youth. Youth as young as eleven, are deciding that they don’t want to be here any longer. I do not think that we can afford to be concerned about the way in which the knowledge is being carried on” (LaPensée, Interview 2016). While there are indeed risks to transmediating or ‘digitizing’ existing knowledges, as I discussed in the previous section, most participants agreed the benefits outweighed the risks.

Identity loss due to a lack of connection to traditional knowledge is something that many younger interviewees shared very openly. Many game developers who were brought up away from their Nations identified an uncertainty of identity and belonging within their communities; indeed, *Wanisinowin* is Byrne's meditation on overcoming doubt about identity and community. Ray Caplin shared that he had felt "pulled away" from his culture for a long time due to the dominance of Western media, experiencing a sense of disconnection as a result, and shared his fear that "staying true to oral tradition" exclusively might contribute to further loss of knowledge. "All the people that know these things are eventually going to be gone and then all this knowledge is going to get lost," he shared. "I think it's important to somehow take (traditional knowledge) and propel it forward, to perpetuate it" (Caplin, Interview 2019).

Many underscored the threat of language loss in particular, grieving the loss of elders and fluent speakers. Language preservation, according to Flack, requires a "twelve to fifteen year sprint" in order for vital connections between fluent speakers and the coming generations to be made. As Mary Cardinal highlighted, "I know people who want to learn Cree or talk Cree, but when it's time for them (...) we don't have too much (...) It's really hard because there's not too many fluent speakers here in Fort Smith now because all of them, especially, elders have all passed away." Furthermore, the assimilationist policies and practices that her generation confronted has had a lasting impact on the presence of the Cree language. "A lot of elders who used to be in residential school," she shared, "they lost their language. I think it's very important for people to get back to their language, even if they learn only a little at a time" (Cardinal, Interview 2017). Of course, language is an essential and inseparable part of traditional knowledge and identity. As Vance Sanderson argued, "Protecting Indigenous languages is important because it's who we

are. It's our identity. We've struggled in the past because of the language loss that our grandparents experienced." (Sanderson, Interview 2017)

Because of this urgency, everyone I spoke with for this research understood the risks of 'uploading' traditional knowledges into digital environments, and determined they were outweighed by the benefits. For many, the greater risk was the potential loss of language, knowledge, and connection. As Benisinaabanden emphasized, while there is potential for traditional knowledge to be abused in uncontrolled, online spaces, "I think it's one in a thousand people abuse it, versus, five hundred will get something really valuable from having it accessible online. (...) The online digitization of these things does much more good than harm" (Benisinaabanden, Interview 2015). Indeed, *BLOOM* was made to address this sense of intergenerational disconnection and rekindle ways of knowing and identity. "Studies have shown that language learning for Indigenous communities lowers substance abuse rates, lowers rates of youth suicide," Alexander shared. "Languages encode scientific and technological information within them. I think there's a lot of amazing good that's encoded within these linguistic systems, and that these different perspectives might not appear in other ways" (Alexander, Interview 2019).

Video game developers understand the nature of the media in which they work: broad distribution, uncontrolled access, and video game modding. In response to these conditions, Elizabeth LaPensée creates her games with a "giveaway spirit," sharing that these risks are simply a part of the nature of digital media, and knowledge sharing more generally. "What we're dealing with when we release any kind of knowledge through any space," she shared, was, "you're making the choice to have a giveaway spirit about it, and

then let that work influence people however it is intended, and just have the greatest hope that that comes back to you in a good way” (LaPensée, Interview 2016).

Of course, traditional knowledges are held by community, and not all members of a community will agree with ‘giving away’ traditional knowledge online. Although most possible risks can be mitigated by thoughtful game design, there can be disagreement with regards to sharing traditional knowledge through digital media. As Carl Petersen shared, while the reception was mostly positive upon release of *Tipi Kaga*, he received a comment from someone in his community on Facebook — among otherwise immensely positive feedback —stating that young people should “stop putting the language online, because you’re just letting the wašicu steal it.” Petersen disagreed and maintained the position that “we’re trying to preserve it, we’re trying to make it accessible for people who don’t have elders to speak to. How can they steal something that we don’t have anymore? If they speak it better than us, then what’s the point?” (Petersen, Interview 2019a).

Because of the ongoing legacy of colonization, the game developers I spoke with were generally of the opinion that, while there are tradeoffs in ‘uploading’ traditional knowledges online, like uncontrolled access and an increased risk of misappropriation, their Nations, communities, and families did not have the luxury of discriminating against digital media, simply because it is not ‘the way things have always been done.’ In fact, most game developers, elders and knowledge-holders alike, insisted on greater engagement with digital revitalization efforts. As Mary Cardinal urged, “We need to get things going, because it’s taking too long. Every six months is not going to help.” As Cardinal contends, sharing boldly and broadly is the only way to ensure continuity:

If you really want your language to be alive, there's got to be more than one person involved. There's got to be a community, elders. (...) It's not limited to Cree. (...) If anybody wants to learn it, learn it. If you want to teach it, teach it. Whoever wants to learn should learn. Doesn't have to be the Cree. It's not only for the younger generations (Cardinal, Interview 2017).

In response to this urgency, most game developers I spoke with reflected the need for more resources that held knowledge, however imperfectly, rather only a few that did so 'perfectly.' "I understand the ideology of purism," shared Alexander, "of keeping the language how the language is. (...) I think if you don't have language to talk about something, then people will find language elsewhere to talk about that thing. I think the more opportunities that are given to use language, that they should be taken" (Alexander, Interview 2019). These 'opportunities' to continue traditional knowledge are not, of course, limited to video games, or even digital technology. As I discussed in Chapter 3, traditional knowledge and innovation are complementary, if not wholly inextricable, processes. Citing the trailers and trucks used in the Lakota Prayer Rides, held in commemoration of the Massacre at Wounded Knee, Petersen argued that "We're not doing it totally traditional," but "we're closer than not doing it. It's better than not doing it." 'Imperfectly' continuing traditional knowledge is preferable to not continuing it at all in the name of purity. As Petersen concluded, "in a digital space, there are risks, but the thing is that people are going to do it anyway, and I'd rather it be people from our community who understand us, than people from outside" (Petersen, Interview 2019a).

Access and Outreach

As I discussed in in section 8.2, many forms of knowledge are governed by strict protocol. Protocols, like the traditional knowledges and actions they govern, have not remained static, but have changed over time in accordance with fluctuating conditions, with many

protocols becoming more scrupulous, even within community, in response to the threat of colonization. Indigenous Nations protected their People and practices from assimilation by bringing traditional knowledges 'underground' (Edwards 2020). While these restrictions are often in place to protect secret and sacred forms of knowledge, restricting *all* forms of traditional knowledge as a bulwark against colonization may be counterproductive to their longevity. As Jason Lewis explained, one of the reasons many stories became restricted in the first place was as a reaction to colonization:

A large reason why stories became protected is because they were being protected from the colonizers, either because they didn't want the colonizers to use that information against them, or because the colonizer was actively doing things like banning their dances or potlatches or their language (...) So, they took all that stuff underground, and we're making a mistake by keeping that stuff underground. We're still responding to the colonizers. (Lewis, Interview 2015)

Lewis continued that "we're doing us a disservice by keeping them underground, because even if you say, 'We're keeping them in the community,' that still means there will be number of people in the community who never get access to it, because they don't know the right person" (Lewis, Interview 2015). This 'gatekeeping' of knowledges, shared Tiewishaw-Poirier, does not protect knowledge, but threatens it. "They let their personal biases get in the way of revitalizing and sharing our culture with our own people," she argued. "Our culture is dwindling every day. It definitely doesn't help when we discriminate against our own people on top of the rest of the world potentially discriminating against us and telling us what our culture is." Tiewishaw-Poirier, like most of the game developers in this thesis, expressed that knowledge, when shared thoughtfully, is strengthened, even through disagreement. "We should be more open to collaborating with each other. (...) We've got to learn how to share better with each other and then with the world." (Tiewishaw-Poirier, Interview 2020) Unlike Appiah (2007)

claims when he dismisses apparent demands for Indigenous communities to hoard their knowledges in perpetuity, what I have witnessed is not only a willingness, but a *wantingness*, to share traditional knowledges — within community, and with the wider world.

