Hybrid Interface:
An Interior Design for The Jewish Heritage Centre of Western Canada

by
Ivy Bricker

A Practicum submitted to the Faculty of Graduate Studies of
The University of Manitoba
In partial fulfillment of the requirements of the degree of

MASTER OF INTERIOR DESIGN

Department of Interior Design
Faculty of Architecture
University of Manitoba
Winnipeg

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The exploration of emerging trends in museum design and theory informs a redefined spatial realm for the design of the Jewish Heritage Centre of Western Canada (JHCWC). The JHCWC has been forced to respond to a growing immaterial culture as a result of the current digital revolution. As an institution they have experienced amalgamation and re-location, which has drastically reduced the exhibition and museum space at the Asper Jewish Community Campus. The design will explore a new museum paradigm that is facing technological and digital advancements. Through the exploration of the effects of a virtual culture, the dematerialization of the physical realm can become redefined with the introduction of new digital technologies and interfaces.

The proposed design project explores the potentials of a hybrid space, where the virtual and physical spaces interact and come together. The project will also challenge traditional museum assumptions, while creating immersive and participatory experiences. A new spatial coding provides a narrative and representation of culture that is integrated throughout the museum. A spatial typology emerges that suggests inventive experiences of history, culture, heritage and tradition.
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Introduction
“The digital revolution of the late 20th century is over, what has remained is a pervasive, global system. One part of this system is a mostly invisible digital telecommunication infrastructure that efficiently connects just about every inhabited place on the face of the earth to every other. Its complement is an enormous and growing collection of electronic instruments of displacement distributed throughout the human habitat – instruments of spatial displacement through remote connection, and of temporal displacement through recording and replay. These instruments link the new global infrastructure to particular places and human activities. They embed the virtual in the physical, and weave it seamlessly into daily urban life.”

(Mitchell, 2005, p. 18)
The twenty-first century is becoming defined by a ubiquitous and continually changing entity. Western society has developed into a culture dependent on electronic devices, technology and digital advancements. The widespread use of these digital and technological developments has filtered and changed how society takes place. The anti-spatial notion of the Internet, technology and the virtual realm have permanently altered the understanding, use and definition of material culture and the surrounding built environment (Roscoe, 2007, p.99). The digital era of our time is becoming more and more of an immaterial culture, blending the virtual into physical spaces.

As a result of digital and technological advancements, the physical spaces of traditional typologies are becoming dematerialized. An immaterial culture of design begins to alter these typologies further into an increasing anti-spatial realm (Mitchell, 1995, p. 8). A coffee shop is not only a social place to gather with friends and enjoy specialty coffee. The physical space that once defined the typology of the coffee shop has become a hybrid space, where the virtual presence overlays the real space of the shop. This hybrid space becomes a place for meeting, an office for a worker on their mobile phone, or a study carrel for the student, researching and writing an essay while accessing the free wi-fi on their laptop computer.

The profession of interior design is rooted within a material culture, designing for the built environment. The future role of interior design has shifted with the development of an ever-growing immaterial culture dependent on digital and technological advancements. This scenario has created new implications for the immateriality of the physical experience of interior spaces (Roscoe, 2005, p. 195). The most apparent and outstanding alteration effected by the digital era is the transformation in the, “perception of materiality, space and information, which is bound directly or indirectly to affect how we understand architecture, habitation and the built environment” (Grosz, 2001, p. 76). Technology and digital media have permanently altered the way in which the realm of design and its spatial implications in the twenty-first century are perceived.
Our generation is defined by a technological presence that is seen as commonplace. Digital and technological methods have become expected in physical everyday surroundings. Authors Urs Gasser and John Palfrey (2008) have uniquely defined this generation as, digital natives (pp. 1, 346). The term describes individuals that are born after the 1980s into a digital culture, exposed to networked digital and virtual technologies (pp. 1, 346). The ability and skill to use and mediate digital objects and technology is simply assumed, as digital natives are born into a digital age. These digital natives have created a 24/7 system that effortlessly blends the physical and the virtual, to an extent that had not been experienced previously (p. 4).

The traditional museum typology has been altered over the past decade, with the introduction of technology and digital media. It is essential to critically observe museums, as the typology is expanding and shifting with the use and implementation of technological and digital media. This media is changing the ways in which someone uses, understands and mediates the physical interior environment of the museum. For over forty years, the museum has adapted its interior environment to include technological and digital devices alongside exhibitions and displays (Dowden, Sayre, 2007, p. 35). The static space of the museum has become enlivened with audio tours, allowing for visitor engagement that changed the experience and interactive possibilities of the typology (p. 35). As technology progresses into new forms of digital media, the integration of multimedia and interactive features have been seamlessly woven into the museum environment.

As the increasingly pervasive technology has continually evolved and changed over these past forty years, so has its implementation within the museum. Over the last decade the space for objects in the museum has drastically decreased (Conn, 2010, p. 22). Most museum collections are digitized; data is integrated and accessible to museum-goers, which has considerably changed the museum experience. The museum of the twenty-first century has evolved into a new entity, striking a balance between virtual and physical realms. The digital native in one museum environment can access an interpretive audio tour from another museum, wirelessly updating a blog on their museum experience, and seamlessly taking images on a handheld device while searching online for similar exhibits featuring related artifacts (Dowden, Sayre, 2007, p. 37).
The physical museum still exists as the public facade for the museum institution, exhibiting artifacts and objects, providing interactive experiences (Thomas, 2007, p. 4). As digital culture becomes increasingly immaterial, there is still the need to experience the physical spaces of the museum environment (Heller, 1997, p. 196). The design of interactive and participatory physical and virtual spaces can transform the visitor experience within the public and social space of the museum. Museum theorist, Eileen Hooper-Greenhill defines this emerging museum model as a post-museum. As a post-museum, museum pedagogy is radically changed, creating an engaging environment where the museum-goer or digital native becomes an interactive learner in an open and immersive sensory experience (Hooper-Greenhill, 2000, p. x). The concept of post-museum theory is further explored and defined in section 3.1.1 of the literature review.

1. Context

This interior design project involves an investigation into new beginnings for the Jewish Heritage Centre of Western Canada (JHCWC). The JHCWC has been forced to respond to a growing immaterial culture as a result of the digital revolution. The JHCWC is currently located in Winnipeg at the Asper Jewish Community Campus. Amalgamation and re-location have redefined the former museum and archive spaces, as the Centre is facing a considerable loss in physical space. At the same time the JHCWC is considering their need for physical space, as physical data, the representation of historical artifacts and oral traditions can potentially exist in a virtual form. The Centre currently is at a standstill, as it has yet to embrace and expand its technological presence. Objects are placed on display, without the use of interactive cues to engage the learner to explore the history and heritage of the community. A shift in spatial identity will allow the organization to create an interface looking into the future for the facility, as a participatory experiential space for the representation of culture, tradition, history and heritage.
The Jewish Heritage Centre of Western Canada (JHCWC) is an incorporated non-profit multifaceted organization located at the Asper Jewish Community Campus. The Jewish Historical Society of Western Canada (JHSWC) was founded in 1968, operating for over thirty years in Winnipeg as the primary group focusing on research, history and documentation for the Canadian Jewish Congress. In 1999, The JHSWC amalgamated with the Marion & Ed Vickar Jewish Museum of Canada as well as the Freedman Family Holocaust Education Center (HEC) to create what is today known as the JHCWC (The Jewish Heritage Centre of Western Canada, Inc. [JHCWC], 2011, The Jewish Historical Society of Western Canada section). The centre includes a Museum featuring seasonal exhibitions and changing exhibition displays of local and provincial artifacts.

The Centre operates as a research library, and archive collection for public information concerning the history of Jewish individuals from Western Canada and the heritage of Winnipeg’s Jewish community. The centre also functions as the Holocaust Resource and Education Centre (HEC), and Genealogical Institute, and provides office spaces and storage for its collection of physical artifacts. The Centre is dedicated to the interpretation, documentation, and preservation of both cultural and religious life of the Jewish people of Western Canada (JHCWC, 2011, About section).

1.2 Purpose and Rationale

The inspiration behind this design project evolved from a increasing curiosity and questioning of the implications and impact of technology on material culture. As this interest developed, the unchanged identity of the community museum and archive became apparent, drawing attention to its stagnant and untouched presence. The main intention of the design project will be to investigate the spatial transformation of the interior environments for the archive and museum; such as the JHCWC, while questioning the shifting role of the museum typology in the twenty-first century. To provide thresholds into virtual/nonmaterial worlds with a growing interest in the digital revolution, the project begins to illustrate the dominance of a virtual and digital culture, and the need to recreate the sensory and participatory experience in the museum environment.
The proposed design project explores the potentials of a hybrid space, where the virtual and physical spaces interact and come together. The re-design of the JHCWC will explore an interface responding to a new museum paradigm. An innovative spatial typology will emerge that can provide an understanding for the experience of history, culture, heritage and tradition. The design will include spaces for learning, interaction and an overall sense of community and culture, while exploring both digital and physical spaces.

The challenge for the museum is to construct tangible interfaces that foster interaction with digital information within the physical surroundings of the Centre. The practicum allows for an exploration into the issues of post-museum theory, archive cultural theory, hybridization, semiotic theoretical perspectives and mimetics. This will allow for an inquiry into the new museum experience and the emergence of hybrid environments. It is anticipated that a new spatial coding within the museum and archive is required to address the changing use and definition of space for an emerging hybrid typology of the post-museum. These theories will be discussed further in the literature review sections 3.1-3.3.

The development of an interior environment for the JHCWC will allow its interior design to focus on a new identity within a growing virtual culture. Designing a space that the Jewish Community in Winnipeg can experience and remember their history is vital seeing that, “without our history, we have no future. Together, we can ensure our heritage is preserved - the greatest gift we can give to future generations” (JHCWC, 2011, Preserving the Past. A Gift to the Future section). It is crucial to consider the future of the Centre to question the preservation of heritage, history, memory and culture of Winnipeg’s Jewish community. The JHCWC will construct a spatial narrative to signify and represent cultural symbolism, and identify hybrid interfaces to merge physical and virtual space. The Centre will foster a cultural experience as a technologically driven institution, revolutionizing the relationship between real and virtual environments.

Author and archivist Jane Stevenson (2008) states, “we cannot predict what is going to happen in the fast-paced world of technology, but what we can do is...take opportunities that technology provides to enhance and improve what we do and meet user’s needs as effectively as possible” (p. 89). Stevenson questions the role of technology and the changing physical interior
environments of the archive and museum. The reformation of spaces that formerly resided in a primary physical realm can become re-shifted and redefined as a hybrid space, incorporating virtual space within the physical. The re-appropriation of these physical spaces can remove the bulk of physical artifacts and storage spaces, which once defined museum and archive environments.

On an academic level, exploration within the design project will allow for an inventive and unique development of a new interior environment. The design project begins to explore the professional challenges facing the future of virtual and physical interfaces within the field of Interior Design. The development of the project allows for the refinement of research skills, inquiry methods and the application of a theoretical perspective to the reality of the client-focused venture. The project will allow for an investigation into my Jewish cultural heritage facing the effects of disappearance, yet continually emerging throughout history as an enduring culture. A new spatial typology is paralleled with a culture that has faced constant displacement throughout history. As a member of the Jewish community, I have a unique frame of reference to bring to this practicum while exploring my own cultural background. The design project creates the development of a cultural experience, fostering interaction and engagement with the surrounding Jewish community, while questioning the future representation of Jewish heritage.

1.3 Enduring Jewish Culture & Symbolism

A fundamental aspect of the design project involves the formation of an inventive cultural experience. The history of the Jewish community in Canada provides some insight into the diverse yet distinguished Jewish Canadian identity that has formed. The community developed as it was driven by Eastern European immigration during the late eighteenth to early nineteenth centuries (Tulchinsky, 2008, p.2). Continual immigration began with Holocaust survivors, Israelis, and more currently Russian and Argentinean Jewish individuals. This distinctive blend of people has created a unique and diverse community (pp. 7-9). Canadian Jewish communities today have a far
different life and set of ideals than past generations. These individuals have the highest rates of participation in professions amongst all ethnic groups, striving for the best education, and higher average earnings (p. 489). Morton Weinfeld, Professor and chair of the Canadian Ethics Studies Board at McGill University, questions how a strong sense of identity and community can endure with the growth and transformation of its people (as cited in Tulchinsky, 2008, p. 491). Weinfeld’s concern for an enduring Jewish identity demonstrates the need for the design of the Jewish Heritage Centre of Western Canada.

Many of the defining characteristics and identity that once defined Jewish culture have slowly disappeared. The shifting presence of cultural identity is seen in the decline of the general use of Yiddish (p. 491). Within Winnipeg specifically, the number of established places of worship has decreased significantly. Cultural and gathering spaces have shifted from the synagogue to the community centre. The JHCWC can provide a space to gather; a place that will foster and celebrate an enduring culture. A stronger sense of identity can survive through the collective memory and future representations of heritage, as the past can inform the future. The literature, history, heritage and cultural music and cuisine that defines the community will assist in the creation of a distinct innovative experience within the Centre.

The representation of Jewish cultural identity lacks a truly defining architectural style. A unique and strong tradition of building has not existed throughout history. Historian Gavriel Rosenfeld has stated that, “there is no monolithically Jewish style of architecture” (as cited in Young, 2008, p. 46). James E. Young (2008), Professor of English and Judaic Studies at the University of Massachusetts Amherst, suggests that the historical experiences of Jewish individuals in the twentieth century have begun to inform cultural architecture (p. 46). These Jewish concerns are illustrated in the articulation and recollection of historical meaning, as seen in the Deconstructivist architecture of Jewish architect Daniel Libeskind (p. 49).

Libeskind represents an interpretation of Jewish tradition in developing an architecture, where Hebrew letters are not only signs, but also generate a narrative, as seen in the design of the Contemporary Jewish Museum (CJM) (Libeskind, 2008, p.107). The CJM is explored further in the precedent review section 4.3. Libeskind illustrates the development of a Jewish architectural language that stems from the interpretation of Hebrew words and letters. Letters acquire an
entity that can signify an idea or concept, which can attain an entirely new significance. Architect Manuel Herz suggests that instead of relying on the translation of beliefs and values into built space; Jewish culture provides a replacement for spatial invention, utilizing explanations of writing and scripture (Manuel Herz Architects, n.d., “Jewish Community Center Mainz”, para. 4). The use of words and letters demonstrates a characteristic method of debate and interpretation that is seen in the Talmud. The interpretation can range from analyzing the reasoning for letter choices, or the reorganization of specific letters within a word, questioning and developing an entirely new meaning (para. 4). This form of reading and signifying signs from letters and words is developed in the narrative for the design of the JHCWC.

The following literature, precedent, and site investigations have been synthesized in the development of design implications to reflect cultural and symbolic qualities. The notion of transitions and beginnings are reflected in the conceptual design development. The Hebrew word bere’shet, meaning in the beginning provides symbolic and aesthetic elements reflected in the design narrative. Further interpretation of the word from myths and stories questions the meaning of the letter beit1, the first letter of the word bere’shet. Further development of the conceptual approach to the design is explored in section 6.1. Through the development of cultural symbolism and imagery, a new understanding of history, heritage and tradition redefines the cultural experience emerging as a hybrid environment for the JHCWC.

1 The Hebrew letter ב is phonetically written in English as beit, but is also written phonetically as beis, bet and beth. Throughout the following chapters, the letter and word will be spelled as beit.
2 Question of Inquiry
2. Project Questions

Research gathered from new museum theory, hybridization and semiotics supports the investigation into the emerging identity of the new museum paradigm. The exploration into these three topics provides an investigation into the shifting application of media and technology, which has altered the experience of interior environments. The design of the Jewish Heritage Centre of Western Canada begins to illustrate the future representation of Jewish heritage, through the application of Jewish cultural symbols, signs and concepts. Four design research questions were formed to guide the practicum research investigation:

1. What is the impact of media and technology on interior design?
2. How does the interior environment reflect new museum theory?
3. Can a bridge between virtual and physical space create a new identity for the JHCWC?
4. How can semiotics provide a system of coding and narrative for hybrid interior spaces?

The design will reflect a response to these design research questions, through research, analysis and synthesis. This chapter will further explore the gathering of research through the use of interviews. The following chapters provide a literature review of collected research that outlines, defines and analyzes the three areas of theory previously mentioned.
A key aspect of the project investigation surrounded the notion of media and technology, and its affect and application to interior environments. Through the use of interviews, members of the design team currently working on the Canadian Museum for Human Rights (CMHR) where questioned to provide further insight and expertise on the subject. The museum currently under construction in Winnipeg, Manitoba is exploring and pushing the boundaries that redefine the museum experience. The new museum experience is fostered through the use of media and technology, creating both physical and virtual spaces for the museum and its exhibitions. Research was gathered through an interview process, conducted with three significant members of the design team from the CMHR. The subjects were chosen due to their expertise and knowledge in museum and exhibition design.

The three subjects included Michael Mouw, the Director of Exhibits and Interpretation, Corey Timpson, the Manager of Design and New Media, and Ralph Appelbaum, the Head Exhibition Designer from Ralph Appelbaum and Associates. The research was gathered with the use of face-to-face meetings, as well as telephone interviews when the locale or scheduling did not facilitate a face-to-face meeting. The interview questions are located in the ethics review in appendix A.

This investigation explored the CMHR as a design precedent, which challenges the museum experience with the use of new media and technology and the utilization of physical and virtual spaces. The research gathered is further explored in the design issues section 4.4.

The interviews provided significant information regarding the application of media and technology being explored within the museum. Many sources and writing about the CMHR focus on the architecture of the soon to be built museum, rather than its programme or application of new technology. The research allowed for a more in-depth questioning about the interior spaces and features, as well as the experiences that can develop with the use of media and technology. A conversation formed with each of the subjects, as personal insights on the use of new media and its effects on the museum experience were expressed. Some specific examples of new media that are being explored within the museum were discussed. These examples were vague and generalized, as the exhibition spaces and media and technology techniques were planned but not implemented into the design of the museum at the time of the interviews. This information collected has been used throughout the literature review chapters.
In summary, conversation was generated to discuss the application and meaning of terminology associated with media and technology. The use of the phrase new media has become a somewhat generalized term. The phrase was defined by each participant, providing a different perspective on the use and definition of the term. Each definition provided another level of information to the phrase’s already complex meaning. This information was used in the post-museum theory section, to help define the phrase and the application of the pervasive terminology surrounding new media.

The interviews also provided insight into the design of hybrid and new museum spaces. The CMHR has been defined as an idea museum, which places a focus on media and technology to generate an innovative museum experience. At the time of the interview, the participants were not able to provide any specific information about the use of physical objects within the exhibitions. Yet, the role of objects and artifacts within media and technology driven museum models seems to be a common concern. Instead a discussion was formed, which provided further terminology to define the CMHR as a dialogue driven museum model. Each interview subject suggested that there would be a balanced relationship between real and virtual exhibitions within the museum environment. The challenge of designing a hybrid space that equally merges both physical and virtual space becomes central to the mission of the design project.
The following section provides the theoretical basis for exploring a shifting understanding of spatiality in a digital culture. Through the study of post-museum theory, participatory and immersive sensory experiences redefine museum pedagogy. Theory surrounding hybridization introduces ways of interacting with virtual concepts and the relationship between virtual and physical realms. Perspectives from archival theory are explored to question the interaction of virtual concepts in a physical space. The shift from physical to digital realms recreates the identity and experience of a hybrid environment. Within this change, the establishment of a new identity is necessary to redefine the emerging hybrid realm, which is no longer defined by its material, or virtual realms. Semiotic theory illustrates ways in which a new spatial coding can be utilized to navigate the reality of a hybrid environment. Narrative theory provides insight into the representation and interpretation of meaning. Mimetics and the concept of memes demonstrates a method of reading culturally transmitted units of meaning, to explore the symbolism of Jewish culture.
3.1 Post-Museum Theory
"museums are not exactly great places to learn facts and figures...but what they offer is a social learning experience, public experience with information, and so the experiences you try to create are ones that encourage the social learning, that encourage people being aware of other people, engaging with them, finding themselves in dialogue with other people, that’s very different from the Victorian museum where...maybe in small groups of connoisseurs that would go through, but its not, nowhere near the extraordinary diverse audience that we attract today, where in one room you’ve got a scholar and someone just learning English, all in the same moment, finding their road in, finding an opening, a portal which they can engage with the museum experience, or with the information and so the experiences that we try to create are ones that are highly accessible"

(R. Appelbaum, personal communication, October 28, 2010)
The following section provides an overview of published research and theoretical writing that addresses new museum studies, and the notion of the post-museum. Throughout history the role and meaning of the museum is constantly redeveloping. New museological theory of the post-museum is a drastic shift in museum pedagogy, suggesting a participatory and immersive sensory experience within the new museum. Literature by Canadian museologist Duncan Cameron provides influential terminology to the museum paradigm, which corresponds to the current writing on new museum theory written by Hilde Hein and Janet Marstine. Foundational writing on post-museum theory by Eilean Hooper-Greenhill, and Janet Marstine’s influential text, New Museum Theory discusses various authors’ perspectives on the new museum paradigm.

This section also surveys writing by Steven Conn, Stephen Greenberg and Sharon Macdonald that explore the history and effect of the changing museum experience. Ross Parry & Andrew Sawyer and Loïc Tallon provide an insight into the technologically-driven museum. Literature by Joseph Pine II & James Gilmore, Juhanni Pallasmaa, Joy Monice Malnar & Frank Vodvarka explore the meaning and use of haptic and sensory experiences. Ralph Appelbaum, Michael Mouw and Corey Timpson provide observations on new museum experiences, as significant designers working on the Canadian Museum for Human Rights.

Museum theorist Eilean Hooper-Greenhill’s post-museum theory explores the participatory and experiential possibilities for the new museum typology. Hooper-Greenhill describes the idea of the museum as a changing paradigm, coining the term post-museum to redevelop and re-imagine the notion of an emerging museum experience (Hooper-Greenhill, 2000, p.1). The word museum originates from the Greek word meaning mouseion, meant to be a space connected to the muses, an inspirational environment for both the study of sciences and art (Gillam, 2001, p.9). Museums began as places for the study of natural philosophy, and overtime developed to house both study and lectures (p.11). The concept of the museum as a typology became associated with the gathering of objects, as sacred religious relics were displayed in cabinets. These museum cabinets became the first storage and display units in monastery buildings, and as the popularity grew, many small towns and cities began to gather their own displays and objects to appeal to visitors (p.15).
During the late eighteenth and early nineteenth centuries, the concept of the public museum was developed. The conception of the public museum evolved from the private princely collections known as studioli, which featured Imperial collected works (Bennett, 1995, p. 36). The European social elite also began the collections of objects and art to display for scholarly and prestige reasons (Gillam, 2001, p. 17). The objects reflected the wealth and power status of the owner, which was mirrored in the gathering of these private collections. These collections were arranged by object and type, becoming the first model of the private museum, known as cabinets of curiosities. Civic museums developed between the late nineteenth and twentieth centuries, with collected works displayed in a systematic and scientific system (Conn, 2010, p. 21). Botanist Carlos Linnaeus revolutionized the cataloguing and compilation of objects, developing a standard method to catalogue the first museum collections, which is still reflected in the chronological organization of many museum collections (Gillam, 2001, p. 21).

Over a century ago, western society began to construct public museums, which exhibited the once elite and private collections (Cameron, 1971, p. 65). Exhibition designer Ralph Appelbaum describes the shift over the last one hundred years, as a transition from a Victorian model to an intensely integrated model that offers a public and social learning experience (personal communication, October 28, 2010). These public structures were now open to cities and communities that saw the museum as a democratic space for learning. Duncan Cameron defines this museum paradigm as a temple, a museum institution that places objects on a shrine, suggesting the object’s significance and value (Cameron 1971, p. 66). The museum as a temple suggested viewing objects in a sacred way much like a sanctuary, where objects were glorified on pedestals suggesting a distance from the viewer. Janet Marstine refers to this museum paradigm as a shrine suggesting a sacred space that assigned meaning to its objects (Marstine, 2006, p. 9). This method of exhibition was meant to establish a sense of knowledge and learning through looking. The display of physical objects was glorified over the representation of ideas. The traditional museum’s function as an institution was seen as simply a space to collect and store objects, providing knowledge through this suggested museal gaze. The museum was seen as a static institution, a space for the storage and study of the objects collected (Hein, 2006, p. xix).

Nineteenth and twentieth century museums established a distance between the museum-goer and its display of objects (Greenberg, 2005, p. 229). Cameron has written about the shift in museums from the twentieth century undergoing a transition from temple to forum. This museum paradigm shifted in the representation of its objects and its social role. Cameron defined the forum as a reform, to reestablish the museum as an institution in society. According to Cameron, the forum is a place of, “confrontation, experimentation and debate, where the forums are related but discrete institutions” (Cameron, 1971, p. 68). The forum was used as a term to define a museum that would explore a new social realm, looking at ideas to form a dialogue to perform this social function. The concept that Cameron suggested over forty years ago is still relevant in the current evolution of the museum paradigm.

Museum theorist and philosopher Dr. Hilde Hein also describes the new museum shift, as a forum; a space for debate and gathering, much like a town hall (Hein, 2006, p. 146). This shift allowed for an exploration of the museum as a place for conversation and ideas, as a space prioritizing the audience over the passive view of objects. The notion of the museum was shifting, as users became central to the museum and educational learning was essential to the museum’s purpose. The object-orientated focus of the museum was replaced with a visitor-centered initiative (p. xx). This museum model has also been defined as a dialogue driven museum, that creates a social experience, where socializing, sharing and learning can occur simultaneously through informal learning (M. Mouw, personal communication, November 5, 2010). Michael Mouw, Director of Exhibits and Interpretation at the Canadian Museum for Human Rights, further describes the dialogue driven museum model, as a museum that promotes visitors to engage in a dialogue with the museum, the museum to engage in a dialogue with the visitor, and for visitors to dialogue with each other (personal communication, November 5, 2010). The dialogue driven museum model illustrates the same concept as the new museum paradigm, the post-museum.
Defining Post-Museum Theory

The term, post-museum is defined by Hooper-Greenhill as, “an institution that has completely reinvented itself, that is no longer a ‘museum’ but something new, yet related to the museum” (Marstine, 2006, p. 19). Marstine and Hooper-Greenhill begin to define the concept of the post-museum, as a shift in museum theory that allows for the exploration of the museum as a public space. Andreas Huyssen, professor of comparative literature at Columbia University, defines the museum as a hybrid space, much like an amusement fair or department store (as cited in Marstine, 2006, p. 4). With the introduction of technology and new media in the museum, new forms of interactivity in the post-museum have more in common with the fair, as opposed to the traditional typology of the museum (Macdonald, 1996, p. 2). Macdonald views the museum as a, “key cultural loci of our times” (p. 2). The notion of post-museum becomes an engaging cultural institution.

Within this theoretical perspective, the museum is no longer a static space, as it becomes a spatial entity focusing on the user and an open-ended educational experience (Marstine, 2006, p. 30). The new institutional view begins to illustrate an innovative social space, where engagement, experience, and interaction react against decades of static and passive interior environments. The term post-museum redefines museums as entertaining, flexible, sensory and participatory environments where a spectacle of history, memory and culture is fostered (Bruce, 2006, p. 129). The interior environment can be characterized as a, “flexible, constantly changing social space prioritizing audience choice, interactivity and pleasure” (p. 129).

The creation of a new spatial environment allows for interaction, learning and research to redefine an original experience within the museum. Society has challenged museums to modernize their purpose and performance, changing the role of education and experience within the museum (Greenhill, 2007, p. 1). Professor Charles Garoian, director of the School of Visual Arts at Penn State, makes a case for an engaging museum that involves the museum-goer as a participant in the museum experience, rather than simply viewing objects as the primary experience (as cited in Frenkel, 2007, p. 125). Garoian suggests an open discourse forming between the museum culture and its viewers. Exhibition designer Ralph Appelbaum states that, “it is the act of controlling a few hours of someone’s time and setting them up to receive a certain experience” (Hein, 2000, p. 65). Appelbaum suggests that exhibitions can construct an

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3 The definition and meaning of new media is illustrated in section 3.1.3 Participatory Environment
exciting environment as an innovative experience to draw visitors into the museum. These experiences are created to encourage social learning and attempt to construct an opening or portal for the visitor to engage with the museum experience (R. Appelbaum, personal communication, October 28, 2010).

Post-museum theory views the audience as a dynamic character, forming an innovative relationship with the museum. Human geographer Yi-Fu Tuan states that the concept of experience and the notion of an experiment share a common ground. Tuan determines this comparison while examining the root of both words, suggesting, “to experience in the active sense requires that one venture forth into the unfamiliar and experiment with the elusive and uncertain” (Tuan, 1977, p. 9). Sharon Macdonald and Paul Basu see the new museum as a space for experiment, meaning that the creation of new ideas emerging in the paradigm can be seen as, “a site for the generation rather than the reproduction of knowledge and experience” (Macdonald, 2007, p. 2). An experiment indicates a new definition of the museum as a knowledge-generating process, where visitors can experience the space forming their own views on their experience (p. 21).

Professor Steven Conn, Director of the Public History Program at Ohio State University, defines the twenty-first century as, the museum age when people are visiting museums more than any other time throughout history (Conn, 2010, p. 1). In 2002, The New York Times reported this century as the, “Golden Age of Museums” (p. 1). Conn (2010) continues to state that museums must be taken seriously as places where ideas are and where knowledge is formed. Conn approaches the museum as a place for ideas that form a new typology of public space (p. 5). Conn also analyzes the transformation of static displays, and the role of the physical object, which has disappeared as new activity and educational programming offer more than the once typical stagnant museum displays (pp. 24-5). As the role and use of the museum once placed a focus on the objects and its collection, new functions emerge for the museum to perform civic and social functions much like Hooper-Greenhill’s definition of the post-museum. A sense of communication is fostered and understood as an integral aspect to the production and reproduction of culture in the post-museum (Hooper-Greenhill, 2000, p. 152). The formation of the post-museum seeks to listen and respond and serve the surrounding community (Marstine, 2006, p.19).
3.1.2 New/Multi-Sensory Experience

The post-museum should provide a contemporary, lively and meaningful experience, creating relationships between culture, communication, learning and identity (Hooper-Greenhill, 2007, p. 1). The museum becomes a site for spectacle and display; environments rich with sensory and bodily engagement (p. 2). The museum of the twenty-first century can enhance the level of engagement within an ever-changing digital and technologically driven age, so it can compete with other recreational venues (Bruce, 2006, p. 130). Architect and author Stephen Greenberg suggests that museums are becoming more dynamic, experiential and theatrical rather than monumental and static (Greenberg, 2005, p. 226). The notion of experience-making within the museum is in itself not a new concept, as the phenomenon began to emerge over forty years ago with the use of display spaces, performances and installation art in gallery spaces (p. 226). The introduction of digital media, and interactive exhibitions echoes the same transformations, as a new generation of audience comes to expect digitally driven experiences.

This new generation, as I have previously outlined, refers to digital natives, which is defined by Urs Gasser and John Palfrey (2008) as people born into a digital culture (p. 346). Museums are challenged by the complexity of the modern visitor, who visits a museum with digital technology in their pockets, at times having more digital capability than the museum itself (R.Appelbaum, personal communication, October 28, 2010). These users are part of a new generation of, “audiences com[ing] to a museum not just with pre-knowledge from the internet…but with expectations for high editorial and production values from MTV and pop videos”, to be present within the museum (Greenberg, 2005, p. 227). The attention from the audience has shifted from viewing objects, to experience making.

A contemporary framework surfaces where learning not only involves intellect, but incorporates the emotions, body, and mind. The shift responds directly as an adverse experience to the nineteenth century museums and way of using the mind as a superior entity over the body, “learning at a glance” (Hooper-Greenhill, 2007, p. 191). Early museum theory required a physical distance from the object, as the eye was expected to swiftly take in the visual information (p. 191). Greek thought suggests that the mind was superior to the body and senses, exemplifying the hierarchy of sight reflected in western culture (Malnar &Vodvarka, 2004, p. 11). Stephen Conn (2010) describes this as an, “object-based epistemology” (pp. 7-8, 206). This term has come to represent the nineteenth century experience, where objects were used as a source
for knowledge that could only be attained through observation (Conn, 2010, p. 206). The use of the other senses was seen as a less reliable method of learning. The use of the body to engage in the experience of a space can help move past the privileged sense of vision (Greenhill, 2007, p. 191).

Authors Joy Monice Malnar and Frank Vodvarka illustrate the role of the senses in design. This perspective examines why design does not incorporate and include all of the senses, allowing for a multi-sensory responsive environment (Malnar & Vodvarka, 2004, p. ix). The notion of understanding a space through the haptic realm is questioned, when a space does not allow for an experience that occurs with the senses (p. 129). With the use of engaging spatial elements, a sensory environment can emerge that connects both the visual with the other less privileged senses (Hooper-Greenhill, 2000, p. 5). Sight is the least personal of the five senses, yet it is the most commonly explored sense. The other senses can create a multi-sensory experience when explored, but require proximity to conduct the act of feeling, smelling, tasting or listening (p. 112). These sensory elements encourage the user to be close, to engage with the experience being offered. British phenomenologist and cultural historian, Paul Rodaway (1994) illustrates how the senses are perceived (p. 27). The following diagram (Figure 1) suggests how an individual perceives the senses, determined by proximity.

![Diagram of senses (Rodaway, 1994, p.27)](Image by Author)

Figure 1- Proximity of senses that surround the body. Adapted from Skurnik and George in Sensuous Geographies (Rodaway, 1994, p.27). Image by Author.
The senses of taste and touch are the closest to the human yet are not typically valued as the most important senses. The sense of sight is the furthest from the body yet is highly privileged with an importance and hierarchy over the other senses. The use of the other senses can be explored, to create a multi-sensory experience within the museum. This experience can engage users beyond the primary use of sight, and attempt to mediate a more meaningful experience with the use of the other senses (Rodaway, 1994, pp. 3-4).

The concept of an experience can become difficult to define, and cannot be measured or conveyed, when every individual feels a different connection to objects, places and events. Hilde Hein presents another perspective and definition of an experience, as an ever-present event that can affect someone in unknown ways (Hein, 2006, p. 1). This notion of an experience is illustrated as something that is unknown but can be felt with a visceral connection or can be seen. Hein also describes an experience as a site for something that creates an experience, as it, “requires an entity that experiences” (p. 1). Hein suggests that the museum is a driving force that generates experiences, making a private encounter within a public institution (p. 3). By creating a new visitor experience, the museum creates a unique but also encompassing method to enliven a sense of interaction and interactivity in the museum.

When the use of a multi-sensory environment materializes to allow for interaction, the knowledge and understanding of this new experience is heightened. Authors Joseph Pine II and James Gilmore begin to define the changing role of the new experience economy from a business perspective. Pine and Gilmore’s *The Four Realms of an Experience* diagram suggests a framework for defining this new experience economy that can be applied to other typologies. An experience using this model, is seen as multi-dimensional and is constructed of two dimensions, one being consumer participation and the other, is connection (Pine & Gilmore, 1998, p. 101). The following diagram (Figure 2) illustrates the two ends of both dimensions suggesting passive and active participation on the horizontal consumer participation axis and absorption and immersion on the vertical connection axis. In between these axis, four categories or realms of experiences are described.

The four categories are formed in between each axis, which have been adapted and interpreted as entertaining, learning, viewing and sensing. For example, an entertaining experience can be fashioned when an experience exemplifies passive participation and an absorptive environment. The most powerful experiences however are formed in the center, where all of the categories and axis meet. The new experience model for a post-museum would fall in all the four categories, represented in the dashed circle in Figure 2. The circle strikes a balance between the visual, visceral, educational and entertaining experiences.
Figure 2: Elements of a post-museum experience strikes a balance between the visual, visceral, educational and entertaining realms. Adapted from Pine & Gilmore in *Welcome to the Experience Economy* (Pine & Gilmore, 1998, p.102). Image by Author.

Pine and Gilmore’s observations also outline five key design principles for designing memorable experiences. The most significant principle suggests the benefits of designing an experience to integrate all five senses. When these sensory cues go together with an experience, they will sustain and improve the experience’s theme, and the more senses that this experience can include, the more effective and memorable the experience becomes (Pine & Gilmore, 1998, p. 104).

Juhanni Pallasmaa arrives at the same conclusion regarding designing with the senses for an immersive experience. Pallasmaa (2000) reflects on the need for what he defines as haptic architecture, which facilitates experiences that incorporates both the body and the senses (p. 79). This can be achieved when, “sensibility replaces distancing visual imagery by enhanced materiality, nearness and intimacy” (p. 79). The effect of the haptic or tactile realm must be experienced, as the body can sense the touch, heaviness, thickness, or warmth of an environment and its materiality (Malnar & Vodvarka, 2004, p. 145). The act of touching, feeling and connecting with a space can be achieved when the body is in direct contact to experience and interpret the surrounding environment.

Post-museum theory suggests that sight becomes aligned with the notion of interpretation and questioning rather than perception or observation. A more engaging experience can emerge from inquiry and understanding what is visually provided, moving beyond what is visually offered.
The museum is seen as a visual discourse to question the relationship of looking and knowledge (Hooper-Greenhill, 2000, p. 15). The post-museum enables a new interactive quality to materialize and create a new identity for the museum and its users.

3.1.3 Participatory Environment

According to Hooper-Greenhill, New Museum theory of the last twenty-five years has the visitor becoming an active participant in the experience, not merely a passive viewer (Hooper-Greenhill, 2000, p. x). The museum enables visitors to make their experience of formal or informal learning a personal, meaningful and relevant occurrence (p. 2). This change in audience expectation has progressed parallel to the advancements and introduction of new technologies within the museum. These technological advancements allow and engage visitors within a participatory experience.

Hilde Hein and Stephen Conn describe the evolution of participatory environments in the museum typology. The first museums to introduce this new character were both childrens and science museums. The subject matter explored was highly experimental but allowed visitors to activate and use objects, rather than simply viewing these static objects on display (Hein, 2006, p. 6). Digital interaction within childrens and science museum exhibitions exemplifies the development of participatory environments. Visitors are given more than a visual experience by being introduced to an interactive environment. These museums have found a general balance between entertaining and educating, as participating and activating an exhibition engages the visitors (Conn, 2010, pp. 161-163).

This allows for engagement with the museum environment, while the visitor can operate and handle the exhibitionary devices. The objects and exhibitions are designed intentionally to allow visitors to manipulate devices, introducing a haptic quality of touch, while actively participating within the exhibit. The audience is meant to feel in control and empowered through self-choice when an interactive experience is explored (McTavish, 2006, p. 229). The same notion can be applied to more technocentric museums, seen in the increased use of digital media and new technology (Bruce, 2006, p. 132). The audience can engage in an entirely new way with the use of interactive elements, as users become active participants in their own museum experience (p. 141). These same principles can be applied to more current technologically driven museums, like the Experience Music Project (EMP). Art Historian Chris Bruce has defined this type of museum

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The term technocentric is used by Chris Bruce to define technologically driven museums, which use technology to educate and provide information (Bruce, 2006, p.132).
as a technocentric entity, where technology is used in a powerful yet effective manner. The EMP employs digital interactivity as an educational tool to allow for an interactive and participatory experience (Bruce, 2006, p. 132).

Corey Timpson, Manager of Design and New Media at the Canadian Museum for Human Rights describes the handheld experience planned for the CMHR, much like the layers of an onion. The experience does not rely on the handheld device, but a visitor can supplement or peel back the next layer of interactivity or engagement, to connect with the museum content with or without the use of a handheld device (personal communication, September 23, 2010). This evolution of in-gallery digital interaction has been formed by information communication technologies (ICT). ICT has created a link between the use of digital media and the physical environment. These technologies have become more and more common and innate within the exhibition displays in museum spaces (Parry & Sawyer, 2005, p. 39).

The term digital media also referred to as new media, can be defined in many different ways. Michael Mouw, Director of Exhibits and Interpretation at the Canadian Museum for Human Rights suggests the use of the term media and technology to accurately describe the use of digital media in the context of museum design. The non-descriptive term, new media can be vague at times, as it has migrated and changed it’s meaning throughout history (personal communication, November 5, 2010). Ralph Appelbaum defines new media as, “the ability for technology to become much more interactive and participatory for the user, encouraging social relationships, encouraging visitors to not participate in museums as a voyeuristic experience, but to participate as an engaged member of an audience” (personal communication, October 28, 2010). Corey Timpson defines new media as the aggregation and amalgamation of interactivity and technology, creating a reciprocal relationship between a user and a system (personal communication, Sept 23, 2010). Loïc Tallon defines digital and new media as handheld visitor technology used within the museum (Tallon, 2008, p. xiii). This type of handheld device can be seen in the Museum Exhibit Guides (MEG) used at the Experience Music Project. The MEG’s were used as personal handheld computers provided for every visitor (Bruce, 2006, p.139). These digital media and technology devices allowed for the visitor to learn from data downloaded on the device, rather than only seeing the exhibition. The use of these handheld computers allowed each visitor to construct an experience that becomes individually controlled. Digital media can also be defined as an important tool that can increase visitor interaction and learning (Dierking & Falk, 2008, p. 20).
Museums during the 1990s introduced ICT, as a term commonly known as the web. These museums used ICT in the form of interactive gallery exhibits and participatory activities (Parry, 2008, p. 187). These tools include the use of technological media that can be seen in interactive and multimedia tours, to handheld devices and personal digital assistants (PDA). The following diagram (Figure 3) from Ross Parry and Andrew Sawyer suggests the museum should be seen as a purely adaptive medium creating a relationship between the museum space and the emergence of digital media and technology as an inherent experience. Digital media and technology will become one of the primary qualities of the modern museum (Parry & Sawyer, 2005, p.45). The diagram illustrates the evolution of the museum environment with the introduction over the decades of digital media and technology. The diagram begins with the introduction of ICT to the gallery in the 80s and 90s, illustrating a very static, and un-connected gallery to the developing shift of technological participatory options. The current integrated model suggests the connections between the web, museum and gallery are infused with information communication technologies and mutually working together.

Figure 3 - An Evolution of in-gallery digital interactivity. In Space and the machine: Adaptive museums, pervasive technology and the new gallery environment. (Parry, R., & Sawyer, A., 2005, p.45) Copyright permission obtained August 5, 2011.
The innate model suggests an emerging integration of digital media and technology that is included within the museum as an on-site feature. This allows for an integrated technological participatory environment, through the use of handheld devices or interactive digital exhibitions. Digital media has permeated to the core of the museum and digital interactivity has become one with the gallery.

Loïc Tallon exemplifies how museums throughout history have turned to the use of new technology, to engage and meet visitors’ expectations. The use of this digital media technology can provide another level of interaction. The physical space of the museum becomes linked technologically to a virtual experience, that, “is about creating a variety of different portals through which to engage with an exhibit” (Tallon, 2008, p. xxi). This trend towards visitor-mediated interactivity is seminal in the twenty-first century visitor experience within the museum. Michael Mouw reflects the same perspective, as he perceives that the use of media and technology in the museum affects three categories of experiences including the onsite, the online and the mobile experience (personal communication, November 5, 2010). The use of media and technology basically becomes a tool or framework to deliver immersive or highly interactive experiences within the museum environment.

Technological advances seen in new media and its devices and applications are conducive to a flexible architectural approach. Through the use of new media and technology, museum spaces can become responsive and interactive environments. This can help frame the experience within the museum as an engaging space where personal interaction is fostered. The post-museum allows for the redefinition of the museum as a social space, creating an entertaining, flexible, sensory and participatory environment. As a post-museum, the museum environment becomes a space for the spectacle of architecture to invite and seduce its visitors, through the creation of an entertaining, interactive, immersive and sensory entity (Bruce, 2006, pp. 132, 135). This museum model provides new interactive architectural possibilities that begin to blend physical and virtual environments to create an engaging visitor experience.
The notion of the post-museum emerges from new museological theory that represents a drastic shift in museum pedagogy. This shift suggests an emerging museum experience as a participatory and immersive sensory experience. Theoretical perspectives provided by Janet Marstine and Eileen Hooper-Greenhill offer the foundational understanding of the post-museum and new museum theory. Hooper-Greenhill’s definition of the post-museum defines the parameters of the changing role of the museum as an open-ended educational experience, focusing on visitor participation, and the formation of an innovative social space to foster a sense of community.

Corroboration is seen in the seminal museological writing by Cameron, defining the paradigm shift of the museum, from a temple to a forum. The same terminology and concept are reflected in the work of both Marstine and Hein. Marstine outlines the shrine as a museum paradigm, echoing the same concept as the museum as a temple. Hein suggests a social space as a forum, directly linked to the definition provided over forty years ago from Cameron’s influential text. This overlapping literature suggests a strong development in defining the current paradigm shift in museums.

While defining the post-museum as both creating a multi-sensory experience and participatory environment, collaboration and literature from other disciplines have been applied to strengthen and provide an additional perspective. The definition of an experience is shaped from both Pine and Gilmore’s explanation of a new experience economy from a business perspective, as well as Tuan and Macdonald’s views connecting the word experiment to understand the realms of an experience. Architectural applications exemplifying use of the senses are fostered in both the work of Pallasmaa and Malnar and Vodvarka. These applications define the haptic and experiential qualities that can be applied to promote bodily engagement to mediate an experience.

The concept of a participatory environment is corroborated in the work of both Hein and Conn, as the historical overview of engaging, immersive and entertaining environments are reflected in other museum typologies. The use of new media and digital interactivity is suggested but further enhanced by the work of Tallon, Bruce, Parry and Sawyer.
Definitions of the elusive term new media provide multiple perspectives, meanings and understandings on the use of media and technology within the museum environment. Both Tallon and Bruce provide technological examples that have been applied to create participatory experiences within museums. However, Tallon outlines the difficulty in finding current written examples of technological innovations, as this information and its applications are constantly changing due to digital and technological advancements. Parry and Sawyer provide important terminology when describing the virtual museum as an, innate model. This innate model suggests the integration of digital media and technology for an incorporated technological and participatory museum environment. The future use of media and technology is explained from Mouw and Timpson, to illustrate the interactive technology that will be explored at the CMHR.