Over the course of this thesis, I have been fortunate to have had many opportunities to present this research internationally and share these video games with many different audiences—from academic conferences, festivals and even in the classroom. In 2017, I was invited to two, one-week special courses on Indigenous art and culture at two elementary schools in London, United Kingdom. During my time there, I shared some of the video games I have discussed in this thesis with the students, aged five to twelve. Each time, I would open the discussion with questions about representation regarding perceptions of Indigenous Peoples. Many of the students, at the top of each week, were surprised to learn Indigenous people still existed at all, others referring collectively to members of diverse nations as “Red Injuns.” Most students were surprised to learn Indigenous people knew how to make video games. These misunderstandings are, of course, the result of centuries of misrepresentations of Indigeneity by non-Indigenous painters, authors, and filmmakers, and the dominance of these representations in contemporary media and abroad.

At lunch on the final day, I was approached by one of the younger students, who shared that she really liked the game we played during her class—*Ienién:te and the Peacemaker’s Wampum*. She continued, “It helped me to learn about someone really far away from me, in a way they want me to learn about them.” Of course, there were very specific circumstances which led her to play and learn from *Ienién:te*. However, this points to the

promise of video games; they offer immersive, Indigenously determined narratives, representations and teachings in widely distributable, immersive environments, that can be engaged through the act of gameplay. Of course, this is only anecdotal, but what I have learned over the course of this research is that video games offer opportunities for Indigenous game developers to self-represent in digital realms beyond the bounds of community, to reach new audiences and engage new players, as LaPensée shared, “getting as many players interacting in Indigenous ways as possible” (LaPensée, Interview 2016).

The 2014 release of *Never Alone* was met with widespread acclaim, and it has maintained consistently positive reviews over the years, averaging a rating of 94% positive on the popular online game distribution platform, Steam, with reviews continuously citing the opportunity to learn from Alaskan Native culture as one of their favorite aspects of the game. This was, of course, one of the outcomes the CITC had hoped for. “The broader world, we realize that they may not be able to go and connect with an elder like our kids here can,” shared Fredeen. “But at least they can walk away with an understanding of how individual resilience can strengthen by having interdependence with others.” (Fredeen, Interview 2018).

In an industry otherwise saturated with tired stereotypes, Indigenous gaming companies offer accurate, Indigenously determined characters and scenarios. Instead of the hyper-sexualized Tala or Humba Wumba, or the profoundly offensive depiction of the nameless woman from *Custer's Revenge*, players enact the stories of heroines like *Never Alone's* brave Nuna, or Ienien:te on her quest to defeat the League of Evil Archaeologists. In place of the 'Indian Braves' Chief Thunderhawk and Nightwolf, Skahion:hati, outsmarts a Stone

Giant that has been terrorizing his community. Rather than the botched representations of Ictinike in the *Shin Megami Tensei* series (Atlus 1987-2016), or Wendigo in *Until Dawn* (Supermassive Games 2015), players may engage with and learn from knowledge that was digitized with intent and permission, like the water songs in *Honour Water*.

Widely distributable media like video games can mean valuable outreach which connects to players and intervenes in a market otherwise saturated in misrepresentations and stereotypes. As Ashlee Bird asked, “Is it beneficial for people outside of our community to be experiencing Indigenous music and art and video games and literature? Yeah, I think it is. I think that creates a level of understanding and a level of interaction.” (Bird, Interview 2016a) Tiewishaw-Poirier similarly described Indigenous video games as “these little, packaged things that we’ve made, and we can send them out into the world and know that I’m happy with how I’m representing myself and my people.” This widely distributable means of self-determined representation is significant, she said. “For the first time, we can teach our own histories and our own stories to other people instead of them looking at us from afar and interpreting our whole situation, and our stories.” (Tiewishaw-Poirier, Interview 2020)

Addressing the many games she has designed and contributed to, LaPensée argued that the teachings and knowledges they contain are made to be shared, and that this sharing is often mutually beneficial. “The more people who are singing Water Songs, the better,” she shared of *Honour Water*. “The more healing there is.” Some traditional knowledge, like languages as Mary Cardinal highlighted, are stronger when they are disseminated. The protocol for some teachings also means that they benefit from being shared outside of the community. As LaPensée explained regarding the decision to share the prophecy

of the Black Snake through *Thunderbird Strike*, “We’ve hit a critical point in needing the stories heard, so we can hopefully change the direction that we’re all headed that’s going to affect everybody.” She continued that other teachings, like those of balance and sustainability embedded in games like *Gathering Native Foods*, should be shared broadly, “because this is important for all generations to understand. Reciprocity with land, and relationally; this is vital for all people” (LaPensée, Interview 2016).

As I discussed in Part I of this thesis, the misrepresentation of Indigenous Peoples has undoubtedly contributed to the misunderstanding of traditional knowledge, bolstering misconceptions of false binaries of ‘old’ and ‘new,’ ‘uncivilized’ and ‘civilized,’ ‘traditional’ and ‘modern.’ While Indigenous video games can facilitate broad outreach, sharing accurate Indigenous-led representations and teachings with the wider world, as many developers have noted this is limited, and the impact is difficult to measure. What is perhaps more valuable, and perhaps more significant for the protection of traditional knowledge, is their capacity for ‘inreach;’ that is, their capacity to forge connections and build capacity in community.

Inreach: Forging Connections

In addition to outreach opportunities, video games are especially well-suited to forging connections within community, bridging both physical distances and intergenerational gaps. “I would like to make it so that physical distance doesn’t cause things to fall out of use,” shared Petersen, regarding the motivation behind *Tipi Kaga*, and new media revitalization efforts, more generally. “I’d love a large saturation of things in my Native language, and nobody else is going to make them.” Clarifying his assessment regarding learning ‘culture as a second culture,’ he continued that while any one-step removed

method, like a video game, is “not the best way to learn (...) if that’s not an option for you, then there’s other things that are maybe steppingstones to getting there” (Petersen, Interview 2019a).

Many of the games featured in this thesis are designed with distance community members in mind, as a means to create share traditional knowledge with those who may not otherwise have access. *BLOOM*, for example, was designed “for Cherokee citizens living outside of Cherokee Nation to be able to access it and use it regularly,” shared Flack. “I’d love for it to be used as a tool for reconnecting. If someone’s on the first step of their journey, being able to pick up the values, and the language, and the culture, and that being that first guided step.” (Flack, Interview 2020b). *BLOOM*, like *Tipi Kaga*, is a steppingstone towards greater connection, extending the reach of community’s cultural contexts beyond their physical bounds.

As I discussed in the previous chapter, what makes video games unique among other digital media is their ability to forge connections and share knowledge through the experiential learning they facilitate and the immersive environments in which players carry out actions. *BLOOM*’s RPG format, for example, encourages distance learners to not only to learn the Jalagi language but to learn language through culturally mediated contexts and relationships guided by the game’s mechanics. While, as Flack shared, this cannot replace the experience of being in community, “you can still pick up on, not just learning the language directly, not just learning the culture directly, but learning both indirectly and picking up on things through indirect actions or beliefs or values.” Flack noted that, “especially for city people, (*BLOOM*) takes you into a whole other way of being and seeing and interacting with the world and everyone around you. It’s not the

replacement for in-person learning, but for someone with no other option around them, I think it starts creating some of those internal patterns” (Flack, Interview 2020a; Flack, Interview 2020b).