Further literature exploring the integration of digital media and technology is needed, as digital interactivity is constantly changing and evolving. Appelbaum observes that media and technology are always two years too late, as most museums are designed two to three years before they are built (personal communication, October 28, 2010). Often times museums try to specify the latest media and technology in the developmental process. Once the museum enters the act of fabrication, engineering and production, the media that had been specified is a touch behind the actual curve. In terms of technology the look can still be quite fresh and innovative to the visitor. Yet there are probably already different and more current media approaches being applied by designers (R. Appelbaum, personal communication, October 28, 2010). This example reflects the lack of literature and examples of current and new technologically driven museums. The scenario also reflects the lack of writing about the future of new media and technology and its effect on the constant evolving museum typology. Due to the rapidly evolving nature of technology, more current technologically driven case studies do not reflect the application of the most current technology or the future possibilities or frameworks that can be applied to the new museum.
3.2 Hybridization
“Digital technologies have transformed the storage, circulation, and retrieval of information by transforming information of all kinds into binary form reducing matter into silicon and liquid-crystal traces (the chip and the screen). Perhaps the most striking transformation effected by these technologies is the change in our perceptions of materiality, space, and information, which is bound directly or indirectly to affect how we understand architecture, habitation and the built environment.”

(Grosz, 2001, pp.75-6)
The following section provides an overview of published research and theoretical writing that explores the effects of digital and technological advancements that have altered design culture and the material built environment. Multiple perspectives will be provided on the concept, definition and meaning of hybrid space. Hybridization can be defined as, "an environment that incorporates physical and cyberspaces" (Roscoe, 2005, p. 47). Design culture is grounded in a material and physical world, yet has been altered by a digital paradigm of immateriality. Writings from William J Mitchell, Professor of Architecture and Media Arts and Sciences, former Dean of the School of Architecture and Planning at Massachusetts Institute of Technology (MIT) provides critical terminology that begins to define the shifting immaterial paradigm of dissolving and recombining architectural typologies.

Interior designer Tara Roscoe’s thesis *Immaterial Culture: Beyond Disappearance – Consequences of Advanced Technologies on Interior Design* illustrates the critical effects of immateriality on interior environments. Literature by Adriana de Souza e Silva, Douglas Kellner, Georg Flachbart, Guy Julier, John Armitage, Ole Bouman, Peter Weibel, Peter Zellner, and Stewart Veech have been surveyed. This literature explores the definition of hybrid spaces, the shifting understanding of physical and virtual environments and the impact of technology on western culture. Ralph Appelbaum, Michael Mouw and Corey Timpson reflect on the challenges and opportunities faced while designing virtual and physical spaces for the Canadian Museum for Human Rights. The meaning and risks of disappearing and redefined spaces is explored, as well as the notion of digitization and its effects on object-based typologies like the archive.

The design of physical space has come to comprise digital environments, which hinge the relationship between virtual and real settings (Julier, 2007, p. 17). The Internet and virtual environments do not have the same structure as physical space, and construct what can be described as, “fundamentally and profoundly antispacial” (Mitchell, 1995, p. 8). The digital era has begun to redefine space as technological advancements have allowed spaces and objects to disappear, as they are reduced and associated by their bits (Roscoe, 2007, p.100). Academic and theorist John Thackara uses the term *cybernetic loss* to describe the implications that are made on the loss of spaces that have dissolved, leaving vacant and empty spatial realms behind (as cited in Roscoe, 2007, p. 100). These vacant sites can be associated with the act of disappearing spaces. This does not propose or imply that all spaces and objects are about to disappear; yet in some way, shape, or form, space is being redefined. Some typologies and spaces will remain and some will begin to change, while some spaces will fully disappear and become part of a new definition of space. With the growing convergence of virtual and
physical spaces, the digital era is producing what Thackara perceives as a new kind of hybrid space (Roscoe, 2007, p. 101).

The growing dominance of digital space can be seen in everyday examples of hybrid typologies, such as the library. Walking into the library to search for books has slowly shifted and dematerialized the physical elements that once defined the traditional library typology. This hybrid space is not overly apparent as a virtual space, but the physical space of the library primarily functions virtually with a connection to cyberspace. The stacks of books and card catalogs that once defined the physical environment now exist virtually through online networks. Immediate connections are made to the virtual materials, providing links to online versions of the same physical books and articles. A technological device can generate an electronic book, making the physical paperback seem obsolete. This type of hybrid space is not noticed by all as a hybrid entity, yet it reflects the development and dominance of non-physical elements that are redefining former spaces and objects that have been reduced to bits and pixels.

Roscoe (2007) describes the shift in the concept of photography, as images once existed in the physical realm with manually operated cameras and film that had to be developed once an image was taken (p. 100). Today the concept of the camera is redefined, as a digital object. The camera of the twenty-first century is only referred to and defined by its processing power, resolution, bits and pixels. Photographs are printed from digital copies through electronic files that are stored and passed digitally (Roscoe, 2007, p. 100). The history and redefinition of a physical object like the digital evolution of the camera; or the physical space of the library, illustrates the shifting and dematerialization that has come to define the technological age of the twenty-first century.

Roscoe analyzes technological innovations that have evolved western society’s environments over time. The introduction of the digital revolution began with the use of technological developments for government research in World War II (Roscoe, 2005, p. 113). These technological developments and devices had taken over by the 1990s, and were seen as ubiquitous, creating an omnipresence of the Internet within the built environment (p. 114). Michael Benedikt, a professor at the School of Architecture at the University of Texas, suggests that technological developments have redefined the physical realm. Benedikt assesses the use of the telephone as the first form of virtual space. The telephone provided users a new form of communication that was no longer defined by boundaries of distance or face-to-face communication (as cited in Roscoe, 2005, p. 110).
Art and Media theoretician and Professor, Peter Weibel speculates a different perspective as the origin of hybrid space. Weibel reveals that historically, Baroque mural painting and its trompe l’oil technique created rooms that did not physically exist. The mural painting created a hybrid space by visualizing something that was not physically present (Weibel, 2005, p. 269). The same notion presented by both Benedikt and Weibel suggest a hybrid space that creates a connection to something virtual within the physical environment.

Mitchell concludes that the digital revolution began with the invention of the bit, and the construction of computer science and new technology during the 1940-50s. The rise of computer networks in the 1960s brought forth advances of packet switching, leading to the development of the computer processor industry in the 1970s (Mitchell, 2005, p. 20). The rise of the personal computer appeared in the 1980s, led by the development of the World Wide Web in the 1990s (p. 20). The establishment of the World Wide Web in 1991 provided a new understanding and realm for space. The rise of the Internet was an instant sensation, growing from three million users in 1994, to approximately nineteen million in 1997 (Julier, 2007, p. 173). In 2011, Internet World Stats reported that Internet users in Canada grew to 26,960,000 (Canada Internet and Broadband Usage, Internet Usage Statistics section). This dramatic increase will only continue to evolve, as the 2000s introduced smaller, faster, mobile versions of technological devices that connect users anywhere, and at anytime (Mitchell, 2005, p. 20). The growing dominance of technology became evident, as both time and space were permanently changed. In the mid 1990s a new pattern for information distribution allowed for networked communities to shift the reality of physical space (p. 52).

New technological devices are constantly on the rise, redefining old devices with state of the art abilities from their materials, processing power and features. By the time this practicum is printed and distributed, technologies that defined this generation will become obsolete, and re-combined to form new devices, that are quicker and more powerful than their ancient prototypes. Just as these technological devices and objects have shifted, so too does the surrounding material environment. Western society over the past twenty years can now be defined by a reliance on virtual, digital and technologically mediated objects and environments. Digital culture is split between the current material culture and the growing dominance of immateriality brought on by technological and digital advancements. The widespread use of these digital and technological objects have filtered and changed how society takes place, as the digital era we live in becomes more and more of an immaterial space (Roscoe, 2007, p. 99). This immaterial paradigm has blurred the boundaries between analog and digital realms, providing binary oppositions of real and virtual spaces to define its
emerging architectural environments (Veech, 2005, p. 176). Architectural theorist Elizabeth Grosz suggests that hybrid spaces are effecting the physical environment, and become entangled within physical spaces, as “states of digitalia” (as cited in Roscoe, 2007, p. 99). Grosz believes that hybrid spaces are effecting the perception and transformation of materiality, physical spaces and information (Grosz, 2001, p. 76). These transformations have also affected the way in which architecture and the built environment is understood.

3.2.1 Defining Hybrid

The definition of the word, hybrid is a complex and indefinite term, which has come to describe multiple perspectives and meanings within the field of design and theory. The following differing definitions present a few key understandings of what a hybrid space can mean in relation to physical and virtual environments. From the perspective of Post Colonial theory, the suggested meaning of hybridity defines the overlap between cultural oppositions. It is this overlap where cultural differences collide, that disturbs established identities surrounding binary oppositions such as inside and outside, or past and present (Macey, 2000, p. 192). Hybridity is seen as the space where cultures clash with each other, in this case, material and immaterial cultures (Roscoe, 2007, p. 101)

Architect and Professor Peter Zellner describes hybrid environments as spaces that are produced by breeding the real and the virtual (Zellner, 2000, p. 8). Zellner provides as well a literal definition, identifying a hybrid as something that is of mixed origin or composition (p. 9). Design theorist and academic John Thackara provides a comparable view as he states that a hybridized form is achieved when the physical and the non-physical converge to form a new spatial experience. This experience is commonly labeled as a hybrid space (as cited in Roscoe, 2007, p. 101). The hybrid space is formed from overlapping features of digital and physical space, in coexisting spatial realities (Roscoe, 2005, p. 45). Writer Georg Flachbart suggests that hybrid spaces provide an on/off scenario as virtual spaces provide data flows that are switched on, just like a light switch (Flachbart, 2005, p.1 3). A space can be switched on, providing an instant connection to a virtual space, which “fills the spaces in a second with a ‘world’ and you are suddenly in the Louvre” (p.13). The example illustrates how the connection to flows of data can create a seamless connection between the virtual environment such as the Louvre in Paris, and a physical space of your North American home, nowhere near Europe.
Professor Dr. Andriana de Souza e Silva defines a hybrid space as a mobile space that is constantly connected to networks and other users. Souza e Silva (2006) identifies mobile technology as an interface suggesting that these mobile technologies create a hybrid space that allows users to interact with multiple and social spaces (p. 261). Souza e Silva further suggests that hybrid reality is “blurring borders between digital and physical spaces” (p. 264). Without the established difference between the borders connecting real and virtual spaces, a hybrid space is seen as a conceptual space where users can interact with digital environments within a physical space (p. 264). This description of hybrid space is mediated through the use of mobile technologies, when mobile social spaces are constructed through the use of technology.

Michael Mouw describes the experience of physical and virtual concepts that are being developed for the Canadian Museum for Human Rights. Mouw states that the media and technology driven program for the CMHR is reaching a wider range of audience with the use of smart phones and mobile technology integrated into the museum experience. The use of these technologies enables the museum to reach an audience that may never connect to the Internet yet will, “have basically a computer in their pocket with their smart phones” (M. Mouw, personal communication, November 5, 2010). The hybrid space that can occur with the use of mobile technology, like a smart phone, enables an instant connection to virtual spaces within the physical environment of the CMHR.

Architectural theorist, Ole Bourman agrees that creative possibilities arise from the use of new technologies in the digital era. Bourman outlines four broad outlooks on the use of new media and technology. The first presents a negative attitude, when the use of digital advancements and new media are ignored. The second view suggests a submission to new media and proposes its application to the creation of digital spaces. The third and fourth viewpoints are similar, as Bourman concludes that a more pragmatic attitude can be taken when the physical world and a digital environment function as parallel spaces (Bouman, 2005, pp. 260-1). The fourth attitude further suggests that a hybrid environment is formed, when physical and virtual spaces merge. Roscoe contends that Bouman’s analysis of architecture in the digital era illustrates the notion of hybrid space, as it is not defined by physical or non-physical elements. Architectural spaces become fluid as the digital space flows into the real space and vice versa (Roscoe, 2007, p. 102).
3.2.2 Recombinant Space

New terminology has been created to define the shift in physical space, as the built environment responds to digital and technological developments. Spatial typologies begin to dissolve when the physical realm that once defined its space is reformulated. Typologies can re-emerge as a new environment integrating the physical and the perceived virtual world. There is a new logic creating a space as the intersection of physical and digital spaces materialize. This challenges the traditional sense of space with emerging spatial settings that William J Mitchell (1995) has named recombinant architecture (p. 47). Recombinant architecture is defined as the digital information that decomposes traditional building types, as traditional forms begin to disappear, only to form fragments into a new recombinant, “creating new spaces based in the past places” (Mitchell, 1995, p. 47).

Other terminology has been illustrated to further define the overlap of virtual and physical spaces. Author and philosopher Dr. Georg Flachbart coined the term heterarchitecture, that describes the condition of superimposed real and digital spaces as a mixed-reality environment, mixing and overlaying virtual environments within physical spaces (Flachbart, 2005, p. 13). This seamless integration of the virtual implanted within the physical is echoed in Mitchell’s concept of recombinant spaces. The integration of virtual space within the physical space is described as, “embed[ding] the virtual in the physical, and weav[ing] it seamlessly into daily urban life…the miniaturization of electronics shows little sign of slowing down, boxes that were initially separate keep fusing to form new combinations” (Mitchell, 2005, p. 20). Mitchell further defines recombinant typologies as fusion spaces. These recombinant forms are defined as architectural spaces where technological instruments enable new combinations of the physical environment and its spatial activities (p. 22).

Mitchell illustrates countless examples of typologies that are becoming part of this new logic, as they adapt and reformulate into recombinant spaces. The recombination of typologies such as the bookstore, department store, library, and museum are explored. The concept of the virtual museum is established as gallery and museum spaces are facing a shift in the meaning and existence of the traditional museum typology. Gallery and museum spaces throughout history have been constructed in a sequence, as the viewer is provided an experience to view physical objects in a pre-determined, mostly taxonomical or chronological order. The development of museum spaces traditionally centered on the circulation and ordering of objects, and the physical spaces for the display of these objects (Mitchell, 1995, p. 59). As technology and
digitally mediated devices and environments infringe upon the development of the physical space of traditional museums, a shift in the meaning of hybrid museum environments is apparent.

As previously stated, the post-museum is a type of hybrid museum as it fuses a new identity for the museum experience. In section 3.1.3 the discussion of participatory environments illustrates the effective use of hybrid environments and new media and technology, in the example of the technocentric Experience Museum Project (EMP). The use of Museum Exhibit Guides (MEG) allowed for a hybrid space to form, with the technology of the MEG personal handheld devices. The MEG’s allowed for a physical experience to exist with the introduction of virtual spaces. These devices allowed museum-goers to connect to the anti-spatial location of cyberspace, providing users an introduction to a virtual form of the collections. Users are able to map out their desired museum experiences prior to entering the physical museum spaces (Bruce, 2006, p.139). This example demonstrates how technological and digital devices can enhance the use of the physical space. The devices create a hybrid space, to connect and explore a virtual world, while not replacing the significance of the experience of viewing the physical objects within the museum.

3.2.3 The Meaning of Disappearance

The language that has come to define the rising technological paradigm suggests spaces that no longer have a physical presence, with words like loss, disappearance, and dematerialize. The discussion used to define this phenomenon does not intend to create a gloom or doom scenario, but provides a realistic perspective on ways in which the virtual realm is overlaying and changing physical space and material culture. Mitchell provides more pragmatic terminology when suggesting that virtual spaces of immateriality will meld effortlessly within the physical material realm. Mitchell states that “it will become meaningless to ask where the smart electronics end and the dumb construction begins” (Mitchell, 1995, p. 171). The same concept is echoed in Roscoe’s analysis of dematerialization (Roscoe, 2007, p. 104). Both authors agree that technology and digital advancement will continue to shift and evolve. The need for physical space will still remain, while incorporating the virtual realm into real spaces.

An opposing theoretical perspective suggests that disappearing spaces, technology and the concept of speed will continue to generate a destructive force on western culture.
French cultural theorist Paul Virilio explores the notion of the accident that technology has created (Armitage, 2000, p. 1). Virilio reveals that, “these new technologies try to make virtual reality more powerful than actual reality, which is the true accident” (as cited in Kellner, 2000, p.108). This accident refers to technological advancements and the consequences of submitting to the primary use of digital and virtual spaces, that Virilio believes will be the real catastrophe. The problem is gauging how technologies have altered our sense of space, time and our bodily experiences (Kellner, 2000, p. 104). Virilio attests that the reliance on technology and virtual reality provides a substitute for real space, which may become more seductive than the physical environment (p. 115). Zellner agrees that Virilio defines the current predicament facing the twenty-first century as, “torn between the permanent requirements of organizing and constructing real space…and the new requirements of managing the real time of immediacy and ubiquity” (Zellner, 2000, p. 10).

What can physical and virtual spaces offer the built environment? Technology should not replace but enhance and overlap with the physical setting. Roscoe’s perspective on hybrid space perceives it as an overlapping condition. The future outcome of material and immaterial domains form a threshold (Roscoe, 2007, p. 102). This threshold can be defined as an interface, where virtual spaces are overlaid onto the physical realm. An interface that connects users to a virtual space was once conceived as a computer screen providing a small glimpse and boundary, to connect the virtual to the real (Roscoe, 2005, p. 52). Souza e Silva defines the concept of an interface as a communication mediator, presenting information from the virtual within the physical. The role of an interface is to translate digital information, making it accessible to people, considering technology as the interface to a virtual space (Souza e Silva, 2006, p. 261).

Grosz questions if the computer screen is a clear-cut boundary and interface that separates the virtual from the real environment. Rather, this described boundary can be permeable and not defined by a screen (Grosz, 2001, p. 88). An interface can develop to define digital surfaces, such as a wall, a table, or moveable partition, with no resemblance to a small computer screen. The use of media and technology can be limited to mobile interfaces, but can also be applied to larger unrestricted surfaces, allowing multiple users to connect to virtual spaces. The use of an interface to introduce a virtual realm to a physical environment exemplifies the positive impact of integrating virtual spaces.

Multiple design solutions allow for virtual and physical spaces to co-exist, without suggesting the replacement of one by the other. Roscoe suggests that functions will determine what elements of a design are best suited for each domain (Roscoe, 2005, p. 70). For example, in the post-
museum the physical space for storage no longer needs to be presented as a large predetermined storeroom space. Physical objects can be digitized or stored off-site. New uses for space that was assigned to storage can emerge as useable space for the museum. This suggests the importance to experience physical objects. Not all objects or artifacts need to be placed on static display, but can be stored and appear virtually. When parts of a collection can appear virtually, this form of a hybrid space can allow museums to expand their holdings and tell different narratives. Rather than providing the context of many physical artifacts and objects, a singular physical object can be provided as varying contexts can be generated and accessed virtually.

Thackara suggests that the status of the physical object or space becomes a somewhat unusual idea, in a digitally driven era. Objects that remain physical are those that remain tangible and material. These tactile objects have the ability to potentially, “root us to the ground, as human beings” (Thackara, 1996, p. 119). This perspective suggests that material and physical spaces attain an elevated and meaningful status as, “[an] opportunity to become islands of salvation of the real in a sea of endless streams of information, media and digital saturation” (as cited in Roscoe, 2007, p. 105). There is a new importance and focus celebrating an immaterial culture within a material and physical space that magnifies the importance of the actual material object.

In a conversation with exhibit designer Ralph Appelbaum, the challenge of designing digital spaces with physical objects was discussed. Appelbaum states that it becomes a challenge with the design of modern pieces of communication like an exhibit, when anything can become digital (personal communication, October 28, 2010). In talking about the Jewish Heritage Centre of Western Canada, Appelbaum inquired about the role of a Jewish Centre application on a smart phone, questioning what would be left to design in the physical realm if everything was available digitally? His concern illustrates the importance of physical artifacts in the design of real exhibition spaces; not creating hybrid environments that can replace a museum’s physical presence. Appelbaum stated that there may be, “a set of actually important artifacts that should not become virtual, that are fundamental artifacts that reveal...a deeper commitment to what it means to be Jewish and what this community is actually preserving...a core set of presence that shouldn’t be totally virtualized” (personal communication, October 28, 2010).

Corey Timpson, Manager of Design and New Media at the Canadian Museum for Human Rights supports the same notion suggesting that the right balance of virtual and physical spaces within
the museum is a challenge, as it is, “far too easy for [a] program to become a sea of digital screens”, (personal communication, September 23, 2010). Timpson and Appelbaum both consider physical objects to play a central and key role in the physical experience of the museum, as media and technology is not the only factor that can create participatory and immersive spaces to engage the visitor.

3.2.4 Digitization and the Archive

The role of physical and material objects is still in question, as objects can become immaterial through the process of digitization. The act of digitization defines the process when an object has been converted from its physical definition, and becomes a digital form (Hexner, 1993, p.553). Digitization specifically refers to the act of translating physical objects into digital data, through scanning or through the form of capture from a digital device (Din, Hecht, 2007, p. 198). As these once physical objects can be accessed virtually, typologies that are centered on the collection of physical objects, such as the archive are challenged. Archivist and author Louise Craven begins to define this challenging and shifting role of archives in the twenty-first-century. Craven questions the growing immaterial culture and dependency of a digital revolution, challenging the meaning of the archive (Craven, 2008, p. 1). It is within archival theory that an exploration of digitization can begin, allowing for the development of an interface between physical and virtual environments. The archive’s physical realm provides a theoretical perspective of its meaning, memory, and experience. Craven aids in the identification of cultural challenges faced when the physical realm of the archive becomes digital, questioning the connection with material objects.

The shift towards digitization challenges the conceptual understanding of the traditional role of storage, preservation, authenticity, custody and meaning of materiality in the twenty-first-century (Craven, 2008, p. 1). These concepts are defined in the physical realm but become compromised within the growing dependency on the digital environment. Technological changes are transforming ways of thinking about archive’s spatiality. This can result as a loss of physical documentation (p. 19). The reduction of real objects to images and bits allows items to be seen virtually, shifting the experience of the archived object. The perspective currently remains within the preservation of physical archives, as electronic versions only embrace the information of the object, not the object itself (p. 21).
Eric Ketelaar, Professor and archivist states that, “a digital document is not a thing in and of itself, [it is] no more than an interpretive moment in a never-ending conversation...” (as cited in Moss, 2008, p. 73) Digitization’s perspective is blurred, as the need for access to digital objects grows, with the expectations of digital native users. The need for quick and easy access to digital objects from remote locations is still in high demand (Moss, 2008, p. 92). The answer to fulfill this demand for digitization does not represent the obsolescence of physical archives. The shift allows for the elimination of static objects in the material realm, allowing items to become virtual concepts. Digital archives can exist, “within fluid horizontal networks of work-flow functionality” (p. 73). This technological change is a new way of thinking about the archive, creating a shift in its meaning. The physical space of the archive provides a personal experience of heritage, culture, identity and memory (Craven, 2008, p. 8).