“These little, packaged things,” as Tiewishaw-Poirier describes—to modify Reinhard’s explanation of video games as both ‘artifact’ and ‘site’ (2018)—are at once objects and environments. They are physical or virtual objects, resulting from of culturally specific processes, which in turn result in interactive environments through which equally specific processes can be carried out by players in-game. Making traditional knowledges not just accessible but actionable through, for example, the mechanics of limitation and generosity, in games like *When Rivers Were Trails*, *Gathering Native Foods*, or *On the Path of the Elders*, allows for interactivity, however limited, based in traditional knowledge for those living away from community, creating connections between game makers and game players.

In addition to making traditional knowledges accessible to those living away from community, video games are a response to changing material landscapes and the literacies of coming generations. Traditional knowledge is, by nature, intergenerational. Many participants emphasized the need to merge the knowledge of the generation that is leaving to the experiences of the generation that is coming, like the Fort Smith and Skins video game workshops are structured to facilitate. As Byrne submitted, video games and video game workshops are a “way of bringing (traditional knowledge) into the next generation, but also keeping it around for future generations” (Byrne, Interview 2017). Of course, many non-digital forms of traditional knowledge, like storytelling and oral traditional, function as archives for ways of knowing as they develop along a continuum

(McKemmish et al. 2011). Creating video games in service of this living, archival function, of ‘planting seeds,’ as Flack describes, honours generational thinking and follows the ‘path’ or ‘motion’ of traditional knowledge along a reciprocal, ever-growing continuum.

Engaging traditional knowledge in burgeoning digital environments helps to perpetuate them; to draw on Caplin’s description, to ‘propel’ them into and to help them shape emerging materialities, such that they remain adaptable and relevant to the landscapes within which Indigenous individuals and communities interact. As Flack shared, engaging language through video games is “like creating a vision for the future,” and continued that making video games is “planning for the future that I know my ancestors may have not had the time or capacity or energy to do because the environment and situations that they were in (...) Maybe I’m planting seeds of care in my children and grandchildren” (Flack, Interview 2020a). As so many participants highlighted, part of an individual’s or community’s relationship with traditional knowledge is the responsibility to pass knowledge on. The urgency I described at the beginning of this section was caused by the intentional disruption that colonization and assimilation wrought. As Alexander shared, making *BLOOM* and contributing to language revitalization efforts was as means by which some of those disconnections could be healed.

I don't want any of the coming generations to have the same experiences and positionality towards the language and culture as I did, or as my father did, or my grandfather. (...) When I think about our descendants, I don't want them to deal with this. Any of the anxiety around identity, or not fitting in. (...) I want them to have this as a thing that's in their lives, (that) they don't have to fight and struggle for (Alexander, Interview 2019).

This anxiety—of not knowing enough to start learning or engaging with traditional knowledge—was highlighted as a key issue video games could help address. Beyond

bridging distances and generations, many game developers also highlighted that video games can address apprehension and inexperience. As I discussed in the previous chapter, video games can offer a safe, experimental space to engage with traditional knowledge without fear of failure. As Byrne explained, “Being in the real world or being around traditional knowledge, working with elders, you have to deal with people. People are hard, and messy, and confusing, and you can’t start over if you say the wrong thing.” Just as Alexander identified, Byrne shared that this anxiety threatens to hinder further cultural involvement:

What I hoped was that games would give an opportunity to play out those anxieties, start over if you mess up, try it again. (...) Especially for people like me who don’t have ready access to traditional knowledge, or elders, or knowledge keepers, or storytellers (...) It would be really nice to be able to go into these spaces and at least be no worse off than a 10-year-old who’d been raised there. (Byrne, Interview 2017)

The function of video games as ‘steppingstones’ extends in multiple directions and applies both locally and over distance. Indigenous video games can forge connections intergenerationally within Indigenous communities. In addition to the positive outreach *Never Alone* achieved, forging connections locally, within the Alaskan Native and American Indian communities that the CITC serves was a priority for Fredeen. “It’s a way to reinforce stories or lessons through gameplay,” she shared, “but I also think for a lot of our kids who grow up in urban Alaska and who don’t understand what tribe they’re from, or why the Inupiaq are referred to as a People instead of a tribe, it’s a way to invite them back to find out more.” *Never Alone* was designed to connect across distances and generations, as a ‘steppingstone,’ like Petersen described, towards greater involvement. “You trigger that spark of interest and then they get to figure out what’s next, what do I want to learn about?” (Fredeen, Interview 2018).

As I noted earlier in this section, increased restrictions for traditional knowledges have meant that for some, opportunities for exposure to and involvement in traditional knowledges has been limited, even within community. As Petersen (Interview 2019b) noted, due to the ongoing legacy of colonization, there are financial and practical barriers to being able to practice traditional knowledge by conventional means, like building a tipi. For myriad reasons, not all community members will have equal opportunities to participate meaningfully in traditional knowledge, only exacerbating the sense of anxiety and disconnect identified by Byrne and Alexander. In response to this, Tiewishaw-Poirier pointed to the possibility of a VR game to help as a steppingstone towards ceremony. While for many, ceremony was inherently inappropriate for digital media, Tiewishaw-Poirier argued that “there is some value in putting the more sensitive parts of our culture into a digital space,” she argued. Given the correct intention, thoughtful development, and restricted access, she argued that, as an in-community teaching tool, VR ceremony could address a lack of experience and help members of community prepare for broader cultural participation. “I think a big part of what prevents people from reconnecting with their traditional culture,” she shared, “is the social pressure of going to those places. (...) You don't want to show up not knowing the protocol and accidentally disrespect somebody.” Caveating that this would need to be held in-community, she continued that, “VR could be a good way to get over that hurdle, build up your confidence a bit so that one day maybe you do go to a ceremony and you're confident in that you're not doing anything wrong” (Tiewishaw-Poirier, Interview 2020).

Sanderson similarly addressed the lack of confidence that many people experience as an additional barrier to engaging with traditional knowledges, and language more specifically. “A lot of Indigenous people don't use their language because they feel

ashamed, they don't feel confident," he shared. "That confidence needs to be re-instilled." Sanderson explained that instilling this confidence requires flexibility and responsiveness to the interests and realities of coming generations. "The land is the most important, but we all know that a lot of times, kids are being soaked up by technology," and continued that, "Saying, 'we're only going to use land,' is just a way of closing another door." He argued that the capacity-building efforts of the Fort Smith video game workshop participated in ongoing, broader efforts to support the adaptation of language and knowledge for coming generation: "We keep adapting, adopting and finding ways to make language more fun and usable within our communities," and that having a video game workshop helped to forge intergenerational connections to address these gaps: "having this kind of initiative is important for everyone to be involved in. It makes our culture stronger" (Sanderson, Interview 2017).

If video games are part of the materiality that is relevant and legible to current and coming generations, if they are able to create connections to traditional knowledge where they otherwise would not exist, then it is imperative to support processes that structure thoughtful engagement with digital technologies in order to facilitates passing on traditional knowledge with and within them. As this chapter will conclude, the protection of traditional knowledge is therefore does not fall exclusively under the purview of IP law, but rather, requires a comprehensive approach.

Supporting Traditional Knowledge as Innovation

We all now live in a world where new media and digital technology are deeply embedded in our daily transactions—they are our "tools for survival"—and for Indigenous artists working with new media there is an imperative to adapt to these tools and to adopt new modes of communication.

— Cheryl L'Hirondelle

Rather than avoiding digital media for the sake of purism, the video game developers featured in this thesis encouraged embracing emerging technologies, such that they may be shaped by traditional knowledge, and vice versa. As LaPensée contended, “We need to make our own games. We need to express ourselves in this space. Don't be afraid of it. In fact, embrace it. It's a very powerful way for us to express ourselves so let's take it back” (LaPensée, Interview 2016). As I discussed in the previous chapter, digital environments increasingly define the contexts within which we act and interact. Because of this, as Longboat shared, engaging with digital media is “vital, especially because it's all around us now. (...) That is what our reality is right now. Indigenous people need to be there, need to be present, they need to be self-determining” (Longboat, Interview 2019). If traditional knowledge is to be understood as the knowledge of how to survive by understanding the nature of one's environment, and of how to enact core cultural values through actions within that environment, increasingly, this will mean the continuation of traditional knowledges and related protocols in and of digital environments; that is, as I have argued, the cultivation of *tradigital* knowledges, and indeed, supporting those knowledges which arise in response to the next phases in technological innovation.

To draw on Benisinaabanden's language, digital media is still in its “time of newness,” relative to other materialities. Similarly, Longboat continued that, “digital media, and accessible digital media, is in its infancy. It's only been less than 10 years since everyone got a smart phone. We're babies. We're still learning how to have relationships with these devices” (Longboat, Interview 2019). Because of this, uniting traditional knowledges and digital technologies is not only desirable, but “inevitable,” according to Caplin (Interview 2019). As Indigenous innovators and communities form relationships with and within digital environments, as circles of relations expand and digital media is recognized as as

animate and spiritual force (2bears 2014) not only will these environments inform traditional knowledge, but traditional knowledge will inform these environments.

Indigenous game makers need not rely solely on existing digital technologies. Thoughtful innovation can mean imbuing the very infrastructure of digital media with traditional knowledges and related protocols. As LaPensée stressed, “What we really need to be pushing for is actually making an Indigenous game engine from the code up, because right now we're still working with modifying, so we're always working with the constraints of what is the Western notion of time as linear” (LaPensée, Interview 2016). The protection of traditional knowledges requires not only engaging existing digital technologies, but defining them through an Indigenous lens, creating code, and therefore processes, that are reflective of Nation-specific values. As I discussed in Chapter 3, video games, and digital media generally, have long been defined by limited Western, male perspectives (Goldberg et al. 2015; anthropy 2012), however, as Jason Lewis argued, “if we don't participate, we're still at risk to be subject to the results.” Just as Winograd argues, “the use of technology in turn leads to fundamental changes in what we do, and ultimately what it is to be human. We encounter the deep questions of design when we recognize that in designing tools we are designing ways of being” (Winograd et al. 1986). Lewis continued that protecting against misrepresentations therefore requires meaningful engagement, “on our terms as much as possible. Let's bring our worldview into this, let's think about how we would design technology if we were able to start designing it ourselves and implementing it ourselves” (Lewis, Interview 2015). The challenge is not digital technology itself, but as Tiewishaw-Poirier succinctly argued, “learn(ing) how to use it more responsibly” (Tiewishaw-Poirier, Interview 2020).

To this end, as Amy Fredeen shared, the most rewarding outcome of *Never Alone* was not the widespread acclaim it has achieved, but knowledge of the ‘gifts’ Indigenous communities bring to digital realms. “It was our mission in showing kids that there’s potential,” she asserted, “showing the community that we aren’t just a set of challenges, we have gifts to bring to the community (...) Bringing digital tools into our services has shown we can move kids more easily out of the focus on the barriers to them seeing their strengths” (Fredeen, Interview 2018).

Bringing these gifts— traditional knowledges, Indigenous worldviews, and cultural values (if indeed, a distinction can be made)—into digital environments and informing those environments through Indigenous worldviews is precisely the aim of the Indigenous game development featured in this thesis. Bridging divides—digital, intergenerational, geographical, and those of inexperience or unfamiliarity—and creating greater connection to traditional knowledge can be achieved through thoughtful, community-centered game design, through reciprocal, engaging play, and increasingly, can be guided, however microcosmically, through the game mechanics themselves. Capacity-building efforts, like those of Indigenous video game workshops, actively address these gaps, generating an understanding across generations, of how to meaningfully engage with digital technologies, “to demystify technology and digital storytelling” (Heslep, Interview 2018). As so many Indigenous video game developers have attested, video games, too, can help to demystify traditional knowledge.

8.4 Conclusion

When I first began this research, I was simply in search of ‘evidence’ that traditional knowledges could exist digitally, in order to disprove the false binary of the ‘old’ and ‘new’

and the assumption that digital technologies and traditional knowledge are necessarily incompatible. Beyond confirming that traditional knowledges can be held digitally, what I have learned is that the processes which emerge from and subsequently govern Indigenously determined video game development demonstrate the responsiveness of traditional knowledge to emerging material realities. That is, Indigenous game developers and communities are not only transmediating existing knowledges into digital environments, but actively nurturing traditional knowledge in and of these environments — what I have suggested may be described as *tradigital* knowledge.

Quite the opposite of Appiah's accusation of "property rights fundamentalism" (2007) Indigenous gaming studios and developers are seeking ways to share appropriate forms of traditional knowledge through self-determined processes. The Indigenous video games discussed in this thesis are emblematic of a conscientious simultaneity of the traditional and the digital, speaking to the realities of contemporary Indigenous way of knowing and refuting the flat categorizations of 'old' and 'new.'

As the IGC and WIPO work to determine the most effective means to protect traditional knowledges through an international instrument Expanding or creating more law may have negative ramifications for the future of *tradigital knowledges* as well, whether through indirect support of forms of expressions deemed more 'authentic' or 'traditional,' or through restrictive ownerships rights allocated to externally determined 'rights-holders.' Under an expanded IP law, would the collaborations essential to creations such as the *Skins Workshops* games and *Never Alone* games be possible? Would the law consider the content, game mechanics, and design of Indigenous video games traditional knowledge?

Any legal measure to protect traditional knowledges must anticipate and facilitate the growth, flexibility, and responsiveness that define traditional knowledges, as an ever-changing ecosystem of values, protocols, and processes. These reciprocals, ‘loopular’ ‘paths’ are a central quality to traditional knowledges and acknowledging them necessary for their protection. Often ‘protection’ means the superimposition of logic developed external to the community in order to protect it from practices that are born of and participate in that same logic (Hafstein 2014) — in this instance, property law, capitalism, and ownership . In order to ‘qualify’ for protection, local and community-specific knowledge and protocols must then abandon their specificity and conform to that logic in order to receive this ‘protection.’ Paradoxically, the risk is that the very legislation which seeks to offer rights to an historically disadvantaged peoples may in fact serve to reinforce a short-sighted notion of static cultural polarities. Where would work that is simultaneously conventionally traditional and innovative belong?

It is difficult to imagine how the further expansion of IP law, or development of an international ‘IP-like’ instrument would materially improve the protection of traditional knowledges, especially taking into consideration the nature of what I have called tradigital knowledge. A major obstacle for legal protection is a definitional one; broadly defined, and innovation in traditional knowledge and *tradigital* knowledges may qualify for protection, but any resulting legislation is likely to be ineffective; narrowly defined, and only ‘unadulterated’ works from ‘culturally distinct’ groups might be eligible for protection (Dutfield et al. 2020).

The well-intentioned but “bad conscience” (Burkert 2008) expansion of intellectual property may have unintended consequences. Community membership is immensely

complex, and subsequent rights-allocation to 'owners' would be difficult if not impossible to establish from the top down. The diversity within and between Indigenous communities, with regards to understandings of property and ownership, Indigenous government, traditional laws and protocol, and community roles, would need to be acknowledged and incorporated. Would, for example, Canada's current Indian Registry, which restricts certain rights to registered 'Status Indians,' be reinforced under such a system? Furthermore, a property-based protection could inadvertently instill a rigidity that would further prevent or inhibit the adaptation and responsiveness of traditional knowledges. Legal protective measures should not inadvertently encourage contributions to traditional knowledge — like the video game in this thesis — towards what is 'protectable' within their parameters.

While protection against predatory, exploitative practices and opportunistic profiteering is necessary and important, whether it be through the careful modification or expansion of existing IP law, the generation of *sui generis* (of its own kind) legislation, or better yet, the recognition of customary laws, protection against misappropriation and exploitation is, of course, not the complete picture. Protection also means capacity-building in communities; strengthening communities from within, creating vital intergenerational connections to knowledges, and ensuring they are responsive to the challenges facing the coming generations. Protection means respecting and implementing the protocols that diverse forms of traditional knowledge require and understanding what this means for making and playing games which hold those knowledges.