Digitization will never remove the need for the archive, as its physical presence is still sensed as key to the experience of history and heritage. Digitization allows technological advances to free the former space for storage and allows the sharing of historical information with ease. The spatial typology of the archive may shift due to technological changes, but will not disappear. Archivist Sir Hilary Jenkinson questioned the future role of archives over five decades ago, to the Society of Archivists in England. His influential speech observed that, “so long as memory is a necessary part of the conduct of affairs so long will be necessary to put that memory into a material form and so long as that is necessary so long will you have Archives...” (as cited in Moss, 2008, p. 71). Jenkinson reveals that the role of the archive will never disappear, but the form and way objects are collected and documented may shift. The material form of archives will hold the recollection and meaning of the past, as the archive is seen as a collective of history and memory. The physical interaction with documents, artifacts or objects allows for a personal and significant material experience to emerge. The narrative of an object, its texture, weight, scale, tactility or scent cannot simply be attained digitally.
The elusive concept of hybridization has been explored to provide an understanding and perspective, to describe and examine the various terminologies, thoughts and critical positions exploring the impact of the digital era on the built environment. As interior design is based within a material culture, the traditional typologies that once defined physical spaces are shifting, effecting their definition and meaning. The paradigm of hybridization has created an undeniable change in the way people understand our interaction with space, and the meaning of real space, as many physical objects and former purposes no longer exist in a physical form. Objects and spaces have been reduced to pixels and bits, belonging to a digital and anti-spatial entity known as a virtual or cyber space. With the design of physical space at a crossroads, a perceptive look at ideas and perspectives on this evolving immaterial culture are critical in understanding the future for the culture of design.

The term hybrid has expanded, providing a multitude of meanings and connotations that at times do not share the same value. After surveying multiple meanings, I began to distinguish overlapping and corroborative writing. The underlying commonality in most definitions presented within the chapter, describes the notion of a space where the virtual realm comes into contact with the physical environment. Other terminology has been explored that has come to characterize architectural spaces that have reformed, as traditional typologies are no longer defined by their physical spaces. Both Mitchell and Flachbart discuss the concept of hybrid spaces, as they overlay the physical realm, or simply redefine it. The terms recombinant architecture and heterarchitecture suggest a seamless integration of the virtual within the physical; otherwise defined as cybernetic loss or the true accident of the twenty-first century. The shifting physical space within the growing immaterial culture must be embraced rather than ignored. Whether this shift is seen as recombining, hybridizing, digitizing or dematerializing, the creation of a hybrid environment will surface as an interface between physical and virtual spaces.
3.3 Semiotic Theory
“semiotics has helped designers to understand how design images create a culturally shared visual language, that is ordered and read like a sentence... semiotics investigates exactly how language serves as a symbolic signifier of the external world and also expresses the internal human understanding of it, through culturally accepted signified meanings the signs that result when signifiers and signified meanings match allow for shared communication of meanings within and between cultures, a chair that may be interpreted as something to sit on (a low-level meaning) a symbol of status or style (medium-level meaning), or as embodying a broader world view (high-level meaning) provides a recognizable sign of communication within or between cultures.”

(Ganoe, 1999, p. 3).
The following section provides an overview of published research and theoretical writing analyzing Semiotic theory, narrative and cultural reading as it applies to the interpretation of spatial coding. Semiotics is the study of signs, which provides a framework to understand the perception of our surrounding environment as a system of signs. The concept of semiotics is established from a Structuralist perspective, relating to the study of structures, forming universal structural associations among things (McGowan, 2006, p. 3). This perspective provides a set of fundamental principles that are established from the science of linguistics and applied to all social phenomena, and considers the cultural surroundings that generate meaning. Semiotic theory provides a narrative framework to read and interpret the post-museum space. The reading and representation of culture and cultural experiences will be integrated into the design of the hybrid museum space. The concept of mimetics and memes investigates emotional and spatial cultural messages that trigger a deeper level of understanding for the built environment.

Swiss Linguist Ferdinand De Saussure proposed that language was the foundational structure for the surrounding environment, through arranging it into concrete entities (McGowan, 2006, p. 4). Saussure is considered the founder of modern linguistics and proposed the science of language as semiology, developing a study of signs. This section will briefly illustrate the concept of semiotic theory as defined by three key semiologists; Saussure, Pierce and Barthes. Semiotics facilitates an understanding of how visual communication works (Crow, 2003, p. 8). Literature on the study of semiotics from both theorist Kaja Silverman and author David Crow provides an introduction to the history and application of semiology.

This section also explores literature defining Structuralism and the notion of semiotics by Professor Catherine Belsey, author David Palmer and theorists David Macey and Kate McGowan. Influential writing by French literary theorist Roland Barthes is analyzed, exploring the idea of reading cultural phenomena, also known as myths. Writings by anthropologist Scott Atran and psychologist and cognitive neuroscientist Merlin Donald explore the concept of mimetics, memes and the transmission of cultural interpretation. Literature on narrative theory proposed by theorists Mieke Bal, Cathy Ganoe and Tara Roscoe demonstrates the use of signs and narrative and its application to interior design. Spaces can be interpreted and given meaning when reading an environment through a semiotic perspective to construct a system of codes.
3.3.1 Defining Semiotics

The subject of semiotics involves the study of signs, the existence of signs and their construction, drawing from the cultural systems that surround these signs. The semiotic is an aspect of language at a linguistic level that moves beyond the grammatical structure of symbols (Macey, 2002, p. 347). Saussure defines the subject of semiology as the general study of signs, and the production of signs from signifying systems (McGowan, 2006, p. 10). According to Saussure, language is assembled from units of sounds that are used to form words to communicate an idea. These sounds and words are part of a system of signs (Crow, 2003, p. 18). A sign is constructed of two components to create a system of representation. The first element is the signifier, which is defined as the form that creates a concept. The signifier is also defined as a word, form or sound image (Silverman, 1986, p. 6). The second element is what is signified, which is defined as “the concept which the form evokes” (p. 6). The signified is also defined as the object, which is represented by the word, or the meaning that the signifier generates (p. 6). A sign is produced when these two elements are brought together.

This Saussurean signifying system provided Structuralism an account of language that is used as a framework of understanding signs as a system of codes. Saussure’s writings and lectures on semiology influenced all aspects of the Structuralist movement (Palmer, 1997, p. 13). Saussure applied an entirely innovative methodology to language, seeing it as a system of signs to understand how meaning is formed. Language and its interpretations rely on the underlying system of cultural symbols and signs that communicates ideas and is likened to a system of writing (Silverman, 1986, pg. 4). The sign system provides a system of logic and meaning to read a space, object or event as text.

Philosopher Charles Sanders Pierce is considered the founder of the American tradition of semiotics. Both Saussure and Pierce formulate an understanding of how meaning is formed from a sign, with the foundational agreement understanding the structure of signs (Crow, 2003, p. 24). Pierce illustrates an interest in the creation of meaning to make sense of the surrounding environment, and differs from Saussure’s notion regarding the role of the reader of the sign. Pierce observes the reader in the semiotic process as fundamental to understanding how meaning can be individually formed rather than Saussure’s fixed interpretation of meaning (p.16).
French literary theorist Roland Barthes working from Saussure’s findings, developed a Structuralist investigation of words and objects, which he considered to be signs. Barthes’ theory suggests that the reader of signs should engage in an active role in the reading of meaning (Crow, 2003, p. 56). Using Saussure’s system of signification of the linguistic sign as a first-order signifying system, Barthes fashions a second-order signifying system to read what Barthes calls a myth. A myth is defined as a language, a message, a type of speech, and as a system of communication. In his seminal text entitled *Mythologies* Barthes proposes short essays on topics suggested by contemporary cultural current events, myths of French everyday life. Barthes illustrates these myths through critique of the language of mass culture, analyzing the display of phenomena while exposing underlying social stereotypes, or “what-goes-without-saying” (Barthes, 1972, p.11).

### 3.3.2 Cultural Reading

Barthes is considered one of the most significant cultural commentators of the twentieth century for his foundational writings on modern culture (Crow, 2003, p. 149). His innovative approach to semiotics forces the viewer to take a closer look at what is commonly taken for granted in our complex visual culture (p. 62). Barthes’ examination of the cultural meanings surrounding what he framed as myths establishes a second-signifying system to re-read phenomena. The restructured signifying system reveals deeper meanings to the phenomena that were previously seen as common sense, exposing what is represented in everyday life as cultural knowledge. Cultural knowledge is embedded in headlines and news to food and culture; all aspects that Barthes’ analyzes as signifying “frenchness” (Belsey, 2002, p. 25).

The redeveloped signifying system is illustrated through a diagram that demonstrates how Barthes reading and deciphering of signs can be interpreted to reveal myths. The following figure exemplifies the reinterpretation of Saussure’s semiological system. Barthes reduces the sign that was once the construction of both the signifier and the signified, into a meager signifier. Barthes defines this process as reducing a pure signifying function, when it is caught by a myth (Barthes, 1972, p. 114). What work, concept or idea is seen as the sign in Saussure’s system is reduced to the first component of creating a sign in Barthes’s system.
The second-order semiological system is further demonstrated in a myth that is analyzed in the final essay written by Barthes within the collection of essays featured in his influential text *Mythologies*. The essay explores the myth surrounding the concept of an image, which appears in the cover of a popular French magazine, *Paris Match* (Culler, 2002, p. 27). Barthes uses this second-order semiological system to re-read the meaning of the image, where the signifier reduces the sign into the image itself, and the signified is interpreted as the message of the image. By reading the image as a text, Barthes applies a cultural perspective to read the image as a set of codes, which French culture would read as “frenchness” (Barthes, 1972, p. 116). Many interpretations can be fashioned from the different readings of the same image, as different levels of meaning within the image can be examined. Each reader can provide a unique interpretation from reading the image as a myth, as a different perspective and context differs for each viewer.
The subject of mimetics provides an innovative and alternative method to reading an environment as a set of signs. A level of personal interpretation based on memory and culture can emerge to understand and examine a narrative embedded within a design language. The essential theoretical notion of mimetics is a meme, “a unit of cultural evolution and selection” (Wilkins, 1998, p. 2). The term meme can be defined as an idea, concept or behavior that can be passed between individuals within a specific culture (“meme”, Merriam-Webster.com). Richard Dawkins uses the term meme to describe hypothetical cultural units, introducing the concept in his seminal text, The Selfish Gene (as cited in Atran, 2001, p. 351). Dawkins proposes the relation of memes to genes as an analogy. Memes can be passed down reproducing culture from person to person, in the same manner as a gene replicates biologically between individuals and generations. Memes however are nonbiological, yet experience comparable selection, imitation and transmission of cultural information much like a gene (pp. 351-2).

Psychology professor and neuroscientist Merlin Donald (1991) questions the evolution and origins of the modern human mind, suggesting a category called mimetics to describe the transition of the mind from ape to human (p. 162). Mimesis is defined as a form of communication through imitation, a more primitive mode of representation that can be seen in nonlinguistic expressive acts. For example, the game of charades illustrates the use of innate mimetic ability to represent and interpret actions. Through the use of facial expressions or signs and gestures, viewers of the game interpret the representational acts and display of expressions (pp. 168-9).

These mimetic interactions exist within a larger semiotic context as language occurs simultaneous to the representation and communicative abilities of mimetic expression (p. 189). Donald (1991) states that, “no matter how evolved our oral-linguistic culture, and no matter how sophisticated the rich varieties of symbolic material surrounding us, mimetic scenarios still forms the expressive heart of human social interchange” (p.189). Mimetic representations explore another layer of meaning and provide a more emotional and personal social interaction.

A meme can associate itself with subsequent memes in perpetuity, as cultural concepts and ideas are constantly passed between people. Memes can pass vertically from a parent to a child, or horizontally between individuals (Atran, 2001, pp. 353-4). There is no exact method or standard set for deciding what constitutes a meme (p. 356). There is no exact method that can
be applied to interpret what culturally transmitted idea or behavior is or is not a meme. Yet the notion of cultural transmission can provide a way in which a person can read the narrative of an interior environment, based on memory and meaning that is passed between individuals. Symbolic and abstracted cultural elements can be read and interpreted, exploring personal memory and embedded cultural meaning.

In the design of the Jewish Heritage Centre of Western Canada, cultural symbolism is deployed with the use of abstracted forms, materiality and typology choices. For example, a deconstructed motif of angular lines is used as a device throughout the museum spaces, forming the outline of three Hebrew letters; beit ב, yod י, and tav ת, constructing the word beit. According to Jewish culture, letters can signify a cultural meaning and concept, which is read differently by each individual. Judaism has not created a strong traditional architectural style throughout history, according to architect Manuel Herz. Instead of relying on culturally specific motifs and symbolism accustomed with other cultural traditional architecture, writing and scripture are used in exchange for spatial invention in Judaic culture (Manuel Herz Architects, n.d., “Jewish Community Center Mainz”, para. 4). The use of the abstracted word, beit provides a symbolic layer of meaning to the character and narrative illustrated within the interior spaces of the JHCWC. The memory and meaning of Hebrew letters and the word beit provide an opportunity for personal and cultural interpretation to emerge. The form and cultural qualities of Hebrew letters can convey a meme. When I attended Hebrew day school at a young age, I learnt the Hebrew alphabet through hand actions. Each letter’s form and shape tell a story. The shape of the letter was represented by gestures that would mimic what the letter’s form would signify. The letter beit when spelled out phonetically also means bayit, which is the Hebrew word for house, dwelling or place of assembly. The hand actions used to form the letter included three elements; the line, the spine and the roof that made up the home to represent the beit. I remember acting out the Hebrew alphabet, and understanding the fascinating hidden meaning that the letter could convey. The symbolic qualities of that story and meme, exemplify the narrative possibilities while suggesting architectural forms; providing a cultural significance to the conceptual approach to the design project.

5 The letter beit is the second letter in the Hebrew alphabet. The symbolic and cultural meaning of the Hebrew letter and word “beit” is explored further in 6.1 Design Considerations.

6 For example traditional Chinese Architecture illustrates a specific and strong architectural style that distinctly reads as a cultural approach to design aesthetic. The concept of Jewish symbolism as an architectural style is further illustrated in 6.1 Design Considerations.
The sensory realm of the JHCWC evokes a similar experience through the use of narrative in the programme’s typologies and material choices. The use of culturally specific materials and colors can foster an emotional memory to the past. The use of tactile materials such as concrete walls, steel columns and reclaimed wood floors, invokes a specific sensory engagement and narrative woven within the design aesthetic. The programme offers spaces that invoke tradition with the demonstration kitchen and restaurant spaces. The smells, tastes and tactility associated with Jewish life are encapsulated, creating a rich sensory environment. The sensoral realm is triggered as a taste of chicken soup reminds a visitor of their Bubbe’s recipe from the old country or the preparation of challah takes one back to Friday night dinners at a Shabbat table. A visitor can experience the culturally specific food for the first time, but is reminded of their own memories and experiences, much like the ones in which they are participating.

3.3.4 Signs and Narrative

Anyone can be affected by their surrounding environments, occupied with images that generate signs. These images obtain their meaning from the way in which they are represented within a particular context (Crow, 2003, p. 9). McGowan (2006) uses film as an analogy to help in understanding and describing how a system of signification becomes meaningful (pp. 10-11). When a single frame from a movie’s collection of frames is read on its own, it holds its own meaning. Yet, when the frame is seen together with the other frames of the film, a structure of meaning forms between the frames and the association of the other frames providing that single frame its meaning. The intent of narrative theory is to view an environment as taking place at a specific time and yet simultaneously unfolding over a period of time. The environment can be seen as a set of unfolding images that creates a narrative to read the surroundings (Ganoе, 1999, p. 5). The narrative is like the film analogy, as it features many frames that are placed together to create a cohesive meaning of a space, object or event.

Barthes reveals how a system of codes is read from everyday cultural phenomena, while narrative theory illustrates another application of semiotics to other objects, images and things that can be read in our surrounding environments. Cultural theorist Mieke Bal considers semiotics as “the theory of signs and sign use, including seeing signs” (Bal, 1998, p. 74). Philosopher Dr. Hilde Hein describes reading objects from a narrative semiotic perspective, as
objects are seen as “units of meaning” (Hein, 2000, p. 52). These objects are part of a systematic framework that construct meaning with other objects to create meaning systems, as objects are part of a narrative that can be read. Bal reveals that semiotics can produce the creation and depiction of texts as particular groupings of signs can create a specific meaning (Bal, 1998, p. 74). Bal considers how images have affected individuals in their surrounding culturally saturated environments, and how a semiotic perspective can be employed to read objects, like reading words from a text (p. 74).

Bal (1998) proposes the use of a semiotic perspective through the use of Pierce’s process of semiosis. Peirce’s model conveys three positions known as the sign or representamen, interpretant of the sign, and the object or mental image. The process applied by Bal is illustrated in a reading of a painting that depicts fruit, and reveals different viewers reading and interpreting different signs. Each viewer constructs a different level of meaning, as they read the painting, yielding a variety of meanings. One viewer can read the painting as an image of real fruit, while another can read the image simply as a still life portrait representing the fruit. The image can be read as an investment, seeing the painting for its worth, with no direct reading of the visual image (p. 75). An object, such as the painting described can be read as a set of signs, that have been produced and carry a specific meaning to each individual. These signs carry a message and significance that can be interpreted by each viewer as a unique reading is formed, as they are not “realistic representations of deterministically fixed products” (p. 81).

Cathy Ganoe reveals levels of meanings that are produced through the use of semiotics when reading an object, reinforcing Bal’s (1998) reading of multiple levels presented in a visual image (p. 75). Ganoe (1999) reveals the use of narrative structure and its application to objects and interior environments, suggesting how spaces and objects can be evaluated for meaning (p. 1). Meanings are formed from signs that are the result of signifiers and signified meanings that match to create an individual meaning. Ganoe explores the example of reading a chair as a signifier, at three levels of meaning. The first level is a low-level reading, interpreting, only the use of the chair, as an object to sit in. The second level of the reading interprets the chair for its status, the style of the chair. The final and third reading of the chair suggests that the chair creates an identifiable sign between different cultures, embodying “a broader worldview” (Ganoe, 1999, p.3). This example illustrates how the chair can be read at low, medium and high level readings, suggesting different perspectives from the reader of the object, producing different meanings. The same form of interpretation is applied within the design of the JHCWC, as each individual will understand the symbolic and abstracted cultural symbolism and design
narrative differently. The symbolic gestures within the design language can be read at different levels, producing an array of cultural meanings.

Ganoe illustrates how semiotics can help designers comprehend images and generate a shared visual meaning and language when designing spaces, which can read as sentences, much like a text. Ganoe (1999) states that, “the characteristics of narrative that help to organize the complex world of people, entities and events through language of stories provides a flexible framework for understanding and expanding the meanings of design” (p. 3). There are multiple ways in which an environment can be read and interpreted to provide diverse meanings and construct a narrative.

The use of architecture as narrative can be seen in the design of the Canadian Museum for Human Rights (CMHR). The building has been conceived of as a narrative that unfolds the story of humanity (Toronto Star, 2009, para. 18). Each element used within the museums’ interior can be read as part of an over-arching narrative. This narrative is seen through the use of metaphors, symbolism, materiality and physicality applied to striking architectural elements (R.Appelbaum, personal communication, October 28, 2010). The building is described as a journey, which begins at the earth with a downward descent into the museums’ entry (C.,S. 2008, para. 2). The entrance is flanked by monumental root-like structures that guide the entrance into the museum’s gathering atrium space. The metaphor and symbolism of the earth is suggested with these root-like structures, as the earth signifies the spiritual center for many indigenous cultures (Predock, n.d., “Canadian Museum for Human Rights”, para. 2). Here the dark embrace of the entry opens up into the light filled Great Hall atrium space. This assembly space echoes historical symbolism, reminiscent of ancient gatherings at the Historic Forks site in Winnipeg, Manitoba (para. 2). As the story unfolds with a series of museum zones, visitors are faced with a thirty-storey rise of a glass elevator and descending ramps, which lead to what has been named the, “Tower of Hope” (Toronto Star, 2009, para. 6). The glass structure allows for a view over the entire museum environment, fostering views to the exterior site and skyline of Winnipeg (Predock, n.d., “Canadian Museum for Human Rights”, para. 4). The tower sores above upwards into the sky creating a spectacle to attract visitors, as the tower signifies, “a beacon for humanity” (para. 4). The inventive museum and its unique experience exemplify how a narrative can be applied throughout an interior environment. The materiality and metaphors have been applied to assist in the construction of a shared meaning for its visitors, to read the museum space as a text.
Tara Roscoe considers semiotics a method of cultural analysis and design narrative, providing the ways in which typologies can be built. Roscoe (2005) introduces the application of semiotics when describing the creation of new typologies, which is fundamental to the design of a space (p. 75). Semiotic theory allows for space to be read as a coded sign of language. Interior environments can become coded with a spatial interpretation, where its interior elements are synthesized and comprehended. The interior environment can read as a system of signs that create a strong visual language. Roscoe explores the potential for narrative when new spatial typologies develop, producing a new environment.

Saussure defined the term paradigm, as meaning that is gathered from a collection of signs. A set of rules or an understanding of meaning can be applied to a specific paradigm, producing a set of conventions as assumed connections of signs (Crow, 2003, p. 42). Designers are considered to have their own paradigms and codes and can in effect, read an image of a spatial environment or typology differently than an individual outside of the field of design. Design language and the reading of a space can emerge with the use of spatial coding, as seen in the design narrative at the CMHR. The symbolism fostered through materiality and metaphors create an embedded coded language within the design of the museum’s environment. The design of an environment can embrace and implant a system of codes that advances and supports the meaning and construction of a space as a particular typology (Roscoe, 2005, p. 80).

Saussure also suggests the notion that words name concepts and ideas to form meaning, from how similar and different these words are. The word museum as a typology should denote what all museums have in common, a similar museum-ness (Palmer, 1997, p. 15). The museum typology can be identified from what is both museum-like and non museum-like. When the museum typology is seen as a sign, the traditional associations of its interior are seen as the signifier, and the signified becomes what the museum is, or its museumness. Using a Saussurean process for reading the interior environment, Roscoe redefines the use of signifiers, signified and signs. The following diagram represents the museum typology as the sign, illustrating the application of a signifying system proposed by Roscoe.
The signifier is reinterpreted as defining elements within an interior, allowing for a spatial understanding of elements to create a deeper cognitive realization of the new environment (Roscoe, 2005, p. 78). When the typology of the museum is seen as a sign, specific design features such as exhibit displays, artifacts or framed images are associated with the typology. These features become the signifiers to create the sign. The signified is the thought that surfaces in the consciousness when viewing and conceptualizing the signifier (p. 78). The signified is the cognitive conception of what the museum is, once the signifier is interpreted. These concepts form the interior elements of the spatial typology. This application of semiotics can aid in defining the construction of new typologies, becoming integral to the design of a space. The museum as a typology for example, can be challenged when interpreted as a sign; and the elements that create the museum are read as signifiers. It is the sign that activates mental images of the signified (p. 79). The perceived understanding of a typical or standard museum typology creates a particular conception of spatial coding. The space can be defined based on the associations between the museum typology and its interior elements.

The shift in design aesthetics for example, in a new museum typology like the post-museum no longer follows the typical construction of visual understanding of its typology. The space once dominated by storage and static displays is replaced. The post-museum introduces social
spaces for gathering and viewing, while allowing a visitor to become an active learner immersed in an interactive environment. The formation of a new design language allows the reading of this interior to redevelop an innovative spatial language. The new coding goes against typical typology assumptions of what had formally defined the museum. The post-museum no longer reads as other museum spaces and loses its traditional coding of assumed visual interpretation. The innovative spatial identity based on the application of semiotic theory, can be read as a design language, a narrative to see the coded signs within the space.