This is not to suggest Indigenous video games alone offer a comprehensive approach to the continued endurance and growth of traditional knowledge (and indeed, no singular

effort should). While 'protection' may take many forms, activism, education, and cultural promotion do not offer legally enforceable rights to traditional knowledge and require some degree of buy-in from the greater population in order to be effective. Digitization and gamification are not always the appropriate means of communicating many forms of traditional knowledges, and furthermore, participation in digital environments requires financial and technical resources, and many Indigenous communities remain on the losing side of the 'digital divide.'

However, in the absence of nuanced legal right that could recognize and protect the interchange between innovation and traditional knowledge, supporting Indigenous-lead innovation as a means of protection may be a promising possibility. Given this context, it is imperative that that Indigenous Peoples interested in addressing these issues digitally and contributing their voices to the global, virtual discourse have access to digital resources. Indigenous video games offer lessons in the dynamic nature of living knowledges, memories, and traditions, illustrating the benefits of Indigenous protocols and processes in the creation of digital content and the resilience of traditional knowledges over time.

Chapter 9

CONCLUSION

This thesis discussed the concept of traditional knowledge as part of a reciprocal, intergenerational ecosystem of continuous innovation and exchange. Through the lens of Indigenous-led innovation in video game design, it addressed the misperception of traditional knowledges as ‘old’ and ‘static,’ and had argued for the legitimacy of what I have termed *tradigital* knowledges — that is, the traditional knowledge in and of digital realms. This final chapter first reviews the core arguments developed throughout this thesis. It continues to summarize the main contributions that this thesis has made. This will include the core interview takeaways and how they inform the conceptual underpinnings of the understanding of traditional knowledge, and what this implies for the protection of traditional knowledge under the law. To conclude, I address the limitation of this research, and suggest avenues for future work, which will both present research that would complement this thesis’s conclusions, as well as address some of the concerns addressed in this thesis’s current limitations.

9.1 The Protection of Tradigital Knowledge

This thesis has taken an interdisciplinary approach to understanding the nature of traditional knowledges in digital environments and how they may best be protected. It specifically addresses the question of “newness,” both in terms of materiality and experiential knowledge, through the lens of Indigenous video games. It finds that traditional knowledge is neither ‘old’ nor ‘new,’ but rather, better describes the intergenerational movement of knowledge, in which core cultural values are passed on

and continuously enacted through processes that shift over time in response to emerging realities. It has drawn on the insights of Indigenous storytellers, knowledge-holders, elders, artists and video game developers from many Nations, who work in the interstitial, reciprocal space of tradition and innovation, to address proposals for the protection of traditional knowledges by international IP law.

Part I of this thesis undertook the task of addressing traditional knowledge first as a broad concept described in IP law, and then, in connection to innovation, virtual heritage and IP law. In Chapter 2, I presented the difficulties of clearly definition something as varied and locally nuanced as traditional knowledge on an internationally level, with particular regard to the connotations that traditional knowledge is necessarily 'old' and 'static.' Although lawmakers and legal scholars, so too have they highlighted the persistence of this assumption. Taking the historical context of colonization, assimilation, and the imposition of Eurocentric norms on Indigenous territories into account, I then addressed the apparent need to protect traditional knowledge. Following this, I discussed the double-edge sword of IP protection, highlighting how the modification of existing IP law to protect traditional knowledge risks the further dominance of Western norms and values over structures of governance and law held by Indigenous communities. From here, I introduced literature which argues that digital media, like video games, risk exacerbating the two issues identified in the previous two sections: that is, the continued dissemination inappropriate information and the proliferation of inaccurate representation. I conclude by presenting the proposal for the use digital tools, such as traditional knowledge archives, digital libraries, and research networks, to harness digital technologies to create greater protection for traditional knowledge.

In Chapter 3, I depart from the legal framework to address the concept of traditional knowledge as it may be developed through the lens of digital media and more specifically, video games. This chapter addresses the how misappropriation and misrepresentation are often amplified in digital contexts, with particular regard to the issue of equitable access to digital environments, known as the digital divide. Addressing the aforementioned perception of traditions as 'old' and static, I introduce the linkage between tradition and innovation, placing Indigenous new media within a historical and continued context of innovation and (ex)change. I conclude this chapter with a discussion on video games as objects and environments of culture, introducing the broad framework within which the Indigenous video games that feature in this thesis may be understood.

Part II of this thesis introduces Indigenous video games and provides the background information needed for the discussion on traditional knowledges in video games. Chapter 4 first presents an overview of my research design, based on the principle of Indigenous methodologies. It outlines the consent process and interview structure and identifies the ethical challenges that I encountered throughout the course of this research. Chapter 5 presents the Indigenous video games and video game developers that feature in this thesis. Breaking them into overlapping categories, Chapter 5 first presents video games for learning, discussing games which seek to pass on language, song, stories, and teachings through immersive and engaging play. It then introduces games 'of experience'—that is, games that aim to share an experience, create empathetic connection, or bring players into a point of view. The final section is on games of storytelling, which draw on the interactive format of video games to tell stories through gameplay. Chapter 6 illustrates the processes of making these games, paying particular attention to those were community-centered game-making. This chapter presents

diverse approaches to Indigenously determined game design, drawing out in particular issues of ownership and protocol that were identified or developed during the game making process, for both individuals and communities. The emphasis in Chapter 6 is the video game workshop, as a means by which video game making serves as a nexus for community members to share in knowledge and build capacity, which I later argue is an essential component of the protection of traditional knowledges.

Part III combines discussion with continued interview insights, applying the experiences and expertise of interviewees to the broader questions on the nature of traditional knowledges and how they may best be protected in digital environments. Drawing on the content of Chapters 5 and 6, Chapter 7 re-addresses the definition of traditional knowledge, guided by interview insights and game content. Beginning with a definition of traditional knowledge, broadly, as understood by interviewees, Chapter 7 examines how traditional knowledge is present in various ‘stages’ of a video game — that is, within the video games themselves, as applied during the making of the games, and as enacted through the event of play. It first examines traditional knowledge as it is embedded in the game worlds themselves, present in the language, characters, environments, and sounds. It then discusses how traditional knowledge is passed on and further developed through the making and playing of games, which are structured by culturally specific protocols and rules. Drawing on the argument established in Chapter 3 on the interrelatedness of tradition and innovation, the fourth section argues for the legitimacy of contemporary experiences and materialities for traditional knowledge. It concludes by introducing the concept of ‘tradigital knowledge’; that is, traditional knowledge that is ‘born’ digital, which both informs and is informed by virtual materialities and conditions.

Chapter 8 then takes the insights on the nature of tradigital knowledge and applies them to the question of protection. It first confirms the concerns raised in Chapter 2 of this thesis regarding the overly restrictive logic of ownership as ill-suited to the protection of traditional knowledge. Before arguing for the benefits of Indigenous video games for the non-legal protection of traditional knowledge, it first addresses the shortcomings and anxieties over the use of digital media for traditional knowledge, insiting that, while helpul, digital environments and tradigital knowledges must only ever complement and bolster, but never replace, their 'real world' counterparts. While Indigenous video game participate in the continued legacy of traditional knowledges, they alone are not adequate protection in and of themselves, nor are they necessarily appropriate environments for all forms of traditional knowledge.

The final section outlines the many benefits of Indigenous video games, and presents the notion of protection as one that must be responsive the immense urgency to protect traditional knowledge not only from external exploitation and misappropriation, but from the threat of being lost to the coming generations. It argues that skills-sharing and capacity-building facilitated through video game making and play, and which actively encourages intergenerational knowledge-exchange, bolsters the presence of Indigenous ways of knowing in digital environments. This increases access to and participation in traditional knowledge across generations and for distance-learners, and presents a compelling argument for the protection of traditional knowledge, not understood as a new legal measure, but as a robust, community-based strategy that supports the continued development of traditional knowledge.

9.2 Key Contributions

Indigenous video games offer a cogent argument for the efficacy of Indigenous-determined, non-legal protective measures for traditional knowledges. This thesis has argued that traditional knowledge is a system of innovation, the reciprocal exchange between that which is known and that which is created, contributing to an ever-expanding, intergenerational body of knowledge. It has argued that 'new' and digital manifestations of traditional knowledge do not contradict, but support with its responsive, constantly shifting nature.

With regards to the question of expanding existing intellectual property law for the protecting traditional knowledge, the insights that interviewees shared with me over the course of the thirty-two formal interviews and countless informal conversations at festivals, conferences, and community gatherings, supports the criticisms of copyright, and IP law more broadly, as a legal protection for traditional knowledges. Overall, this research has confirmed that the concepts of 'ownership' and 'property' do not accurately describe the relationship that communities hold with their traditional knowledges, generally speaking. Rather, these concepts are summoned only to protect the content of the video games from exploitation by external actors, and often do not apply within the community. There are serious contradictions between the underlying logic of IP and traditional knowledge, broadly speaking. Protection via intellectual property generally demands demonstrable novelty (as in the case of patents), originality (as in the case of copyright), or a recognizable distinctness (as in the case of trademarks); traits which stand in contrast to traditional knowledge, which is ever in the gesturing towards and of acknowledging its lineage.

As Burkert and Hafstein argued and many interviewees reinforced, the negative consequences of well-intentioned law making demonstrate that laws made with regards to the protection of traditional knowledge must take into consideration cultural innovation and growth, accounting for innovation as a key part of traditional knowledge, so that any law concerning the protection of traditional knowledge does not unintentionally favour one type of expression of traditional knowledge over another. Any law expanded or created with the purpose of protecting traditional knowledge must not confine traditional knowledge and its subsequent protection to strict definitions that would limit its inevitable growth. This does not protect traditional knowledge, but stifles it, and is ultimately counterintuitive to its protection. These findings in this thesis may contribute to lawmakers' understandings of traditional knowledges, regardless of the legal framework under consideration.

At the first level, this thesis has accomplished what I initially sought to 'prove' at the beginning of this research: that traditional knowledges can and do inform making in digital environments and can be held in those environments. Traditional knowledge is neither 'old' nor 'new,' but can be understood as the connective tissue between what is known and what is becoming; the exchange between the cumulative knowledge that a people have generated and passed on over time, as it meets and responds to burgeoning contemporary realities facing the coming generations.

Beyond this, however, I have come to learn more about the nature of traditional knowledge. I have also offered the term 'tradigital knowledge' to identify those knowledges which not only inform and transform making in digital environments, and embedded directly in digital environments. It is increasingly evident that traditional

knowledge not only informs these processes, but is also generated by them. That is, as digital media increasingly becomes a part of our vernacular media and we engaged with it and through it regularly, we will need to and will develop knowledges – protocols and process – grounded in this media, that will be based on and will reflect and reinforce those same values that traditional knowledge edoes

Traditional knowledge is the means by which we connect to our values intergenerationally, even as our material, social and economic realities change. To reflect the ever-emerging nature of traditional knowledge as an exchange between what is known and what is becoming, this research has offered the term ‘tradigital’ knowledge to highlight traditional knowledges which develop in response to digital realms.

Traditional knowledge can be understood as the connective tissue between what is known and what is becoming; the exchange between the cumulative knowledge that a people have generated and passed on over time, as it meets and responds to burgeoning contemporary realities facing coming generations. Because digital media comprises so much of our contemporary landscapes—both in terms of the increasing presence of hardware in our hands and homes, but also in terms of the digital landscapes within which we interface and connect—traditional knowledges, as they always have, are responsive to these conditions. As Carl Petersen emphasized as we spoke about the divides, perceived or real, between physical and digital spaces, “I’m from the reservation, I’m from the community, I’m from the College, but just as much, I’m from the internet and I exist online, more than I exist in ‘the real life.’” (Petersen, Interview, 2019a). Digital spaces expand and redefine the borders of community and the bounds of our relations.

The immense sense of urgency interviewees communicated when discussing the importance of passing traditional knowledges on by any means necessary has come to shape my understanding of the nature of protection. A recurrent and repeated theme was: if video games are part of the materiality that is relevant and legible to the coming generations, then it is best to develop protocols that structure thoughtful engagement with those technologies in order to find ways to pass on traditional knowledge. Technology does not necessarily pose a threat to traditional knowledge. The demand is not to ignore emerging technologies, but to embrace them and bring them into the space of community protocol and traditional knowledge. We are forming relationships with and within digital environments, and although indeed, not all kinds of traditional knowledge are appropriate for “digitization,” the act of critically engaging with digital media, in this case, through video games, is generating knowledge in and of digital spaces. Increasingly, traditional knowledge will be born digital.

Traditions and traditional knowledges must be allowed to grow, and any law that seeks to protect them must anticipate and facilitate this growth. This is a central quality to traditional knowledge, and necessary for its protection. However, while protection against predatory, exploitative practices that seeks to prevent misappropriation and opportunistic profiteering is necessary and important, whether it be through the careful modification or expansion of existing IP law, the generation of *sui generis* (of its own kind) legislation, or better yet, the recognition of customary laws, protection against misappropriation is not the complete picture. Protection also means capacity-building in communities. Protection means strengthening communities from within, creating vital intergenerational connections to knowledges, and ensuring they are responsive to the challenges facing the coming generations. Protection means respecting and

implementing the protocols that diverse forms of traditional knowledge require and understanding what this means for making and playing games which hold those knowledges.

9.3 Future Work

This thesis had raised more questions for me than it has answered, and I am eager to continue developing the questions and insights inspired by this work. The arguments presented in this thesis are by no means an exhaustive discussion. There remain many perspectives unrepresented, and many more avenues to explore.

As new technologies and modalities emerge, so too will traditional knowledge shape and be shaped by them. Indigenous video games are thriving with thrilling breadth and diversity. Exciting new games are released every year and new, more accessible software and technologies are being drawn on. The unique qualities of VR games in particular were a topic raised by many interviewees, as the open-ended, exploratory nature of VR gameworlds and gameplay may be especially suitable for non-linear storytelling. While many also cautioned against the costly production and limited access to VR games, as VR platforms become more accessible, I believe they would make a compelling case study in the parallels between traditional ways of knowing and the structures supported by emerging technologies.

A possible avenue for further research is the examination of the impact of gameplay, with a greater emphasis on the player's experience during gameplay and post-play event. Although I was able to informally gauge players' response to the video games presented in this thesis at conferences, festivals, and in schools, the impact of 'play' on a player was

not a quality I was able to measure during this research. I had initially considered a broad survey of online reviews to 'measure' the impact of games on players, but based on interviewee insights regarding the non-transactional nature of knowledge giving and receiving, this seemed to miss the point entirely, in the end. I would be interested in developing a more nuanced approach to understanding the impact of gameplay on players' understanding of the information conveyed in a given game. Indeed, as I briefly discussed in Chapter 7 in the discussion of *WRWT*, there is some interest in understanding the 'success' of a video game in conveying information and passing on knowledge.

The approach I have taken for this research has been to connect with Indigenous video game developers specifically, to understand their game-making process. There was immense value in learning from these developers and their advisors, as they often work with or from within their own communities. They regularly and actively mediate between the digital and the physical and have experience in transmediating their knowledge and experiences into video games and the context of 'play,' and in (co)-developing the traditional knowledge in and of these spaces. While this approach meant I was able to speak to individuals who regularly work within digital environments and contemplate the nature of those environments, it also means they have largely already made the decision that the digital world, and video games more specifically, are helpful at least to some degree, for the protection of traditional knowledges. A different approach to this research, and indeed, the approach I had initially hoped to take, would be to work in-depth with a single community, instead of taking a broad view onto a diversity of games. While this approach allowed me to learn about many games and many points of view, what is missed is the diversity of perspectives from within a single community. The

viewpoints shared in this research represent those who are, for the most part, ardently in favour of the use of digital technologies and defend its benefits, and while their expertise as creatives with an intimate knowledge of the benefits and risks of working with digital technologies in the dynamic spaces between tradition and innovation, it also meant that the views of those who are hesitant towards or opposed to the use of digital media are not directly represented in this research. Although many interviewees openly disclosed disagreements they had had with community members on the validity and safety of digitizing traditional knowledge, this is a perspective that is ultimately not represented firsthand in this thesis.