### 3.3.5 Concluding Observations

The use, definition and exploration into semiotic theory provides the methodology for reading an environment and its elements as a set of signs. Using a Saussurean perspective, these signs are fashioned when meaning is constructed from a signifier; the form that creates a concept and a signified, the meaning that the signifier generates. This perspective however is limited in defining the role of the reader of these signs. The role of the reader was further examined through the investigation of Barthes’ second-order semiological system, adapting Saussurean principles to decode a sign as a myth. The concept of a myth defines the process of culturally reading phenomena to decode French cultural misconceptions. Barthes suggests the possibility of the reader creating multiple interpretations of the signs when myths are examined.

The concept of mimetics and memes further explores a similar notion, as cultural ideas and behaviors are conceptualized when transmitted between individuals. The reader of these signs plays a crucial role in the understanding and comprehension of the signs. The role of the reader in narrative theory illustrated by Ganoe, Bal and Roscoe suggests the same significance of the individual when interpreting signs.

Ganoe demonstrates the multiple meanings that are formed when an object is read and interpreted as a text. An object provides a low, medium or high level reading to the observer, allowing for different interpretation of the object’s meaning. Corroborative methodologies are illustrated in Bal’s description of interpretive narratives when reading what an object can signify to different viewers. The strongest theoretical development in reading a space as a text can be observed from the work of both Ganoe and Bal, in their interpretation of the application of
narrative theory. The work of both theorists suggests real world applications of theoretical concepts, when objects are interpreted for their multiple meanings. Both theorists suggest three levels of meaning that a viewer can construct when reading an image or object.

Roscoe suggests the same methodology when applied to the construction of innovative typologies that can be coded to signify different meanings. Roscoe analyzes how semiotics can be applied to read the design of a new space as a narrative, reading the interior as a system of signs. This reading is fashioned from the application of a Saussurean perspective, where the creation of signs can be reinterpreted to apply to the design and reading of an interior environment. Roscoe’s direct application of semiotics to interior spaces and new typologies is powerfully influential in the design of new environments and typologies, like the post-museum. This direct application of semiotics provided a more tangible perspective; illustrating the use of theory within the construction of a design language for a new typology.

In the application of semiotic and mimetic theory, a narrative can be formed that becomes a means of navigation, as the meaning and value of a space can be read much like a text. This space can provide a system of codes that creates a language supporting the spatial interpretation of the new environment. This language can be interpreted as a meme, which provides an exploration into the possibilities for an emotional and cultural narrative. A design language can be fashioned as a meme, as it transmits cultural ideas that construct different layers of meaning within an environment. These notions can manifest in symbolic expressions through material choices and architectural narratives, or through memories and stories that are invoked through sensoral engagement. The meaning and memory that manifests may not be the same for every individual. Atran (2001) attests to the difficulty in defining any set of criteria for deciding what does and does not count as a meme (p. 356). As any space, object or idea can qualify as a meme to someone. Without a clear definition of what constitutes the unit of cultural transmission, the experiences constructed within the emerging hybrid typology of the JHCWC provide personal, emotional and culturally specific symbolic messages as signs, which can be read and interpreted at different levels of meaning by each individual.
An investigation into museum spaces that challenge the shifting paradigm of the museum typology have been surveyed. Through the research and investigation into post-museum theory, the concepts of participatory and immersive spaces, and technologically-driven environments have been identified as significant factors that impact the new museum experience. The hybrid entity of the virtual museum, and the new spatial coding of its environment can signify and illustrate the concept of narrative and the signification of cultural representations.

Four key examples have been selected to reflect these concepts, as these precedents reflect the identity and character that will inform the spatial, narrative and experiential qualities informing the design of this project.
The Experience Music Project (EMP) is a groundbreaking exploration into the possibilities of a post-museum typology. Founder Paul Allen and Designer Frank Gehry created a technologically enhanced space for the exploration and experience of popular American music, building a revolutionary museum for the twenty-first century (Covington, 2000, para. 3). The museum redefines the traditional spatial typology to enhance the museum experience. This allows for a participatory environment where the visitor is central to the mission and values of the museum. The experience is fundamental within the rich visual and textural environment, allowing a focus on the notion of sound and music, and how the user is central to the creation of their own musical exploration (para. 33).

The ability to generate an accessible museum experience allows for the stimulation of a creative expression, exploring creativity through a multitude of technologies and interactive presentations. These dynamic experiences involve the visitors into the imaginative energy of music (Maquire et al, 2005, p.10). The museum-goer becomes engaged in an entertaining and educational environment. EMP becomes an innovative standard of inventive technology and interior environments allowing spectacle within virtual and physical spaces, which can be fostered within the JHCWC.

EMP successfully creates a spectacle with its flashy exterior architectural gestures, echoed within its swooping and curving interior spaces. A large central sculptural monument clad in curved steel and guitars creates visual interest in the open atrium space (Giovannini, 2000, para. 4). Here the physical space of the museum balances the technology driven performance spaces. Other exhibition spaces however feature permanent exhibits, which present more static and less flexible environments (Bruce, 2006, p.145). These spaces provide a challenge, as visitors are less engaged to revisit the museum, if the content remains unchanged. The artifacts, stories and narratives presented would benefit from a more flexible and dynamic exhibition space that can adapt easily to changing and updating content.
The specific zones featuring technologically driven media generate performative music zones. These interactive performance spaces rely heavily on technology to create participatory environments. The technology used becomes the only means of interaction, as flashing screens and musical instruments rely on the power and processing of state of the art technology. The museum experience can quickly become passé, as the cost of upkeep for these innovative technologies, and the constant updating can create a struggle for the museum to feature up-to-date media. The cumbersome expenses and updating associated with these various technologies becomes magnified within this technocentric environment.

Figure 6 – Interactive display screens illustrate the use of media and technology features demonstrated in the performance areas at EMP by, Ed Schipul, 2009, “experience music project”.

Figure 7 – The atrium space at EMP features a large sculptural spectacle of curving and swooping metal and guitars, by Micah Sheldon, 2011, “Experience Music Project, Seattle”.

Figure 8 – Interactive music experimentation is promoted with the use of the interactive sound lab music booths, by Tim Hulsen, 2011, “seattle_253”.

Figure 9 – An exhibition at EMP integrates media and technology into a more traditional exhibition display, by Yvette Wohn, 2010, “Experience Music Project”.
4.2 The Tenement Museum

Designer: Louis Glockner  
Site Location: Lower East Side, New York City, New York  
Square Footage: 325 sq ft per apartment, building at 1,700 sq ft per floor  
Completed: 1863, readapted in 1992

The development of the Tenement Museum began as an exploration into the preservation and interpretation of a new experience within the museum typology. The museum presents historically recreated interiors based on the first residence of the Lower East Side Tenement, restoring five apartments as visual displays (Russell-Ciardi, 2008, p. 40). The design of the apartments began with historical research as the interior environments were recreated using archives and stories. The museum aims to unfold an experience of history through storytelling of the past, raising contemporary socio-political issues to immerse the visitor into an emotional and sensory exploration into the memory and meaning of the past (Abram, 2001, p. 5). Programs developed allow for teaching the present from the past, educating visitors for the future (p.9).

The Tenement Museum illustrates the new role museums can play in engaging their users, promoting a learned experience through historical perspective (Russell-Ciardi, 2008, p. 40). The museum uses immigrant stories and letters to teach new immigrants English and reading skills as one of their many programs.

The museum has featured engaging participatory programs and exhibits, such as the Tea Cart Stories. This interactive public art project featured personal narratives sharing the meaning of tea across various cultures (The Lower East Side Tenement Museum, 2009, “Exhibits In The Windows of 97 Orchard Street”, para.1). The museum involved the surrounding community to participate, sharing personal stories and memories at a public tea cart located at the Museum’s Visitor Center and Shop (para. 2). These personal sessions were recorded as visitors shared a cup of tea at the cart, and then recorded their stories to create a visual display of memories of experiences associated with tea (para. 2).

This form of installation and community involvement aspires to move beyond the static representation of history, and create a more dynamic museum visit formed by conversations, stories and memories. The exhibit fostered sensory engagement, yet this participatory involvement is not featured elsewhere within the museum. The permanent displays within the museum are static, as a narrative is only provided visually. The museum does not provide flexible
gallery spaces to present its exhibitions. Tours and programs were established to help initiate a more involved and immersive visit, moving beyond viewing the historically recreated interiors (Russell-Ciardi, 2008, p. 45). Tour guides use letters, diaries, stories and memories of past immigrants to teach the history and heritage of the building’s first residents. The museum constructs a democratic collective experience as visitors connect to these stories, by understanding personal connections and similarities with their own heritage (p. 45). The experience aims to move beyond the stagnant and un-engaging representation of history. A dynamic experience created by conversation, education and culture will reflect the relevance of history and heritage within the design of the JHCWC.

Figure 10 – The unfinished exhibition at the Tenement Museum illustrates the weathered and historical character of a tenement apartment by Tenement Museum, 2005, “The Ruin Apartment in the Tenement Museum”.

Figure 11 – A historically recreated interior provides a glimpse into the everyday objects and lifestyle of a tenement resident by Tenement Museum, 2005, “The Levine Family Kitchen in the Tenement Museum”.

Figure 12 – The front display windows at the museum feature an exhibition display of the Tea Cart stories installation by Tenement Museum, 2005, “Tea Cart Stories installation”.

Figure 13 – This detail image illustrates the transcribed personal memories and stories that made up the Tea Cart Stories exhibition by Tenement Museum, 2009, “A close-up of some of the stories told during the Tea Cart Stories sessions”.

Figure 10

Figure 12

Figure 11

Figure 13
The Contemporary Jewish Museum (CJM) in San Francisco has redefined the meaning of experience within the new museum typology. The mission of the CJM is aimed to explore Jewish culture, history and tradition through a new perspective of contemporary art and ideas (Amelar, 2009, para. 2). The building seeks to create an aesthetic and new cultural realm where the influence is primarily Judaism, displaying Jewish life and its representation cross-culturally (Rothstein, 2008, para. 7). Unlike the thematic exploration of Libeskind’s foundational work, the CJM transmits a sense of freedom, hope, curiosity and possibility (para. 11). A new universal Jewish experience is explored, as the museum does not define its user or experience by embracing contemporary perspectives of history (Libeskind, 2008, p. 36). A richness of Jewish culture is explored, as Libeskind hopes it is this enduring culture that can attract the public (p.109).

The architecture and interior environment are a layered experience of symbolism and narrative. The interpretation of Hebraic symbols creates the identity of the building, as its fragmented architectural form abstracts the word l’chaim meaning to life. The word becomes not only symbolic but provides, “mathematical, and emblematic nuance” (Libeskind, 2008, p.107). The use of Hebraic symbols as signs within the CJM’s narrative is also reflected in hidden letters located in the lobby space. The architectural gesture called the PaRDeS wall features the abstracted word as an inset lighting detail (p.109). The word provides a deeper connection, according to Kabalistic practice, as each letter of the word signifies a layer of meaning (p.109). Visitors are prompted to question and interpret the buildings exterior architectural and interior symbolic forms and gestures. The deconstructed aesthetic of the letters and words within the architectural spaces have been abstracted to the point, that they may not be visible to all (Rothstein, 2008, para.12). These Hebraic symbols provide an underlying narrative that may not be experienced or comprehended in the same manner by each visitor. Libeskind allows the architectural gestures to read as a text, yet not all individuals will comprehend these conceptual signs. The architecture however creates a spectacle, enticing its visitors to engage with the abstracted symbolism. A more visceral and emotional response can be triggered that transcends the need for comprehension. The converted historic building utilizes minimal
materiality, providing light filled spaces that seem to reflect off the stark white gallery walls. The toned down texture and color palette was applied to reflect the importance of the building’s former character (Schwarzer, 2008, p.42). The stark white gallery spaces do create a blank aesthetic, but do not engage visitors. These interior spaces could provide some form of visual aesthetic that compliments rather than juxtaposes the existing building’s quality. The material choices could also provide textural or tonal differences, exploring sensory experiential materials to enliven the sleek and modern aesthetic. An opportunity to share the universal heritage of Jewish culture will be explored through layering meaning and symbolism within the interior environments of the JHCWC. The Kabalistic approach to interpreting Hebraic symbols can create a narrative signifying the conceptual framework for the project.

Figure 14 – The fragmented and abstracted PaRDeS wall integrates Hebrew letters as a lighting feature along a main corridor at the CJM, by Dan Freund, 2008, “Contemporary Jewish Museum of San Francisco”.

Figure 15 – The gallery and exhibition spaces feature a minimalist white aesthetic while providing flexible display space by Dan Freund, 2008, “Contemporary Jewish Museum of San Francisco”.

Figure 16 – The pre-opening at the Contemporary Jewish Museum featured interactive media and technology integrated into exhibition displays by Todd Lappin, 2008, “Pre-opening at the Contemporary Jewish Museum”.

Figure 17 – The interior lobby at the CJM illustrates the juxtaposition of the new minimalist white construction against the historic building by Bruce Damonte, 2009, “Contemporary Jewish Museum”.

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CMHR:
Canadian Museum for Human Rights

Designer: Antoine Predock (exhibitions by Ralph Appelbaum Associates)
Site Location: Winnipeg, Manitoba
Square Footage: approx 250,000 (47,000 exhibition space)
Expected Completion: 2012/2013

The Canadian Museum for Human Rights (CMHR) is paving the way as an innovative and ambitious museum, as a forum to experience the quest for human rights. The future home of the museum is under construction at the historic Forks area in downtown Winnipeg, Manitoba. The inventive building designed by architect Antoine Predock creates an architectural narrative, telling the story of humanity; the story of departing from earthly physical connections (Toronto Star, 2009, para. 20). The architecture and its narrative have, “found themselves a seamless relationship” explains exhibition designer Ralph Appelbaum (personal communication, October 28, 2010). The museum creates an identity through its narrative, forming a space that reflects the command and need for optimism and tolerance (Predock, n.d., "Canadian Museum for Human Rights", para. 4). The sculptural architectural approach provides the backdrop to a symbolic journey and story of humanity. From the Great Hall atrium to the glass elevator known as the Tower of Hope, each architectural element plays a part in the building’s story, contributing to the overall narrative.

The museum itself has been labeled as an idea museum, which Michael Mouw, Director of Exhibits and Interpretation calls a dialogue-driven museum model (personal communication, November 5, 2010). Social gathering spaces and interactive exhibitions feature innovative media and technology, which prompts visitors to engage in a conversation with visitors and the museum. This technology will be embedded seamlessly within exhibition spaces to deliver highly interactive experiences, blending virtual and physical environments (M.Mouw, personal communication, November 5, 2010). The challenge for the museum is in the balance between the development of real and digital spaces. The museum will feature physical artifacts that will provide or invoke a response, to create a participatory and interactive museum experience (C.Timpson, personal communication, Sept 23, 2010). The specific details on the media and technology used within the exhibitions is not confirmed, as the building is currently under construction.
Chief Operating Officer Patrick O’Reilly states that the museum, “won’t be a space filled with artifacts in glass cases” (as cited in Toronto Star, 2009, para. 12). Standard and traditional display techniques are contested, with the use of interactive and engaging museum zones and exhibitions. Overuse of any exhibition device; material or immaterial can create an unstable museum environment reliant on one particular delivery device. It is critical for the museum to consider and explore a diverse range of exhibition techniques and representations. The delicate balance of media and technology driven programs, and the narrative and symbolic imagery fostered within the CMHR illustrates fitting applications of semiotics and hybridization for the proposed design project for the JHCWC.

Figure 18 – An image depicting Winnipeg’s downtown skyline developing with the sculptural spectacle of the CMHR under construction by Adrian Stoness, 2011, “cmhr”.

Figure 19 – A photograph of the rising concrete and steel structure looms over the limestone clad main entrance into the museum by Adrian Stoness, 2010, “cmhr”.

Figure 20 – The projected rendering of the entrance and Grand Hall of the CMHR illustrates the tactile materiality and communal gathering spaces by Antoine Predock Architect, PC, n.d., “Untitled Image of CMHR Grand Hall”.

Figure 21 – The projected rendering of the atrium and reflection garden demonstrates the descending ramp of the museum overlooking the contemplative gathering garden space, by Antoine Predock Architect, PC, n.d., “Untitled Image of CMHR Garden”.

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5 Design Programme
5.1 Client and User Description
The following section identifies the client and user groups of the Jewish Heritage Centre of Western Canada (JHCWC). An investigation of the proposed site and building, as well as an analysis of its interior spaces is explored. The activities and needs of the user assist to identify the functional and spatial requirements of the design programme for the JHCWC. The site and building description recognizes the character and history of the existing site.
5.1 Client and Users

The Jewish Heritage Centre of Western Canada (JHCWC) is an incorporated non-profit multi-faceted organization located at the Asper Jewish Community Campus (JHCWC, 2011, About section). The Jewish Historical Society of Western Canada (JHSWC) was founded in 1968, operating for over thirty years in Winnipeg as the primary group focusing on research, history and documentation for the Canadian Jewish Congress (JHCWC, 2011, The Jewish Historical Society of Western Canada section). In 1999, The JHSWC amalgamated with the Marion & Ed Vickar Jewish Museum of Canada as well as the Freedman Family Holocaust Education Center (HEC) to create what is today known as the JHCWC (JHCWC, 2011, The Jewish Historical Society of Western Canada section).

The JHCWC functions as a Centre for the interpretation and preservation of cultural and religious life for the Jewish Community of Winnipeg (JHCWC, 2011, About section). The Centre includes a museum featuring seasonal exhibitions, an archive for its collections and objects, Holocaust Resource and Education Centre (HEC), Genealogical Institute and research library, offices and other support areas. The Centre will also introduce a space for the general community to gather, and experience history, culture and tradition.

The primary users of the space are the current staff, the general Jewish community, as well as descendants of Jewish immigrant families. The secondary users are high school students participating in an educational experience. The tertiary users of the space are researchers, writers, tourists, general visitors and speakers.
Figure 22 – Organizational chart of the Jewish Heritage Centre of Western Canada.
5.2 Site Analysis
The following section presents a comprehensive description and analysis of the proposed site for the Jewish Heritage Centre of Western Canada. The following analysis illustrates the historic, cultural and site characteristic of the proposed site. The site information provides the rationale for the design programme of the Centre.
5.2 Site Selection

The following criteria helped to establish significant factors that would impact the site selection for the Centre:

- close proximity to the existing Asper Jewish Community Campus
- adaptive reuse: use of an existing building to facilitate a sustainable design approach
- 1-3 storey building: featuring large open interior volumes that can accommodate the current and future functions of the JHCWC
- useable exterior spaces for parking/loading/unloading
- vehicular access
- pedestrian access
- some street visibility
- accessible through public transit
Figure 23 - Site plan illustrates surrounding context to the Asper Jewish Community Campus.
5.2 Site Selection
paths and nodes

Figure 24 - Analysis of the paths, streets and interconnected nodes surrounding site.
5.2 Site Selection

landmarks

Figure 25 - Analysis of landmarks surrounding 139 tuxedo.
Image and Photographs by Author.
The proposed site is located at 139 Tuxedo Ave, situated between Edgeland Blvd and Doncaster Street within the Old Tuxedo area in Winnipeg, Manitoba. The site is located near the Asper Jewish Community Campus, the former site of the Manitoba Agricultural College. The building is currently owned by The Jewish Community Campus of Winnipeg Inc. and leases office spaces to Manitoba Health and Manitoba Family Services.

**Zoning:** University/College - RR5 Rural Residential  
**Land Area:** 16.7 acres  
**Property Influences:** external corner, bus route, heavy traffic and park  
**Area:** Old Tuxedo  
**Additional Zoning:** RMF-S Residential Multi-Family  
**Maximum Height of Building:** 35 feet  
**Permitted use for Zoning:** For RR5, Museum/Gallery and Library are allowed  
(Citizen’s Information Service, Address Information section).

Figure 26 - Site plan and context.
5.2 Site Plan

existing site condition and views

Figure 27 - Site plan of existing building and site conditions.
Figures 28, 29 - Views of existing site conditions. Photographs taken by Author.
5.2 Site and Building Images

Figure 30
View of east elevation from parking lot

Figure 31
View at entry and east facade

Figure 32
South and north elevation

Figures 30, 31, 32 - Elevation images of existing building. Photographs taken by Author.
Figures 33, 34, 35 - Views of existing entry and gate features. Photographs taken by Author.
5.2 Site History

**Designation Date:** June 22, 1995

**Designation Authority:** Honourable Harold Gilleshammer, Minister of Culture, Heritage and Citizenship

**Present Owner:** The Jewish Community Campus of Winnipeg Inc.

1906: Provincial Government establishes the Manitoba Agricultural College.
    Samuel Hooper designed the Agricultural College Buildings and Entry Gate.

1913: College relocated to Fort Garry, later established as the University of Manitoba.

1914-1917: Site used by the Manitoba School for the Deaf.

1917: Site used by Military as a hospital for wounded soldiers.

1919-1968: Site used by Army, renamed Fort Osborne Barracks.

1968: Army base relocated.
    Province re-acquired site, converted some of the buildings to house government departments.

1997: Site redeveloped by the Asper Jewish Community Campus of Winnipeg, returning the site to its education heritage.

(Explore Our Heritage - Provincial Heritage Sites, n.d., para. 1-3).
5.2 Entrance Gates

The entrance gates at 139 Tuxedo were designed by Samuel Hooper in 1906, to reinforce the image of the Manitoba Agricultural College. Hooper designed the entrance gates for the College with a substantial stone and wrought iron design. The gates were meant to mark the site as a special place, and help to create a boundary along Piper Blvd, today Tuxedo Ave. The gates were also designed to control the pedestrian and vehicular traffic coming off of the north and south of Piper Blvd. (Historical Building Committee, 1989, p. 58).

The two main gates were placed opposite of each other, directly at the center of the college. The two-part swinging gates were attached to large stone hanging posts and joined at the center by locks. Each side of the gate features smaller piers supporting latched pedestrian gates. These smaller pedestrian gate access points are repeated and placed at the perimeters of the developed site (p. 58). Fencing connected to the main gated entry that once linked to these smaller gates. The pillars of the gate are designed with piers that sit on rock-faced stone bases, with square shafts that are constructed from *bush-hammered* limestone blocks, set in cement mortar. The driveway posts featured gable ends and a series of roll moldings that support smooth-cut stone spheres. The smaller posts featured on the smaller pedestrian gates featured a more modestly ornamented design with plain, low-pitched pyramidal caps (p. 59). Iron gates attached to the smaller pedestrian gates feature scrollwork and round vertical bars with twisted ends.