Finally—and on a personal note—in considering how Indigenous video games are often strengthened through collaboration with community, perhaps more than anything, this thesis has made me want to make a video game with my own community in Mi'kma'ki.

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PART IV - Appendix

1976 Tunis Model Law on Copyright for Developing Countries

SECTION 2

Derivative works

(1) The following are also protected as original works:

[...]

(iii) works derived from national folklore.

[...]

SECTION 6

Works of national folklore

(1) In the case of works of national folklore, the rights referred to in Sections 4 and 5(1) shall be exercised by the competent authority as defined in Section 18.

[(1 bis) Subsection (1) shall not apply when works of national folklore are used by a public entity for non-commercial purposes.

(2) Works of national folklore are protected by all means in accordance with subsection (1), without limitation in time.

(3) Copies of works of national folklore made abroad, and copies of translations, adaptations, arrangements, or other transformations of works of national folklore made abroad, without the authorization of the competent authority, shall be neither imported nor distributed.

[...]

SECTION 17

Domaine public payant

The user shall pay to the competent authority ••• percent of the receipts produced by the use of works in the public domain or their adaptation, including works of national folklore. The sums collected shall be used for the following purposes:

(i) to promote institutions for the benefit of authors [and of performers], such as societies of authors, cooperatives, guilds, etc.

(ii) to protect and disseminate national folklore.

SECTION 18

Definitions

For the purposes of this Law:

[...]

(iv) " folklore " means all literary, artistic and scientific works created on national territory by authors presumed to be nationals of such countries or by ethnic communities, passed from generation to generation and constituting one of the basic elements of the traditional cultural heritage

Commentary:

17. Subsection (3) refers to Section 6 the protection of national folklore, which likewise is protected because in developing countries national folklore constitutes an appreciable part of the cultural heritage and is susceptible of economic exploitation, the fruits of which should not be denied to those countries.

[...]

20. As fixation is a frequent requirement in countries following the Anglo-Saxon legal approach, for reasons of proof in particular, subsection (5bls), which is optional, provides that " ... a literary, artistic or scientific work shall not be protected unless the work has been fixed in some material form." This condition excludes a very small number of works from protection, namely, those which are improvised without having been fixed in advance or at the time of performance. However, the fixation requirement cannot possibly apply to works of folklore: such works form part of the cultural heritage of peoples and their very nature lies in their being handed on from generation to generation orally or in the form of dances whose steps have never been recorded; the fixation requirement might, therefore, destroy the protection of folklore provided for under Section 6. Consequently, in the case of works of folklore, the authors of the Model Law have made an exception to the fixation rule, particularly since, if this rule were sustained, the copyright in such works might well belong to the person who takes the initiative of fixing them.

[...]

39. The object of this provision is to prevent any improper exploitation and to permit adequate protection of the cultural heritage known as folklore, which constitutes not only a potential for economic expansion, but also a cultural legacy intimately bound up with the individual character of each people. On these twofold grounds works of folklore deserve protection, and the economic and moral rights in such works will be exercised, without limitation in time, by the competent national authority empowered to represent the people that originated them. It has been proposed that this competent authority be the body responsible within the country for the administration of authors' rights.

[...]

73. Finally, it is recalled that under Section 6(2) works of folklore, are protected without limitation in time.

1985 Model Provisions for National Laws on the Protection of Expression of Folklore against Illicit Exploitation and other Prejudicial Actions

I.

INTRODUCTORY OBSERVATIONS

Need for the Legal Protection of Expressions of Folklore

1. Folklore is an important cultural heritage of every nation and is still developing--albeit frequently in contemporary forms--even in modern communities all over the world. It is of particular importance to developing countries which more and more recognize folklore as a basis of their cultural identity and as a most important means of self-expression of their peoples both within their own communities and in their relationship to the world around them. Folklore is to these countries increasingly important from the point of view of their social identity. too. Particularly in developing countries, folklore is a living, functional tradition, rather than a mere souvenir of the past.

2. The accelerating development of technology, especially in the fields of sound and audiovisual recording, broadcasting, cable television and cinematography may lead to improper exploitation of the cultural heritage of the nation. Expressions of folklore are being commercialized by such means on a world-wide scale without due respect for the cultural or economic interests of the communities in which they originate and without conceding any share in the returns from such exploitations of folklore to the peoples who are the authors of their folklore. In connection with their commercialization, expressions of folklore are often distorted in order to correspond to what is believed to be better for marketing them.

3. In the industrialized countries, expressions of folklore are generally considered to belong to the public domain. This approach explains why, at least so far, industrialized countries generally did not establish a legal protection of the manifold national or other community interest related to the utilization of folklore.

4. During the last decade or two, however, it became obvious that--in order to foster folklore as a source of creative expressions--special legal solutions must be found both nationally and at the international *level* for the protection of folklore. Such protection should be against any improper utilization of expressions of folklore, including the general practice of making profit by commercially exploiting such expressions outside their originating communities without any recompense to such communities.

[...]

II.

THE MODEL PROVISIONS

25. The Model Provisions read as follows:

"Model Provisions for National Laws on the Protection of Expressions of Folklore Against Illicit Exploitation and Other Prejudicial Actions

[Considering that folklore represents an important part of the living cultural heritage of the nation, developed and maintained by the communities within the nation, or by individuals reflecting the expectations of those communities;

Considering that the dissemination of various expressions of folklore may lead to improper exploitation of the cultural heritage of the nation;

Considering that any abuse of commercial or other nature or any distortion of expressions of folklore is prejudicial to the cultural and economic interests of the nation;

Considering that expressions of folklore constituting manifestations of intellectual creativity deserve to be protected in a manner inspired by the protection provided for intellectual productions;

Considering that such a protection of expressions of folklore has become indispensable as a means of promoting further development, maintenance and dissemination of those expressions, both within and outside the country, without prejudice to related legitimate interests;

The following provisions shall be given effect:]

SECTION 1 Principle of Protection

Expressions of folklore developed and maintained in [insert the name of the country] shall be protected by this [law] against illicit exploitation and other prejudicial actions as defined in this [law].

SECTION 2 Protected Expressions of Folklore

For the purposes of this [law], "expressions of folklore" means productions consisting of characteristic elements of the traditional artistic heritage developed and maintained by a community of [name of the country] or by individuals reflecting the traditional artistic expectations of such a community, in particular:

- (i) verbal expressions, such as folk tales, folk poetry and riddles;
- (ii) musical expressions, such as folk songs and instrumental music;

(iii) expression by action, such as folk dances, plays and artistic forms or rituals; whether or not reduced to a material form; and

(iv) tangible expressions, such as:

(a) productions of folk art, in particular, drawings, paintings, carvings, sculptures, pottery, terracotta, mosaic, woodwork, metalware, jewellery, basket weaving, needlework, textiles, carpets, costumes;

(b) musical instruments;

[(c) architectural forms].

1989 UNESCO Recommendation on the Safeguarding of Traditional Culture and Folklore

A. Definition of folklore

For purposes of this Recommendation:

Folklore (or traditional and popular culture) is the totality of tradition-based creations of a cultural community, expressed by a group or individuals and recognized as reflecting the expectations of a community in so far as they reflect its cultural and social identity; its standards and values are transmitted orally, by imitation or by other means. Its forms are, among others, language, literature, music, dance, games, mythology, rituals, customs, handicrafts, architecture and other arts.