Today, the main pillars still exist without the central iron gate, and much of the fencing has disappeared. The north pedestrian gate, and pillars are still intact and connected to the original wrought iron gate and fencing that once surrounded the entire site (p. 59).
5.3 Building Analysis

**Year Constructed:** 1950’s, renovated in 2010  
**Zoning:** RR5 Rural Residential  
**Square Footage:** 29,536  
**Architect:** unknown  
**Building Owner:** The Jewish Community Campus of Winnipeg Inc.  
**Building Construction:** White stucco exterior and CMU construction, tinted windows, gypsum board, steel stud partitions and CMU on interior  
**Gate Construction:** Limestone and wrought iron  
**Gate Architect:** Samuel Hooper  
**Year Constructed (Gate):** 1906  
**Flooring:** Carpet, VCT Tiles and concrete  
**Ceiling:** Acoustic tile and ceiling grid  
**Lighting:** Fluorescent  
**Mechanical Air System:** Forced Air System  
**Occupants:** Manitoba Health Offices & Manitoba Family Services Offices

Figures 36, 37, 38, 39 - Interior images of existing building. Photographs taken by Author.
5.4 Building Code Requirements

Section 3 –
A-3.1.2.1(1) Major Occupancy Classification
Group A, Division 2: Museum, Library, Restaurant

3.1.17 Occupant Load
Table 3.1.17.1
Assembly Uses – space with non-fixed seats = .75m2
Classrooms = 1.85m2
Dining, Beverage, and Cafeteria Space = 1.20 (area per person m2)
Kitchens = 4.60 (area per person m2)
Mercantile (first storey) = 3.70 m2
Reading or writing rooms or lounges = 1.85 m2
Offices = .75m2
Eating Area: 50 people
Kitchen Area: 8 people
Maximum Number of Occupants: 150

3.2.1.1 Exceptions in Determining Building Height
The space above a mezzanine is not considered as a storey in calculating the building height provided that the aggregates area of mezzanines that are not superimposed does not exceed 40% of the open area of the room in which they are located. The space above the mezzanine is used an open area without partitions or subdivided walls higher than 1070 mm above the mezzanine floor

3.2.2.24 Group A Division 2, up to 6 storeys, any area, sprinklered
A building classified as Group A Division 2, that is not limited by building area if the building is sprinklered throughout and it is not more than 6 storeys in building height, the building should be noncombustible construction and have floor assemblies should have fire separations with a fire resistance rating not less than an 1 hour. Mezzanines should have a fire-resistance rating not less than 1 hour, and the building’s load bearing walls, columns and arches (beams) should have a fire-resistance rating not less than that required for the supported assembly

3.2.5 Provisions for Firefighting
3.2.5.13 Automatic Sprinkler System
An automatic sprinkler system should be designed, constructed installed and tested in conformance with NFPA 13. All sprinklers shall not be omitted in any room or closet if the storey immediately below a roof assembly

3.3. Safety within floor Areas
A minimum of 2 egress doorways located so that one doorway could provide egress from the room as required in 3.3.1.3 if the other doorway becomes inaccessible to the users due to a fire that originates in the room should be provided for every room

Table 3.3.1.5B Egress in floor area sprinklered throughout
Section 3.7 Health Requirements

3.7.2.2 Water Closets
Water closets should be provided for each sex assuming the occupancy load is equally divided between males and females. If a single universal toilet room is provided, the total number of people in the building is used to determine the number of water closets to be provided. Both sexes permitted to be served by a single water closet if the occupancy load in an occupancy is not more than 10. Urinals are permitted to be substituted for 2/3 of the number or water closets required for males, except if only 2 water closets are required for males, one urinal is permitted to be substituted for one of the water closets.

Table 3.7.2.2.B
Water Closet for a Business and Personal Services Occupancy
Water Closets for an Assembly Occupancy

<table>
<thead>
<tr>
<th># of persons per sex:</th>
<th>Min. # of W/C for each sex:</th>
</tr>
</thead>
<tbody>
<tr>
<td>126-150</td>
<td>3 male 6 female</td>
</tr>
</tbody>
</table>

3.7.2.3 Lavatories
At least one lavatory should be provided in a room containing one or 2 water closets or urinals, and at least one additional lavatory should be provided for each additional 2 water closets or urinals.

3.8 Barrier-Free Design

3.8.1.2 Entrances
Not less than 50% of the pedestrian entrances of a building should be barrier-free and should lead from the
a.) outdoors at sidewalk level
b.) a ramp that conforms to the guidelines and leads from a sidewalk
3.) a barrier free entrance should be designed

3.8.2.3 Washrooms Required to be Barrier-Free
A washroom in a storey to which a barrier-free path of travel is required should be barrier-free with the proper requirements.

3.8.3.8 Water Closet Stalls
At least one water closet stall in a washroom is required to be barrier-free should not be less than 1500 mm wide by 1500mm deep, have a door that can be latched from the inside with a closed fist, and provides a clear opening not less than 800 mm wide when it is open, swings outwards unless there is enough room inside the stall without interfering with the wheelchair, and have a water closet located so that the clearance between the fixture and the wall one side is not less than 285 mm and not more than 305 mm, equipped with grab bars, have a coat hook mounted not projecting more than 50 mm from the wall, and have a clearance of not less than 1700 mm between the outside of the stall face and the face of an in-swing washroom door and 1400 mm between the outside of the stall face and any wall-mounted fixture.
### 5.5 Spatial Requirements

#### List of Spaces and Sub-spaces

1. **Museum**
   - entry/lobby
   - exhibition spaces
   - gathering spaces/terrace
   - interactive interfaces

2. **Archive/Library/Genealogical Institute/ Holocaust Resource Education Center (HEC)**
   - physical/digital storage space
   - reading/research spaces
   - multimedia/theatre rooms
   - interactive zones
   - gathering space

3. **Restaurant**
   - kitchen demonstration
   - kitchen/storage
   - dining/seating spaces
   - exhibition integration

4. **Staff Spaces**
   - offices
   - lab/studio space for exhibits
   - staff rooms

5. **Maintenance/mechanical spaces**
   - cleaning spaces
   - storage
   - mens washroom
   - womens washroom

#### Spatial Adjacencies: Design Matrixes

<table>
<thead>
<tr>
<th>Function</th>
<th>Spaces</th>
</tr>
</thead>
<tbody>
<tr>
<td>entrance</td>
<td>entry/security/gathering area</td>
</tr>
<tr>
<td>creating</td>
<td>lab/studio</td>
</tr>
<tr>
<td>working</td>
<td>staff offices</td>
</tr>
<tr>
<td>working</td>
<td>maintenance/mechanical</td>
</tr>
<tr>
<td>working</td>
<td>washrooms</td>
</tr>
<tr>
<td>dining</td>
<td>restaurant</td>
</tr>
<tr>
<td>making</td>
<td>kitchen</td>
</tr>
<tr>
<td>experimenting</td>
<td>kitchen demo</td>
</tr>
<tr>
<td>experiencing</td>
<td>museum/exhibition</td>
</tr>
<tr>
<td>researching</td>
<td>library</td>
</tr>
<tr>
<td>learning</td>
<td>archive</td>
</tr>
<tr>
<td>participating</td>
<td>genealogical institute</td>
</tr>
<tr>
<td>participating</td>
<td>holocaust educational center</td>
</tr>
<tr>
<td>storing</td>
<td>theatre</td>
</tr>
<tr>
<td>storing</td>
<td>storage</td>
</tr>
</tbody>
</table>

*Figure 40 - Spatial adjacencies chart.*
<table>
<thead>
<tr>
<th>space</th>
<th>area</th>
<th>physical needs</th>
<th>emotive needs</th>
</tr>
</thead>
<tbody>
<tr>
<td>entrance security space</td>
<td>400 sq ft 200 sq ft</td>
<td>seating, waiting space and clear signage, security, storage</td>
<td>secure, inviting for the center, quiet, clear wayfinding, bright</td>
</tr>
<tr>
<td>staff offices &amp; meeting room</td>
<td>640 sq ft 170 sq ft</td>
<td>10 chairs desks and storage</td>
<td>functional, organized, comfortable and quiet</td>
</tr>
<tr>
<td>lab/staff studio</td>
<td>1200 sq ft</td>
<td>desk and counter space flexible storage</td>
<td>open, adaptable, light, organized and removed</td>
</tr>
<tr>
<td>staff w/c (4)</td>
<td></td>
<td>toilet, sink, mirror, lighting</td>
<td>quiet, relaxing and clean</td>
</tr>
<tr>
<td>maintenance (2 rm) mechanical rm</td>
<td>632 sq ft</td>
<td>a/c unit, boiler and other hvac equipment</td>
<td>acoustically sealed and removed from center functions</td>
</tr>
<tr>
<td>restaurant</td>
<td>1000 sq ft</td>
<td>seating, tables, good dimmable lighting</td>
<td>quiet, open, calming, inviting, tactile, sensory engagement</td>
</tr>
<tr>
<td>kitchen</td>
<td>650 sq ft</td>
<td>counter spaces, oven, range, fridge, freezer, prep space and storage</td>
<td>functional, organized, and clean</td>
</tr>
<tr>
<td>kitchen demo</td>
<td>300 sq ft</td>
<td>counter space, refrigeration, display, storage, mirrors and controllable lighting</td>
<td>functional, efficient, open for viewing and tactile</td>
</tr>
<tr>
<td>gathering spaces/ circulation</td>
<td>8861 sq ft</td>
<td>in-between and surrounding exhibition spaces</td>
<td>clear wayfinding and inviting</td>
</tr>
<tr>
<td>gallery/ exhibition space</td>
<td>1000 sq ft each 4000 sq ft</td>
<td>flexible displays, interactive exhibits, participatory and immersive</td>
<td>open, inviting, tactile, responsive, and sensory engagement</td>
</tr>
<tr>
<td>library/archive/ genealogical institute</td>
<td>3000 sq ft</td>
<td>expandable modular storage system, computers, physical and virtual storage, and working areas</td>
<td>quiet, functional, and an immersive space for data collection</td>
</tr>
<tr>
<td>HEC/ multimedia room</td>
<td>950 sq ft each 1900 sq ft</td>
<td>40 chairs (in each space), storage, displays, screen and integrated technology</td>
<td>quiet, comfortable, inviting and participatory displays</td>
</tr>
<tr>
<td>w/c</td>
<td>sq ft</td>
<td>toilet, sink, mirror, lighting</td>
<td>quiet, relaxing</td>
</tr>
<tr>
<td>delivery/services</td>
<td>200 sq ft</td>
<td>space for garbage truck and bin at back of the building</td>
<td></td>
</tr>
<tr>
<td>basement</td>
<td>7818 sq ft</td>
<td></td>
<td>(12 872 sq ft w/ storage space included)</td>
</tr>
<tr>
<td>first floor</td>
<td>10 788 sq ft</td>
<td></td>
<td></td>
</tr>
<tr>
<td>second floor</td>
<td>10 930 sq ft</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td><strong>15 750 sq ft</strong></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Table 2 - Functional Programme**
Figure 41- Zoning diagram.
Design Proposal
This following chapter will discuss the development of the design for the Jewish Heritage Centre of Western Canada (JHCWC). The design of the Centre explores the possibilities of a hybrid post-museum responding to the literature and precedent investigations outlined in the previous chapters. Four guidelines of **history, heritage, tradition and culture** were formed, using the knowledge and understanding of the literature review, precedent studies, site investigations as well as cultural symbolism. The four guidelines provide the conceptual framework informing the design of the Centre. Each of the four areas describes the character and sensoral qualities encompassing each typology explored within the programme.
6.1 Design Considerations

Through the exploration of the concepts and theories of the post-museum, hybridization and
semiotics, my conceptual approach to the project emerged. Terminology developed through
the synthesis of project components that provides design guidelines that aid in the exploration of
the four programmatic elements of history, heritage, tradition and culture.

New Museum theory identifies a transition from object-based exhibition practices that enshrined
objects to dialogue driven models that embrace public spaces for gathering. The use of vision is
challenged as a transition from what can only been seen embraces the visceral realm of what
can be felt. The concept of the post-museum redefines the museum as an entertaining and
dynamically flexible environment where open forums and social spaces provide engaging
open-ended educational experiences. The shifting role of the museum presents a site for
spectacle and display that moves beyond the sense of vision. Display environments can
promote bodily and sensoral engagement, as the tactility, taste and sound of the space
become interactive experiences. The shift towards participatory spaces encourages engaging
active participation and user control. The use of media and technology afford digital
interactivity within the exhibition spaces, promoting active involvement of the museum-goer to
facilitate and manipulate exhibition devices.

flexibility – spectacle – dynamic – sensory – tactility – participatory

The notion of hybridization also exposes the use of transitions and new beginnings, as a hybrid
entity incorporates both virtual and physical space. An interface is formed to integrate a hybrid
space where the virtual realm comes into contact with the real environment. Recombined
typologies like the virtual museum allow the physical space of the museum to evolve with the
use of new media and digital interactivity to incorporate the virtual within the physical. This
interface forms a bridge from the real space to virtual concepts that can overlay the physical
setting. Many artifacts and objects may be digitized and become immaterial, yet the
importance of maintaining a materiality to physical experiences and objects is central to the
mission and significance of the design project.

virtual – physical – interface – overlap – media & technology – interactive
Semiotic theory illustrates the use of signs to communicate a system of meaning and logic to read a space, object or text. A transition is formed when the signifier and signified are combined to form a sign, as a space, object or text transitions into a new meaning. The notion of cultural reading exposes the use of second-order signification to reveal meanings in everyday phenomena. Spaces can be read to construct meaning through a system of codes that signify culture. Mimetics provides a method to produce cultural units of meaning that can convey memory and personal narratives within the reading of an environment. The use of spatial interpretation allows a visitor to comprehend the built environment at different levels of comprehension. The museum typology can be read as a sign when its interior elements that construct the new typology can be seen as a signifier, and the conceptualization of interior elements becomes signified. Cultural symbolism and sensory engagement provide layers of interpretation and meaning within the narrative of the Centre.

The theme of transitions and new beginnings is also reflected in the site and building selection for the Centre. The site has historically been used for educational purposes, creating a narrative of new beginnings. As illustrated in the site analysis section, the site was first used by the Agricultural College, and transformed later into the base for the Osborne Barracks, today the home to the Asper Jewish Community Campus. The building at 139 Tuxedo does not convey the same historical narrative of the site, yet it provides a unique geometry, pattern and architectural language. The site features a predominant gate feature that provides a threshold and transition from the street into the entrance for the site. The gates provide a historical narrative to the site, as the gates were once the entry point for the entire site. The site reflects the narrative of renewal, creation, beginnings and transformations.

The building consists of four main structural walls that compose the building, as well as an additional structural wall that cuts through one third of the structure. This additional wall reinforces the asymmetrical proportions of the narrow building. The existing ramp and entry to the building are placed along the front third of the building, further emphasizing this asymmetry. A rhythm and pattern is created on the west and east façades featuring exterior vertical columns, placed in between the building’s windows. The same rhythm is reflected in the interior environment of the Centre, as the addition of articulated columns suggests the same exterior patterning and regularity.
The conceptual approach to the project explores the meaning and signification of the Hebrew letter beit. The concept of transitions and beginnings is also reflected in the Hebrew word bere’shet meaning in the beginning. This word calls for interpretation, as it is the first word of the book of Genesis, and should begin with the first letter of the Hebrew alphabet, alef. Much debate and explanation in classical rabbinic writings surround the meaning of the word, which instead begins with the Hebrew letter beit, the second letter of the alphabet (Wolfson, 2005, p. 257). The form, meaning and symbolism seen in the letter beit provides mathematical, allegorical and emblematic elements within the design of the JHCWC. The form of the letter consists of one vertical and two horizontal lines. These three lines can be interpreted as representing the path of the sun, moving from east to west (Raskin, n.d., para. 3). The notion of the beginning of a day, utilizing the colors and hues of blue and orange and qualities of light and daybreak are explored throughout the design of the JHCWC.

The letter also invokes mathematical qualities with the use of Gematria, which translates a word into a numerical worth (“gematria”, Merriam-Webster.com). The value placed on the letter beit is two. The mathematical significance also provides further insight into the symbolism and meaning of the letter. The beit represents the notions of duality, openness and creation (Raskin, n.d., para. 7). The form and symbolic qualities of Hebrew letters as mentioned in section 3.3.3 illustrates the memory and meaning of the form and significance of the letter and word beit. The three components that make up the shape of the letter include a line, a spine and a roof. The application of this culturally significant form is further explored in section 6.4 when discussing the entrance to the Centre. The symbolic qualities of the meme and form of the Hebrew letter beit additionally assist to fashion the narrative and inspiration for the conceptual approach to the design project.

symbolism – duality – openness – sun (daybreak) – creation – dichotomy

Just as the letter provides layers of meaning, the built environment explored in the project will expose a layered form of symbolism throughout many design elements. The concept of new beginnings is reflected as a hybrid space emerges between the physical and virtual spaces within the Centre. The notion of duality, and dichotomy reflects the numerical, and symbolic value placed on the word beit, as the letter itself equals two in numerology, features three components that construct its form, while creating a fourth element when its symbolic character

7 Gematria is a kabalistic method of questioning biblical literature through cryptographic analysis, where the numerical value of letters suggest hidden meaning and significance (“gematria”, Merriam-Webster.com).
is explored. The form of the letter beit is closed on three sides, but open on the fourth side. This open side suggests that one must look forward and beyond, into a new beginning (Wolfson, 2005, p. 257). The four sides of the symbolic letter beit have been interpreted as the programmatic elements of the centre. The following diagram illustrates the conceptual approach to the design project.

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![Conceptual Diagram](image-url)

Figure 42 - Conceptual diagram illustrating the schematic development of the Centre.

The concept of culture surrounds the development of the museum and flexible exhibition spaces, providing a visual and participatory cultural experience. The idea of tradition encompasses the restaurant and demonstration kitchen, invoking smells and tastes within a convivial environment. The notion of heritage defines the archive, genealogical and library areas, exploring notions of touch to activate the interactive setting. The guideline of history has informed the multimodal Holocaust Education Centre and theatre rooms, as the acoustics and sounds of the immersive rooms provide an engaging auditory space.
The following conceptual image expresses the concept in a visual form. The image further illustrates the conceptual approach to the design project, as it conveys layers of meaning: the form and symbolic elements of the letter beit, the theme of new beginnings, and the asymmetrical geometry of the site.

Figure 43 - The abstracted image demonstrates the conceptual approach to the design.
The chosen site for the JHCWC creates a space for reflection and gathering, using the exterior as an extension of the interior design strategies. The site features dominant entry gates that include a modern signage element to attract visitors to the Centre. The site features a tree-lined pathway parallel to the entry gates that leads into a contemplative garden. The asymmetrical design of the garden employs the same culturally abstracted motif of the letter beit that is used in the main entry of the Centre, as well as throughout many distinct interior features. The segmented plan provides pockets of textures, as each segmented portion of the abstracted motif explores a different sensory quality. The path from the entry leading into the memorial garden provides areas of textured stone and gravel, spaces of grass and tall prairie grass, as well as rows of herbs. The tactile experience provides spaces of soft, rough, hard and smooth textures, while featuring the sweet smell of herbs and the rustling sound of leaves and prairie grasses. The memorial garden also features monuments to invoke a serene, contemplative and reflective atmosphere. Moveable seating is provided surrounding the six stone elements that create the monument, representing the six million Jewish lives lost in the Holocaust.
Figure 44 – Site plan (NTS).
6.2 Site

east elevation
A path leads to the main entrance of the Centre and the entrance into the Museum Shop from the memorial garden. The main entry located on the east elevation of the building features an abstracted letter ‘b’. The three elements that create the letter’s shape have been interpreted as the roof, spine and line, demonstrating the forms proposed in the letter’s meme. The roof component provides signage along an aluminum and glass overhang with a column of concrete along the side to embody the concept of the line. The spine is represented as an etched glass and light feature, which also provides signage. The entry’s abstracted form establishes the architectural narrative that is explored within the design of the JHCWC. The site also features parking directly adjacent to the main entry. Loading is provided near the back of the east elevation near the staff and kitchen entry. An herb garden has been placed at the north elevation to create a buffer between the existing Gray Academy of Jewish Education’s playground spaces and the Centre. The garden is used seasonally and can also be used and maintained by the surrounding community.
Figure 47 – Rendering, plan, front and side elevation of signage (NTS).

Figure 48 – Signage at gate entrance. Image and Photograph by Author.
6.3 Interior Zoning

The interior organization of the Centre reflects the synthesis and understanding of information acquired through the interview process, literature review of key topics, precedent investigations and site analysis. The building provides a long and narrow rectangular structure with an open space free of columns. The addition of a column grid reinforces the geometrical rhythm and character of the existing building. The zoning of the centre began with the introduction of a central atrium space that links physically and visually to all programmatic spaces of the Centre.
The first floor features two entrances, one being the main entrance to the Centre, and the other a secondary entrance for the Museum Shop. The main entry incorporates an information desk and restaurant reception desk. This informal gathering space also features interactive adjustable podiums to access information from the museum's exhibition and collections. The museum shop provides retail and display within a double volume space, as stairs at the southwest corner of the area connect the shop to the second floor storytelling terrace. The museum shop's entrance into the Centre features a wide corridor used as an upload station to download and search from the Museum's collection.

The main corridor leads into the temporary gallery atrium. Here large spectacle features such as the moveable display wall and interactive beit wall provide an engaging exhibition space. The temporary gallery opens up into the exhibition spaces that are bound by three walls to convey the openness and three sides of the letter beit.

The open concept is further illustrated in the restaurant, kitchen and demonstration kitchen areas. The dining areas are open to the exhibition by glass partitions that become part of the exhibition spaces. The east end of the dining area provides a counter overlooking the open concept kitchen to engage with the smells, preparation and cooking of cultural food featured in the restaurant. The demonstration kitchen located adjacent to the restaurant further explores the use of engaging sensory qualities, as visitors are able to participate in an immersive culinary experience within a convivial setting.
Figure 49 – First floor interior zoning plan (NTS).
6.3.1 Interior Zoning

The second floor is connected through the ramp and elevator located near the upload stations. The zoning features the same open concept, as large wide corridors are provided to gather and converse around the large atrium spaces. An information desk is provided adjacent to the ramp, using the same aesthetic as the first floor entrance desk. The space opens up into the Genealogical Institute, library reading space, archive and library displays. The open space provides communal meeting areas that feature etched glass details and a moveable digital wall at the gathering spaces. Another opening above the restaurant space features an oral history sound wall. This interactive wall engages visitors with oral history, while providing acoustical separation to the Holocaust Education Centre (HEC) on the other side of the wall. The HEC/theatre rooms provide immersive multimodal rooms that feature display units on its exterior walls. Inside the theatre spaces provide seating and touch tables for an engaging technology-driven educational experience.
Figure 50 – Second floor interior zoning plan (NTS).
Figure 51 – First floor plan. Scale: 1/16" = 1'0".
Floor Plans

second floor plan

Figure 52 – Second floor plan. Scale: 1/16" = 1'0".
6.3.2 Floor Plans

basement floor plan

Figure 53 – Basement floor plan. Scale: 1/16" = 1’0".
6.3.2 Materials, Furniture and Fixtures

Figure 54 - Material board.
121 Figure 55 – (this spread) Material specifications.
6.3.3 Material Plans

first floor material plan

Figure 56 – First floor material plan (NTS).
6.3.3 Material Plans

second floor material plan

Figure 57 – Second floor material plan (NTS).
**WOOD**
W1: Reclaimed Wood Flooring
Wood Anchor
Color: Green and Black Ash Wood
Stain: OSMO Poly Oil

**TILE**
T1: Ceramic Floor Tile
Julian Tile
Style: Dolmen
Color: Bianco
Code: BI1236

T2: Ceramic Floor Tile
Julian Tile
Style: Dolmen
Color: Cemento
Code: DCE1236

**CARPET**
C1: Carpet Tile
Interface FLOR
Style: 141370250H
Color: Byte
Code: 100067

**FLOORING**
L1: Marmoleum
Forbo Dutch Design
Color: Jurgen Bey – Grey Matter
Code: M0712

**PAINT**
P1: Benjamin Moore
Color: Glacier White
Code: OC-37

P2: Benjamin Moore
Color: Mosaic
Code: CC-874

P3: Benjamin Moore
Color: Festive Orange
Code: 2014-10

**SOLID SURFACES**
S1: 3form
100 Percent
Style: Blend
Color: Snowmelt
Finish: Sandstone
1” Gauge

S2: Caesarstone
Color: Eggshell
Code: 3141

S3: 3form
Chroma
Color: Mai Tai
2” Gauge
Finish: Renewable Matte

S4: 3form
Chroma
Color: Renew
2” Gauge
Finish: Renewable Matte

S5: 3form
Varia Ecoresin
Color: Hush Masala
1/8” Gauge
Finish: Sandstone

S6: 3form
Varia Ecoresin
Color: Hush Gesso
1/8” Gauge
Finish: Sandstone

S7: Formica
Laminate
Color: Antique White
Code: 932
S8: Interior Powder Coating
TIGER Drylac 89/11030
Color: RAL 9010
Finish: Fine Texture

S9: Chemetal
Color: Polish Aluminum
Code: 901

S10: Formica
Laminate
Color: Graphite
Code: 837

**FABRIC**

F1: Maharam
Pattern: Stripes by Paul Smith 463980
Color/Code: 005 Intermittent Stripe

F2: Maharam
Pattern: Alpaca Velvet 465901
Color/Code: 007 Pewter

F3: Maharam
Pattern: Ledger 463770
Color/Code: 025 Obsidian

F4: Maharam
Pattern: Highfield by Kvadrat 465957
Code: 651

F5: Maharam
Pattern: Zulu by Kvadrat 283705
Code: 154

**GLASS**

G1: Goldray Industries Ltd.
Pattern: Frost
Code: S10662

G2: 3form
Varia Ecoresin
Color: Vapour \(\times 2\)
1/16” Gauge

**VARIOUS WALL TYPES**

GB: Gypsum board

CONC: Concrete

WB: Wallbase
Johnsonite
Color: Snow White

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125 Furniture & Lighting Fixtures.
Figure 58 – First floor lighting plan (NTS).
Figure 59 – Second floor lighting plan (NTS).
Figure 60 – Basement floor lighting plan (NTS).
Figure 61 - First floor perspective legend.

6.3.5 Perspective Legend
Figure 62- Second floor perspective legend.
6.4 Entrance

The narrative of the JHCWC begins at the entrance to the museum, providing an engaging and inviting atmosphere that allows visitors to feel welcomed. From the entry, the open plan unfolds a multitude of directional options as expansive vistas into the museum and exhibition spaces are provided. The entry explores way-finding principles as signage and directions are provided upon admission. The entrance orients the visitor while providing gathering and engaging spaces for people to congregate and converse, before and after exploring the Centre.

The entry also features adjustable podium display units that are used throughout the first floor exhibition spaces. These custom-designed podiums integrate the virtual within the physical space and allow visitors to navigate and access digitized content and information from the museum database. The character of the entrance provides an open and light-filled space as skylights from the second floor open above the entrance and temporary gallery atrium. The three pendant chandeliers used above the entrance create a spectacle, because they seem to float above in the ceiling opening, suspended from the second floor skylight.

The materials used throughout the first floor are consistent. They feature a warm-toned reclaimed ash wood. The flooring becomes one part in the overall narrative, as the feel of the floor can communicate memories and meaning to visitors. The columns in the Centre are clad in steel and contrast the warmth of the flooring material. The cold and harsh white powder coated steel columns provide an industrial and tactile aesthetic as the smooth metal surface yearns to be touched. Concrete walls are also incorporated in corridors throughout the Centre, and in high traffic areas surrounding the entry. These materials explore the duality and dichotomy between cold and warm aesthetics and promote sensory engagement that allows visitors to feel and engage with the tactility of the materials used throughout the Centre.
Figure 63 – Perspective of main entrance.

Figure 64 – Perspective of information desk.
Figure 65 – Perspective of main corridor.
Figure 66 – Perspective of information desk.
Figure 67 – Front elevation of information desk.  
Scale: 1/4" = 1'0".

Figure 68 – Section A of information desk.  
Scale: 1/4" = 1'0".
Figure 69 – Plan of information desk. Scale: 1/4" = 1'0".
6.5 Exhibition Spaces

The entrance opens up to the light-filled interactive gallery and temporary gallery spaces. The temporary gallery features an atrium space that is open to the second floor, allowing natural light to fill the gallery. The temporary gallery also becomes a site for spectacle as a large pivoting wall creates the exhibition space for the flexible gallery. The wall incorporates symbolic imagery that creates a system of codes that convey meaning. The imagery can be changed to reflect the theme of the temporary exhibit. The pivoting wall can create a more open or closed space, providing a flexible atrium space for communal gatherings or events. The twenty foot high pivoting wall spans to the ceiling of the atrium, allowing the spectacle and exhibition imagery to also be seen from the second floor.

The overall aesthetic of the mosaic of color represents a pixilated image of a sunrise; the beginning of a day. The color palette placed within the asymmetrical patterning reflects the colors of sunrise, ranging from shades of orange to blue, and accents of yellow, red and purple. The motif of the wall was created as an abstracted symbolic gesture that is also featured in the gallery’s adjacent wall.

The adjacent wall has been called the “beit wall”\(^8\), a twenty foot high fixed wall featuring built-in lighting that abstracts the form of the Hebrew word bayit and represents the letter beit. The architectural narrative is used as a motif providing an architectural language, establishing a symbolic and cultural link throughout the museum spaces. The lighting within the wall is interactive, as the built-in LED lighting is motion-sensitive, and changes in intensity when activated by movement.

\(^8\) The quotations surrounding the phrase indicates an interior feature wall. The word wall has been used in different phrases throughout the Design Proposal section to indicate interior feature walls.
Figure 70 – Perspective of temporary gallery.
Figure 71 – Elevation of “beit wall” in temporary gallery.

Figure 72 – Wall section (NTS) and perspective of “beit wall” in temporary gallery.
The temporary gallery also features innovative display units that feature OLED (organic light emitting diode) screens integrated into display cases. The screens provide access to virtual content and display the use and narrative of encased objects that is typically overlooked in more traditional display cases within museums. This contemporary display unit also features an OLED screen at the bottom of the case, providing changing visuals alongside the artifacts within the case. The units provide an engaging experience and additional context to the selected artifacts and allow visitors to participate with the virtual and physical artifacts.

The exhibition spaces feature participatory elements, such as the adjustable podium display units, and touch-table display cases. The custom-designed furniture illustrates the integration of the virtual within the physical, bridging the display of artifacts with interactive screens. The main asymmetrical wall in the exhibition space cuts through the open gallery environment. This wall further illustrates the use of media and technology, as touch-activated content is presented on integrated OLED screens within the wall’s motif. The same architectural language of the abstracted beit motif is applied to the wall. The content that is activated from the touch capabilities within this wall creates a dialogue as content changes with user interaction.

Figure 73 – Perspective of gallery spaces.
A seating area is provided adjacent to the digital wall to observe and experience the “scent wall” exhibition area. The scent wall provides a sensoral engagement with a multitude of scents that change according to the exhibition. The scents can range from spices used in cultural cuisine to soil and exterior elements that convey the sensory richness of Jewish life. The scents are placed in closed glass tubes with a hinged cap to close off the aroma that can be easily opened for each visitor to engage with the smell individually.

Figure 74 – Perspective of gallery spaces.
Figure 75 – Elevation of “scent wall”.
Scale: 1/4” = 1’0”.
Figure 76 – Plan, side and front elevation of display unit (NTS).

Figure 77- Plan, side and front elevation of adjustable podium.  
Scale: 1/4" = 1'0".
Section A - part 1
museum shop, temporary gallery and exhibition spaces
restaurant, demonstration kitchen, archive and holocaust education centre spaces
6.6 Restaurant and Demonstration Kitchen

The restaurant becomes part of the exhibition spaces as its glass partitions expose and open the restaurant into the gallery environment. The restaurant, as an exhibition, displays a wall feature articulated in front of the open kitchen area. This wall is the first view upon entry into the restaurant space. This has been called the “spice wall” as it features test tubes filled with colorful spices that are used within typical Jewish cuisine. The display provides warm hues of yellow, orange, red and brown, conveying the visual richness of smells that are permeating the dining space. Beyond the spice wall, visitors are provided with a view of the open kitchen. The lighting chosen for the restaurant further illustrates the narrative of daybreak. The fixtures mimic the cascade of sun as thin beams of light fall from the open slits of the pendant onto the tables in the open dining area. The materials chosen for the banquet also reflect the narrative of the beginning of the day and sunrise, as horizontal stripes of yellow, red, blue and orange are interwoven into the banquet fabric.

Figure 80 – Perspective of restaurant dining area.
A counter is placed along an opening into the kitchen area for viewing and engaging with the smells of traditional and modern interpretations of Jewish cuisine. An opening above the asymmetrical counter for the second floor skylight provides light into the corner of the dining area. Here, the smell of the food can waft up into the second floor, as the scent of the cuisine infuses into the air and into surrounding spaces. The restaurant features a predominantly open kitchen concept that exposes the preparation of food. This notion is further illustrated in the demonstration kitchen space that is located adjacent to the restaurant and kitchen. The kitchen spaces are well lit and ventilated and feature durable and clean working surfaces.
The demonstration area faces an opening into the kitchen, where the chef’s lessons will take place. The room creates a convivial atmosphere, as the cooking spaces are shared. The six cooking stations are each shared by up to four individuals, allowing visitors to partake in a tactile and sensory cooking experience. This user-friendly kitchen environment creates a space for hands-on preparation, baking and cooking classes where visitors taking classes can cook alongside chefs trained in traditional and modern interpretations of Jewish cuisine. Additional seating is provided for visitors who prefer to watch and understand the culinary experience. A foldable partition wall can open up the demonstration space into the adjacent exhibition environment. The space explores a more neutral color palette, as the food provides the richness of color to animate the room. The kitchen demonstration aims to teach, while exploring the taste, touch, smell and experience of making traditional Jewish foods.

Figure 82 – Perspective of demonstration kitchen.
6.7 Museum Shop

The asymmetrical geometry of the building provides a space at the front of the Centre with a long and narrow area. This elongated rectangular form provides the setting for the retail component for the museum. The shop is located behind the south façade and features large picture windows that span the entire face of the building. The shop creates an inviting and engaging space to purchase exhibition-related items, as well as culturally significant objects. A double volume space creates an open and bright environment for the shop that is connected to a terrace space above on the second floor.

The entry to the museum shop features a digital screen that displays merchandise and exhibition information and welcomes visitors to the Centre. The screen is anchored with vertical airplane wires that span up to the twenty-foot high ceilings above. The same aesthetic is used on the display shelving, on wires that hold shelving in suspension to accent and emphasize the expansive ceiling height and verticality. Integrated chandelier lighting is interwoven within the suspended wires, creating an illuminating cascade of light. The same suspended lighting features are used in the main entry of the Centre to provide an engaging radiance that mimics glimpses of sun breaking through the clouds at day break. The museum shop features exposed
concrete masonry walls along the north wall. This partition is a load-bearing wall that provides a more tactile experience and a narrative that suggests the history and character of the building.

The south-east corner of the museum shop features a suspended staircase that reflects the same aesthetic of the shelving and display features. These stairs provide access to the terrace space above. Projections appear on the walls of the staircase. Visitors become immersed with the oral history traditions of Jewish culture as images and film are projected from the terrace onto the soaring walls. The terrace features flexible seating surrounding a screen projection to display imagery associated with the oral stories. The terrace also provides a look-out point over the museum shop, as railing surrounds the cantilevered platform. The railing features a glass-etched design with the names of locations of Jewish immigration, displaying Eastern European and more recent South American locations. These etched locations reflect the heritage and history of Winnipeg’s Jewish community. The same etched detail is seen on the railing on the second floor atrium spaces. The terrace is connected to the second floor, as its doors open up onto the main corridor and upload station on both floors.
The second floor reflects the same open aesthetic as the first floor spaces, while incorporating space to gather and converse. Upon entering the second floor, places to pause and watch the movement below in the exhibition spaces are provided with the use of wide corridors that surround the open atrium space. Here, the large pivoting spectacle wall from the temporary gallery spans up into the second floor opening, to provide visual interest. The carpet tile flooring throughout the second floor provides warmth and emphasizes horizontality through the tile’s striated color variation. The tiles’ horizontal bands of color oppose the vertical elements within the open atrium spaces.

A main feature at the end of the open and wide corridor is an engaging asymmetrical digital wall, which mimics the same aesthetic as the main gallery digital wall below. The digital wall provides an interactive display used within the library and Genealogical Institute spaces. An immersive feature is provided alongside the Genealogical Institute, integrating the asymmetrical library digital wall as an interactive map. This space engages visitors to explore their past. An interactive display screen and projected map prompt visitors to discover and investigate their heritage and family roots.
The information obtained from the map feature enables visitors to further explore the Genealogical Institute research area on the other side of the display wall. The research space features an archivist’s desk, and touch-table desk to search and access virtual genealogical documents. The touch-table provides an interface to access the museum’s extensive digital archive.

The library is not a clearly defined room, as physical books are placed throughout the second floor on shelving spaces integrated along the walls. Many books and archived material have been digitized, and can also be accessed virtually with the touch-tables, digital walls, and at the upload stations. The openness of the library is reflected in the seating adjacent to the asymmetrical digital wall. The long bench type seating is segmented, providing personal space for a visitor to sit and engage with artifacts and virtual information on touch-tables. The bench seating features the same banquet fabric as the restaurant, providing a variety of subtle colors in the predominantly white aesthetic. Each segmented space is accented with pendant lighting, providing a more intimate and directly lit environment. The digital wall also provides an engaging and participatory experience for the library. The wall provides an interactive element, as individuals can create a dialogue while exploring concepts, artifacts and objects. Additional bench seating is provided along the other side of the reading area wall overlooking the archive spaces.
The archive provides a space to observe and examine documents and objects and presents a physical experience with artifacts within the museum visit. Museum-goers can engage, research or learn from the accessible physical and digital objects. The archive information desk is placed at the front of the open space, to provide easy access and supervision over the area. The archive is located directly beside the desk and features flexible and expandable shelving for its physical objects. A display unit alongside the wall facing the open gathering space provides visitors visual interest into the archive’s collection, exhibiting objects and artifacts from the archive. A research space is provided along the back wall of the archive where counter space is provided for work and study. The walls that surround the archive define the environment while providing a view into the second floor spaces that allow visitors to see the archive from many perspectives within the space. Both the display unit and research area that surround the archive feature half walls and glazing to provide a sense of openness to the archive.

The archive spills out into the gathering space provided on the second floor, as a large and inviting environment invokes the qualities of light and openness. The gathering area features two key elements that provide a dichotomy to the assembly space. One element of the gathering space features an open area with an etched glass flooring detail that provides natural light and
space to converse and congregate. The flooring detail features the same abstracted symbolic motif of the letter beit that is utilized along the digital wall and “beit wall” within the first floor spaces. A skylight above the etched glass flooring detail provides natural light to fill the meeting space. The other gathering component features a closed off interactive environment for group assembly. The asymmetrical space features bench seating, and a moveable screen. These two spaces both provide group-gathering environments but provide a dichotomy in the way in which they have been designed as open and closed spaces.

Another immersive group space is provided along the corridor adjacent to the closed gathering space that surrounds the opening placed above the restaurant. This partition provides an oral history sound wall that engages visitors with auditory historical tales and videos from the archive. Sound clips can be played through integrated speakers for groups or can be listened to individually with adjustable headphones. The wall provides a tactile experience as the surface provides differing textures. The wall is clad in a padded orange material that provides a tactile quality. OLED screens are integrated within the wall to play video and sound, animating the Jewish tradition of oral history while engaging visitors to learn about Western Canada’s Jewish heritage.

Figure 88 – Perspective of gathering space, archive and oral history/sound wall.
6.9 Holocaust Education Centre

The two rooms located at the back of the second floor feature the Holocaust Education Centre (HEC). The exterior environment of the rooms suggests a shift from the open plan areas on the second floor. The façade of the HEC provides display cases for the archive, while creating a visually engaging element. The entrance into the HEC rooms is surrounded by concrete that signifies a harsh coldness often associated with the history of the Holocaust. The tactile concrete provides contrast to the bright display cases along the same wall. This dichotomy provides a sensorial engagement with the space surrounding the entry, setting the tone and character of the room.

Figure 89 – Perspective of Holocaust Education Centre (HEC).
After entering into the HEC rooms, visitors are transported into an immersive multimodal space, where exhibitions and film activate the environment. Projections and lighting envelop the rooms as visitors are permitted to sit on bench-style seating placed along the walls. The visitors are not merely observers but become active participants of the learning experience, interacting with touch-tables and engaging with projections that overlap the physical setting. These multimodal rooms provide a more engaging method of viewing history, as the light, sound and sensory qualities surround the environment, generating a truly immersive experience.
Conclusion

As the digital era of our time increasingly develops as an immaterial culture, the boundaries that define the physical realm dematerialize into an ever-changing and ever-growing anti-spatial entity. It becomes critical to understand, define and challenge the shifting role and future of interior environments. The integration of emerging technology and digital advancements overlap and dissolve what was once defined as physical space. The profession of interior design has evolved to reflect and construct new spatial implications, as media and technology recombine into hybrid built environments.

The rationale for this project was to question the implications of a shifting spatiality to understand how interior environments can create a hybrid interface to negotiate and explore virtual spaces. The validation of this investigation emerged with the questioning of the shifting role of the museum in the twenty-first century. The concept of the post-museum provided the basis for an exploration into an innovative and dynamic forum for the static and unchanged presence of the Jewish Heritage Centre of Western Canada. This concept provides a drastic shift from object-centred exhibition practices. The new museum questions the traditional representations of history, creating a social space to engage in an open ended cultural and educational experience.

The use of interactive and participatory elements within the design establishes an understanding for spectacle and entertainment to create an innovative experience at the Centre. The challenge was to move beyond the privileged sense of sight, and design with sensory engagement. The use of light, sound, taste and touch became pivotal in the programming of the design that helped create guidelines to explore sensoral possibilities within the design. The challenge was to establish interior spaces that would not rely solely on the use of sight to navigate the environment. The design approach was to provide sensory engagement through the use of materiality and typology choices. The textured quality of materials and spaces that embody sensory characteristics, such as the demonstration kitchen and restaurant within the Centre provided haptic and visceral realms for the physical space.
As technology and innovative objects and spaces continue to develop, it became critical to understand the challenges facing museums today. The interview process allowed for an investigation into effects and opportunities that are being explored within the design of the Canadian Museum for Human Rights. The interviews provided critical information for the project, as new terminology was defined, and the application of technology in museum spaces was discussed. This type of information is not currently accessible from research in books and journals, as the interviews provided the most current applications of technology in museum exhibitions and definitions used within design practice. As discussed in section 3.2, the technology that defines my generation will be replaced by stronger, faster and newer versions; so too will the terminology be replaced. The utilization of more current and innovative museum precedents and original terminology defines my generation and the challenges that interior designers are currently facing. This terminology helped to facilitate an understanding of our complex immaterial culture, but may not define the culture of generations to come.

Another challenge was explored with the design of a culturally specific space that allowed for an exploration into my own cultural heritage. It was a fascinating investigation to not only research the symbolic quality of Jewish culture, but also to investigate my heritage and roots and the meaning of cultural memories. The memes and symbolic qualities of culture that are reflected within the design have been abstracted to provide layers of meaning within the overall design narrative. The challenge was to not become too close to the project as it became an undefined boundary of my own memories at times. It was significant to question more universal notions; what anyone can read from a system of symbolic codes, not only a Jewish individual. I feel that the design explores a unique variation of personal heritage and a universal story of a community that continues to thrive. The exploration of my own heritage alleviated cross-cultural boundaries while eliminating personal boundaries of culture, memory and personal symbolic meanings.

The scope and varied range of typologies presented within the design provided a rich variety of spaces and environments to develop. The scale of the building for this practicum project provided some difficulty. The 29,000 square foot Centre is a realistic scope and size of project.
for a professional interior design practice, but was too large to be fully realized in the practicum project. It was difficult to decide which spaces to develop in detail, as each space provided its own set of challenges and opportunities. I chose to develop four primary spaces: the Temporary Gallery, the Restaurant, the Library, Archive and Genealogical Institute spaces. By focusing in on specific spaces, I was able to further explore the type of experiences that each space could generate, developing successful design solutions through interactive, visual, and sensory features, and furniture details. Each of these spaces provided a further challenge, as the building code requirements for spaces like the Genealogical Institute or Archive are not specifically outlined in the code. The hybrid interior spaces featured in the design were not always clearly defined as one specific typology. I had to find a similar building type to compare to each of these unique spaces, and loosely base the requirements from the typologies provided from the building code. It was a challenge to create the programme for the proposed innovative interior environments, when using requirements that only outline standard and more conventional spaces.

The strengths of the project are the symbolic and narrative qualities explored within the design. The use of a strong architectural language provided layers of symbolic meaning. The application of an abstracted symbolic motif was applied throughout the museum, seen in spatial programming, volume development, elevations, and furniture details. The interior spaces were able to unfold like a story as each element of the interior environment is read much like a text. The use of semiotic, narrative and mimetic theory provided a tangible element, to interpret the Centre as a post-museum, conveying cultural meaning through the use of symbolic expressions.

The project could be developed for the Jewish Heritage Centre of Western Canada, as key elements explored within the design can be adapted. The use of entertaining, experiential and sensory spaces can be used on a smaller scale, while integrating the use of the over arching symbolic narrative. The luxury of the expansive space explored within the practicum project did question the role of hybrid space, as gathering and forum spaces developed as the space for physical storage was reduced. The physical space became a hybrid interface where the virtual overlaps with the physical environment. The challenge of designing a smaller space with the same design qualities would further confront the notions of hybridization, providing an innovative hybrid space as a post-museum. It is critical for the community to question the future representations of heritage and culture to establish an enduring cultural experience for the Centre.
INTRODUCTION


**LITERATURE REVIEW: POST MUSEUM**


LITERATURE REVIEW: HYBRIDIZATION


LITERATURE REVIEW: SEMIOTICS


**PRECEDENT REVIEW**


SITE ANALYSIS


DESIGN CONSIDERATIONS


Appendix A

ethics review

Consent for Involvement in Research
Group 1: Exhibition Designers from the Canadian Museum of Human Rights

Project Title: Hybrid Interface: Museum and Archive for the Jewish Heritage Center of Western Canada

Participant: __________________________________________
Researcher: Ivy Bricker, B.Env. Des., current MId student at University of Manitoba

Researcher Contact: Ivy Bricker
B.Env. Des.