B. Identification of folklore

Folklore, as a form of cultural expression, must be safeguarded by and for the group (familial, occupational, national, regional, religious, ethnic, etc.) whose identity it expresses. To this end, Member States should encourage appropriate survey research on national, regional and international levels with the aim to:

- a. develop a national inventory of institutions concerned with folklore with a view to its inclusion in regional and global registers of folklore, institutions;
- b. create identification and recording systems (collection, cataloguing, transcription) or develop those that already exist by way of handbooks, collecting guides, model catalogues, etc., in view of the need to co-ordinate the classification systems used by different institutions;
- c. stimulate the creation of a standard typology of folklore by way of:
 - i. a general outline of folklore for global use;
 - ii. a comprehensive register of folklore; and
 - iii. regional classification of folklore, especially field-work pilot projects.

[...]

F. Protection of folklore

In so far as folklore constitutes manifestations of intellectual creativity whether it be individual or collective, it deserves to be protected in a manner inspired by the protection provided for intellectual productions. Such protection of folklore has become indispensable as a means of promoting further development, maintenance and dissemination of those expressions, both within and outside the country, without prejudice to related legitimate interests. Leaving aside the 'intellectual property aspects' of the protection of expressions of folklore, there are various categories of rights which are already protected and should continue to enjoy protection in the future in folklore documentation centers and archives. To this end, Member States should:

- a. regarding the 'intellectual property' aspects call the attention of relevant authorities to the important work of UNESCO and WIPO in relation to intellectual property, while recognizing that this work relates to only one aspect of folklore protection and that the need for separate action in a range of areas to safeguard folklore is urgent;
- b. regarding the other rights involved:
 - i. protect the informant as the transmitter of tradition (protection of privacy and confidentiality);
 - ii. protect the interest of the collector by ensuring that the materials gathered are conserved in archives in good condition and in a methodical manner;
 - iii. adopt the necessary measures to safeguard the materials gathered against misuse, whether intentional or otherwise;
 - iv. recognize the responsibility of archives to monitor the use made of the materials gathered.

2003 UNESCO International Convention for the Safeguarding of Intangible

Cultural Heritage

I. General Provisions

[...]

ARTICLE 2 Definitions

For the purposes of this Convention,

1. The "intangible cultural heritage" means the practices, representations, expressions, knowledge, skills – as well as the instruments, objects, artefacts and cultural spaces associated therewith – that communities, groups and, in some cases, individuals recognize as part of their cultural heritage. This intangible cultural heritage, transmitted from generation to generation, is constantly recreated by communities and groups in response to their environment, their interaction with nature and their history, and provides them with a sense of identity and continuity, thus promoting respect for cultural diversity and human creativity. For the purposes of this Convention, consideration will be given solely to such intangible

cultural heritage as is compatible with existing international human rights instruments, as well as with the requirements of mutual respect among communities, groups and individuals, and of sustainable development.

2. The “intangible cultural heritage”, as defined in paragraph 1 above, is manifested inter alia in the following domains:

- (a) oral traditions and expressions, including language as a vehicle of the intangible cultural heritage;
- (b) performing arts;
- (c) social practices, rituals and festive events;
- (d) knowledge and practices concerning nature and the universe;
- (e) traditional craftsmanship.

3. “Safeguarding” means measures aimed at ensuring the viability of the intangible cultural heritage, including the identification, documentation, research, preservation, protection, promotion, enhancement, transmission, particularly through formal and non-formal education, as well as the revitalization of the various aspects of such heritage.

[...]

III. Safeguarding of the intangible cultural heritage at the national level

ARTICLE 11 Role of States Parties

Each State Party shall:

- (a) take the necessary measures to ensure the safeguarding of the intangible cultural heritage present in its territory;
- (b) among the safeguarding measures referred to in Article 2, paragraph 3, identify and define the various elements of the intangible cultural heritage present in its territory, with the participation of communities, groups and relevant non-governmental organizations.

ARTICLE 12 Inventories

. To ensure identification with a view to safeguarding, each State Party shall draw up, in a manner geared to its own situation, one or more inventories of the intangible cultural heritage present in its territory. These inventories shall be regularly updated.

2. When each State Party periodically submits its report to the Committee, in accordance with Article 29, it shall provide relevant information on such inventories.

ARTICLE 13 Other measures for safeguarding

To ensure the safeguarding, development and promotion of the intangible cultural heritage present in its territory, each State Party shall endeavour to:

- (a) adopt a general policy aimed at promoting the function of the intangible cultural heritage in society, and at integrating the safeguarding of such heritage into planning programmes;
- (b) designate or establish one or more competent bodies for the safeguarding of the intangible cultural heritage present in its territory;
- (c) foster scientific, technical and artistic studies, as well as research methodologies, with a view to effective safeguarding of the intangible cultural heritage, in particular the intangible cultural heritage in danger;
- (d) adopt appropriate legal, technical, administrative and financial measures aimed at:
 - (i) fostering the creation or strengthening of institutions for training in the management of the intangible cultural heritage and the transmission of such heritage through forums and spaces intended for the performance or expression thereof;
 - (ii) ensuring access to the intangible cultural heritage while respecting customary practices governing access to specific aspects of such heritage;
 - (iii) establishing documentation institutions for the intangible cultural heritage and facilitating access to them.

ARTICLE 14

Education, awareness-raising and capacity-building

Each State Party shall endeavour, by all appropriate means, to:

- (a) ensure recognition of, respect for, and enhancement of the intangible cultural heritage in society, in particular through:
 - (i) educational, awareness-raising and information programmes, aimed at the general public, in particular young people;
 - (ii) specific educational and training programmes within the communities and groups concerned;
 - (iii) capacity-building activities for the safeguarding of the intangible cultural heritage, in particular management and scientific research; and
 - (iv) non-formal means of transmitting knowledge;
- (b) keep the public informed of the dangers threatening such heritage, and of the activities carried out in pursuance of this Convention;
- (c) promote education for the protection of natural spaces and places of memory whose existence is necessary for expressing the intangible cultural heritage.

ARTICLE 15

Participation of communities, groups and individuals

Within the framework of its safeguarding activities of the intangible cultural heritage, each State Party shall endeavour to ensure the widest possible participation of communities, groups and, where appropriate, individuals that create, maintain and transmit such heritage, and to involve them actively in its management.

IV. Safeguarding of the intangible cultural heritage at the international level

ARTICLE 16

Representative List of the Intangible Cultural Heritage of Humanity

1. In order to ensure better visibility of the intangible cultural heritage and awareness of its significance, and to encourage dialogue which respects cultural diversity, the Committee, upon the proposal of the States Parties concerned, shall establish, keep up to date and publish a Representative List of the Intangible Cultural Heritage of Humanity.
2. The Committee shall draw up and submit to the General Assembly for approval the criteria for the establishment, updating and publication of this Representative List.

ARTICLE 17

List of Intangible Cultural Heritage in Need of Urgent Safeguarding

1. With a view to taking appropriate safeguarding measures, the Committee shall establish, keep up to date and publish a List of Intangible Cultural Heritage in Need of Urgent Safeguarding, and shall inscribe such heritage on the List at the request of the State Party concerned.
2. The Committee shall draw up and submit to the General Assembly for approval the criteria for the establishment, updating and publication of this List.
3. In cases of extreme urgency – the objective criteria of which shall be approved by the General Assembly upon the proposal of the Committee – the Committee may inscribe an item of the heritage concerned on the List mentioned in paragraph 1, in consultation with the State Party concerned.

ARTICLE 18

Programmes, projects and activities for the safeguarding of the intangible cultural heritage

1. On the basis of proposals submitted by States Parties, and in accordance with criteria to be defined by the Committee and approved by the General Assembly, the Committee shall periodically select and promote national, subregional and regional programmes, projects and activities for the safeguarding of the heritage which it considers best reflect the principles and objectives of this Convention, taking into account the special needs of developing countries.
2. To this end, it shall receive, examine and approve requests for international assistance from States Parties for the preparation of such proposals.
3. The Committee shall accompany the implementation of such projects, programmes and activities by disseminating best practices using means to be determined by it.

* * *

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