Supervisor Contact: Mary Anne Beecher
Head, Dept. Interior Design
Assoc. Dean - Research
University of Manitoba
Wpg, MB, R3T 2N2
(204) 477-6415
beecher@cc.umanitoba.ca

University of Manitoba Human Ethics Secretariat Contact: Margaret (Maggie) Bowman
Coordinator - Human Ethics
Office of VP of Research
University of Manitoba
208-194 Dafoe Road
CTC Building
(204) 474-7122
margaret_bowman@umanitoba.ca

This consent form, a copy of which will be left with you for your records and reference, is only part of the process of informed consent. It should give you the basic idea of what the research is about and what your participation will involve. If you would like more detail about something mentioned here, or information not included here, you should feel free to ask. Please take the time to read this carefully and to understand any accompanying information.

1. Summary of Project: The intention of the interview questioning is to gain a better understanding of the use of new media and the utilization of physical and virtual spaces within the Canadian Museum of Human Rights. This will provide insight into the use of ‘hybrid’ spaces that are changing the museum experience. The questioning will also aid in the understanding of the Canadian Museum of Human Rights as a design precedent for the proposed design practicum, as an institution that is challenging the museum experience and typology.

2. Research Instruments: You will be contacted by the researcher to set up a date, time and place for your interview which will be selected at your convenience. If location or a conflict of schedule arises, a date and time for a phone interview will be scheduled. The researcher will ask you approximately 12 questions during the course of the 60-minute interview. These questions deal with the museum exhibition and new media planned for the Canadian Museum of Human Rights.

3. Do you allow the interview to be recorded on a portable voice-recording device?
☐ YES  ☐ NO
4. If the participant approves the recording, the interview will be recorded on a portable voice-recording device. The data will be stored as an mp3 file on the machine. Written notes will also be taken during the interview process. After the interview is conducted the data file will be transferred to a password-protected computer for ease of transcription. Only the researcher will transcribe the recorded interview. All data collected will remain only with the researcher; the recorded as well as written data will be collected and transcribed only by the same researcher. No other individuals will be given any access to the transcription or original data collection. All digital files will be secured and kept on a password-protected computer. Any backup files or other copies that would need to be made will be destroyed; as well the computer files will be destroyed. The hard copy data will be stored in a locked filing cabinet in a personal home office. No other individuals will be provided access to any of the secure spaces where the research has been stored. After the final practicum has been written and circulated, all data held by the researcher will be destroyed by January 1st, 2015 or earlier. This four year period allows for the sharing of final research and observations gained from the practicum project. After the four year period, all files digital and physical must be removed and destroyed by deleting and shredding files, to ensure the utmost security and confidentiality of the data and research completed.

5. **Risks and Benefits:** There is minimal risk associated with the interview. Benefits of participation provides the researcher with an invaluable interview process and direct contact with three pertinent designers and specialists working with the exhibitions and new media for the Canadian Museum of Human Rights. This information otherwise could not be obtained.

6. **Do you wish to remain anonymous?**
   - [ ] YES
   - [ ] NO

7. **Anonymity and Confidentiality:** If any participant wishes to remain anonymous, the researcher will provide a pseudonym. This allows the participant to remain anonymous while still including their statements within the final practicum document. The use of the pseudonym provides confidentiality between the researcher and participant. The participant will only be referred to in the practicum document with this pseudonym and not the actual name of the participant. Anytime during the research process, participants can change their level of anonymity by contacting the researcher directly.

8. Please note that you can leave any question unanswered during the interview, or cease participation at any time during the interview process without consequence.

9. **Compensation:** No subjects will be compensated for their involvement with the research and interview process provided for the project. Individuals who wish to remain known contributors within the research process are recognized in the final document of the practicum, cited and thanked accordingly for their involvement and time given for the research and data collected.

10. **Do you wish to obtain a digital copy of the final practicum document?**
    - [ ] YES
    - [ ] NO
Your signature on this form indicates that you have understood to your satisfaction the
information regarding participation in the research project and agree to participate as a
subject. In no way does this waive your legal rights nor release the researchers,
sponsors, or involved institutions from their legal and professional responsibilities. You are
free to withdraw from the study at any time, and/or refrain from answering any questions
you prefer to omit, without prejudice or consequence. Your continued participation
should be as informed as your initial consent, so you should feel free to ask for
clarification or new information throughout your participation.

This research has been approved by the Joint-Faculty Research Ethics Board (JFREB). If
you have any concerns or complaints about this project you may contact any of the
above-named persons or the Human Ethics Secretariat at 474-7122. A copy of this
consent form has been given to you to keep for your records and reference.

___/___/___
   dd   mm   yr
Name of Participant (please print)   Signature of Participant

___/___/___
   dd   mm   yr
Signature of Researcher

Thank you for the time given towards the research and data collection for the proposed
practicum, feel free to contact me for any further questions, comments or concerns.
Consent for Involvement in Research
Building and Site Information in Research

Project Title: Hybrid Interface: Museum and Archive for the Jewish Heritage Center of Western Canada

Participant: ________________________________________

Researcher: Ivy Bricker, B.Env. Des., current MID student at University of Manitoba

Researcher Contact: Ivy Bricker
B.Env.Des.

Supervisor Contact: Mary Anne Beecher
Head, Dept. Interior Design
Assoc. Dean - Research
University of Manitoba
Wpg, MB. R3T 2N2
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margaret_bowman@umanitoba.ca

This consent form, a copy of which will be left with you for your records and reference, is only part of the process of informed consent. It should give you the basic idea of what the research is about and what your participation will involve. If you would like more detail about something mentioned here, or information not included here, you should feel free to ask. Please take the time to read this carefully and to understand any accompanying information.

1. Summary of Project: The purpose of the design project entitled “Hybrid Interface: Museum and Archive for The Jewish Heritage Center of Western Canada” is to design a hypothetical Archive and Museum at the Jewish Heritage Center of Western Canada (JHCWC) in order to fulfill the completion requirements for a Masters of Interior Design Practicum Project. The JHCWC has been forced to respond to a growing immaterial culture as a result of the current digital revolution. Through the exploration of the effects of a virtual culture, dematerialization of the physical realm can become re-defined with the introduction of new digital technologies and interfaces. The interior environment provides spaces for learning, interaction and an overall sense of community and culture, while exploring both digital and physical spaces.
2. **Research Instruments:** You will be contacted by the researcher to provide consent to access the building and to provide any available original or reproduced site drawings and plans. You will be contacted by the researcher to set up a date, time and place to meet at the building, which will be selected at your convenience. This meeting will take 30 minutes.

3. The building information you provide will be drafted into a computer-aided design (CAD) program and manipulated for the hypothetical design of the Museum and Archive at the JHCWC. Once the building information is drafted it is no longer guaranteed to be accurate, and will be manipulated for the design project. The drafted building information will not be used as legal documents or for construction purposes.

4. The drafted information will be referred to in the process of planning, programming and redesigning the existing property to accommodate the hypothetical Archive and Museum at the JHCWC, in order to fulfill the completion requirements for a Masters of Interior Design Practicum Project. If the original physical documents are given to the researcher, the documents will be duplicated and the original copies will be returned by mail. Only the researcher and her practicum advisor will have access to the data for the duration of the practicum project.

5. All digital files will be secured and kept on a password-protected computer. Any backup files or other copies that would need to be made will be destroyed; as well the computer files will be destroyed. The hard copy data will be stored in a locked filing cabinet in a personal home office. No other individuals will be provided access to any of the secure spaces where the research has been stored. After the final practicum has been written and circulated, all data held by the researcher will be destroyed by January 1st, 2015 or earlier. This four year period allows for the sharing of final research and observations gained from the practicum project. After the four year period, all files digital and physical must be removed and destroyed by deleting and shredding files, to ensure the utmost security and confidentiality of the data and research completed.

6. **Anonymity & Confidentiality:** To maintain your anonymity, only the address of the site and its current use will be used when discussing the project, and not yourself by name or your business associated with the site.

7. Do you wish to obtain a digital copy of the final practicum document?
   - [ ] YES
   - [ ] NO

8. **Compensation:** No subjects will be compensated for their involvement with the research and interview process provided for the project. Individuals who wish to remain known contributors within the research process are recognized in the final document of the practicum, cited and thanked accordingly for their involvement and time given for the research and data collected.
Your signature on this form indicates that you have understood to your satisfaction the information regarding participation in the research project and agree to participate as a subject. In no way does this waive your legal rights nor release the researchers, sponsors, or involved institutions from their legal and professional responsibilities. You are free to withdraw from the study at any time, and/or refrain from answering any questions you prefer to omit, without prejudice or consequence. Your continued participation should be as informed as your initial consent, so you should feel free to ask for clarification or new information throughout your participation.

This research has been approved by the Joint-Faculty Research Ethics Board (JFREB). If you have any concerns or complaints about this project you may contact any of the above-named persons or the Human Ethics Secretariat at 474-7122. A copy of this consent form has been given to you to keep for your records and reference.

____/____/____ ___________________________ ___________________________
dd   mm   yr            Name of Participant (please print)      Signature of Participant

____/____/____ ___________________________
dd   mm   yr            Signature of Researcher

Thank you for the time given towards the research and data collection for the proposed practicum, feel free to contact me for any further questions, comments or concerns.
Interview Questions
Group 1: Exhibition Designers from the Canadian Museum of Human Rights

1. What does the term "new media" mean to you in the context of museum design?

2. What new media is being explored within the Canadian Museum of Human Rights?

3. In what ways will the use of new media change the museum experience (for designers, staff and visitors)?

4. What type of experiences do the exhibition designers want to create?

5. In what ways does the architecture/interior space support or contribute to these experiences?

6. What other spatial typologies have been included in the museum? (restaurant/café, archive, library, theatres etc..)

7. In what ways does the presentation of 'ideas' rather than the use of artifacts challenge the exhibition designs?
   a. What other challenges have been faced creating an 'idea' museum?

8. In what ways does the design split between physical and virtual spaces?

9. What interior features are explored in both the physical and the virtual spaces?
   a. How are these features different?

10. What types of designed exhibition spaces are being explored as you develop content for the museum?
    a. Are these spaces participatory and interactive?

11. What types of physical objects will be on display?
    a. What is the role of objects in the exhibition
    b. What types of storage space is provided for these objects?
    c. What percentage of the total space of the museum is dedicated to storage?

12. What features are provided online for visitors to access after visiting the museum?
    a. What is the relationship between the on-line features and the physical exhibitions?
Email Script
Group 1: Exhibition Designers from the Canadian Museum of Human Rights

Hello ______________________________

My name is Ivy Bricker and I am currently a graduate student at the University of
Manitoba, within the Department of Interior Design. I am presently conducting research for a
design practicum on the topic of museums and new media. I am looking at the effects of
technological and digital advancements on the museum-goers experience. In particular I am
focusing on the Museum and Archive at The Jewish Heritage Center of Western Canada
located in Winnipeg.

I would like to set up a meeting for an interview including questions in regards to new media
strategies and the museum experience explored within the Canadian Museum of Human Rights.
Rhonda Hinther, the Head of Exhibits Research, informed me of your possible interest in an
interview. If you are interested in participating in the research study, please contact me by
September 6th so that a convenient time and place for the interview to take place can be
established. The interview will consist 12 questions, during the course of a 60-minute interview.
These questions will be sent by email prior to the interview, and deal with the museum exhibition
and new media planned for the Canadian Museum of Human Rights.

This interview will provide my practicum design project research with a better
perspective on the current use of new media and exhibition design in the Canadian Museum of
Human Rights. Your contribution will be valued. Thank you in advance for the time you can give
to my research and data collection for the proposed practicum. Please feel free to contact me
for any further questions, comments or concerns

Sincerely,

Ivy Bricker
B.Env. Des.
## Table: Theoretical Framework

<table>
<thead>
<tr>
<th>Theory and Concept</th>
<th>Writer/Theorist</th>
<th>Topic</th>
<th>Description</th>
<th>Design Consideration</th>
</tr>
</thead>
<tbody>
<tr>
<td>new museum theory</td>
<td>Cameron, Conn, Greenberg, Greenhill, Macdonald</td>
<td>new museum theory</td>
<td>new role of education in the museum through meaning-making, paradigm shift from enshrining objects with a specific meaning, to celebrating ideas with multiple perspectives</td>
<td>moving away from object centered exhibition practices, public space to gather and reflect on the ideas presented within the museum</td>
</tr>
<tr>
<td>the post museum</td>
<td>Bruce, Greenhill, Hein, Martine</td>
<td>the post museum</td>
<td>redefines the museum as an entertaining, flexible environment where the museum becomes reinvented as a new social space, promotes interaction and learning that shifts the meaning of experience in the museum typology</td>
<td>dynamic and open forums, social space for engagement and an open ended educational experience</td>
</tr>
<tr>
<td>new/multi sensory experience</td>
<td>Bruce, Conn, Hein, Malnar &amp; Vodvarka, Pallasmama, Pine &amp; Gilmore, Tuan</td>
<td>new/multi sensory experience</td>
<td>new form of museum experience where visitors engage the body and senses with an experiential and interactive space</td>
<td>site for spectacle, display environments rich with sensory and bodily engagement</td>
</tr>
<tr>
<td>participatory environment</td>
<td>Bruce, Conn, Hein, McTavish, Parry, Parry &amp; Sawyer, Tallon</td>
<td>participatory environment</td>
<td>museum-goer as an active participant, with a sense of control, use of new media and digital interactivity within the museum and its exhibitions, technocentric museum that facilitates an interactive experience to educate and entertain</td>
<td>engaging and interactive spaces promoting user control, spaces can be manipulated through activating exhibitionary spaces</td>
</tr>
</tbody>
</table>

Table 3 - Post-Museum Framework
Table: Theoretical Framework

<table>
<thead>
<tr>
<th>Theory and Concept</th>
<th>Writer/Theorist</th>
<th>Topic</th>
<th>Description</th>
<th>Design Consideration</th>
</tr>
</thead>
<tbody>
<tr>
<td>hybrid theory (hybridization)</td>
<td>Bouman, Julier, Macey, Roscoe, Silva, Thackara, Veech, Weibel, Zellner</td>
<td>meaning of hybrid spaces</td>
<td>multitude of meanings and perspectives on what hybrid space defines, describes the notion of a space where the virtual realm comes into contact with the physical environment, the dematerialization of objects and spaces that have created new hybrid entities.</td>
<td>creating an environment that incorporates both physical and virtual spaces, an interface that can be formed to integrate the virtual within the physical environment.</td>
</tr>
<tr>
<td></td>
<td>Flachbart, Mitchell</td>
<td>recombinant spaces</td>
<td>digital spaces that decompose traditional building types into fragments, formed into new recombinant combinations heterarchitecture as the condition that overlays virtual environments within physical spaces.</td>
<td>recombinant typologies emerge, such as the virtual museum emerge as recombinant. These spaces are hybrid environments that allow new media and digital interactivity to incorporate the virtual within the physical.</td>
</tr>
<tr>
<td></td>
<td>Armitage, Grosz, Kellner, Roscoe, Zellner</td>
<td>disappearance and immateriality</td>
<td>how virtual space is dematerializing physical space, the growth of immaterial environments within a material culture, the &quot;accident&quot; caused by an over reliance on technology.</td>
<td>how technological advancements have altered space and body experiences.</td>
</tr>
<tr>
<td></td>
<td>Craven, Moss</td>
<td>digitization and the archive</td>
<td>the impact on object-based typologies when the objects that once defined the typology become virtual and immaterial.</td>
<td>the importance of maintaining material, and physical experiences and objects.</td>
</tr>
</tbody>
</table>

Table 4 - Hybridization Framework
### Table: Theoretical Framework

<table>
<thead>
<tr>
<th>Theory and Concept</th>
<th>Writer/Theorist</th>
<th>Topic</th>
<th>Description</th>
<th>Design Consideration</th>
</tr>
</thead>
<tbody>
<tr>
<td>structuralism</td>
<td>Belsey, Crow, Macey, McGowan, Silverman</td>
<td>structuralism and defining semiotic theory</td>
<td>structuralist perspective, universal structural associations amongst things. Semiotics and its evolution from the science of linguistics to the study of signs as a system of representation. <em>Saussure - semiology</em> <em>Pierce - semiotics</em> <em>Barthes - myths</em></td>
<td>the construction of signs to communicate a system of meaning and logic to read a space, object or text.</td>
</tr>
<tr>
<td>cultural reading</td>
<td>Barthes, Crow, Palmer</td>
<td>cultural reading</td>
<td>look at visual culture. Barthes (1972) application of Saussurean system of signification, applying Saussure’s account for language to understand culture, decodes myths, reading phenomena that signifies French culture.</td>
<td>use of a second-order signifying system to reveal meanings in everyday phenomena. how spaces can be read to construct meaning through a system of codes that signify culture.</td>
</tr>
<tr>
<td>mimetics</td>
<td>Atran, Donald, Herz</td>
<td>mimetic representation and cultural symbolism</td>
<td>mimetics is a form of communication, through expressive and imitated gestures or expressions, a “meme” is a hypothetical cultural unit, which can be defined as an idea, concept or behavior that can be passed between people within a specific culture.</td>
<td>culturally transmitted ideas can provide a way in which an individual can read a narrative of an interior environment. Symbolic and abstracted cultural elements can be interpreted, which explore memory while exposing embedded cultural meaning. Judiac symbolism provides culturally specific motifs which create a narrative and symbolic layer of meaning to the interior spaces.</td>
</tr>
<tr>
<td>signs and narrative</td>
<td>Bal, Crow, Ganoe, Roscoe</td>
<td>signs and narrative</td>
<td>how semiotics can be applied to read an object or space as a text. meaning can be interpreted at different levels when constructing a sign. reading spatial codes to develop a language for reading the typology.</td>
<td>new spatial interpretation that can be comprehended at different levels of communication, reading the museum typology as a signifier: interior elements of new typology signify: conceptualizing these interior elements.</td>
</tr>
</tbody>
</table>

Table 5 - Semiotic Framework
### Appendix C

**spatial requirement charts**

#### Table 6 – Entrance

<table>
<thead>
<tr>
<th>Furniture</th>
<th>Quantity</th>
<th>Dimensions</th>
</tr>
</thead>
<tbody>
<tr>
<td>flexible storage</td>
<td></td>
<td></td>
</tr>
<tr>
<td>flexible seating</td>
<td></td>
<td></td>
</tr>
<tr>
<td>security desk</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

| OVERALL SQ FT           | 600 SQ FT |

#### Table 7 – Museum and exhibition spaces

<table>
<thead>
<tr>
<th>Furniture</th>
<th>Quantity</th>
<th>Dimensions</th>
</tr>
</thead>
<tbody>
<tr>
<td>flexible storage</td>
<td></td>
<td></td>
</tr>
<tr>
<td>interactive display</td>
<td></td>
<td></td>
</tr>
<tr>
<td>moveable display</td>
<td></td>
<td></td>
</tr>
<tr>
<td>virtual interfaces</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

| overall sq ft per zone  | 1000 sq ft |
| OVERALL SQ FT           | 4000 sq ft |

#### Table 8 – Library, archive, Genealogical Institute

<table>
<thead>
<tr>
<th>Furniture</th>
<th>Quantity</th>
<th>Dimensions</th>
</tr>
</thead>
<tbody>
<tr>
<td>desk</td>
<td>16</td>
<td>2’ x 4’</td>
</tr>
<tr>
<td>chair</td>
<td>16</td>
<td>1’11” x 2’2”</td>
</tr>
<tr>
<td>expandable shelving</td>
<td>32</td>
<td>2’ x 6’</td>
</tr>
<tr>
<td>(for physical and digital)</td>
<td>8 per separate function</td>
<td>1000 sq ft</td>
</tr>
<tr>
<td>storage, w/c, misc.</td>
<td></td>
<td>800 sq ft</td>
</tr>
<tr>
<td>computer/database</td>
<td></td>
<td>1200 sq ft</td>
</tr>
<tr>
<td>connection</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

| OVERALL SQ FT           | 3000 sq ft |
### Appendix C

spatial requirement charts

Table 9 – Holocaust Education Centre (multimodal theatre rooms)

<table>
<thead>
<tr>
<th>Furniture</th>
<th>Quantity</th>
<th>Dimensions</th>
</tr>
</thead>
<tbody>
<tr>
<td>counter space</td>
<td>12</td>
<td>2’ x 6’</td>
</tr>
<tr>
<td>chair</td>
<td>80</td>
<td>1’11” x 2’2”</td>
</tr>
<tr>
<td>(40 per function)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>display</td>
<td></td>
<td></td>
</tr>
<tr>
<td>overall HEC sq ft</td>
<td></td>
<td>950 sq ft</td>
</tr>
<tr>
<td>overall theatre sq ft</td>
<td></td>
<td>950 sq ft</td>
</tr>
<tr>
<td>OVERALL SQ FT</td>
<td></td>
<td>1900 sq ft</td>
</tr>
</tbody>
</table>

Table 10 – Restaurant and kitchen

<table>
<thead>
<tr>
<th>Furniture</th>
<th>Quantity</th>
<th>Dimensions</th>
</tr>
</thead>
<tbody>
<tr>
<td>table for 1-2</td>
<td>25</td>
<td>3’ x 2’</td>
</tr>
<tr>
<td>table for 2-4</td>
<td>25</td>
<td>3’ x 3’6”</td>
</tr>
<tr>
<td>chair</td>
<td>50</td>
<td>1’11” x 2’2”</td>
</tr>
<tr>
<td>counter space</td>
<td>2</td>
<td>2’ x 6’</td>
</tr>
<tr>
<td>fridge</td>
<td>2</td>
<td>1’9” x 3’1/8”</td>
</tr>
<tr>
<td>range</td>
<td>2</td>
<td>3’ x 1.75’</td>
</tr>
<tr>
<td>sink</td>
<td>1</td>
<td>1’ 5” x 1’7”</td>
</tr>
<tr>
<td>storage (cabinets)</td>
<td>3</td>
<td>2’ x 3’</td>
</tr>
<tr>
<td>overall kitchen space</td>
<td></td>
<td>650 sq ft</td>
</tr>
<tr>
<td>overall restaurant space</td>
<td></td>
<td>1000 sq ft</td>
</tr>
<tr>
<td>OVERALL SQ FT</td>
<td></td>
<td>1650 sq ft</td>
</tr>
</tbody>
</table>

Table 11 – Staff spaces

<table>
<thead>
<tr>
<th>Furniture</th>
<th>Quantity</th>
<th>Dimensions</th>
</tr>
</thead>
<tbody>
<tr>
<td>desk</td>
<td>15</td>
<td>2’ x 4’</td>
</tr>
<tr>
<td>chair</td>
<td>15</td>
<td>1’11” x 2’2”</td>
</tr>
<tr>
<td>storage</td>
<td></td>
<td></td>
</tr>
<tr>
<td>meeting room</td>
<td></td>
<td>170 sq ft</td>
</tr>
<tr>
<td>OVERALL SQ FT</td>
<td></td>
<td>810 sq ft</td>
</tr>
</tbody>
</table>
### Appendix C

**Spatial Requirement Charts**

#### Table 12 – Demonstration Kitchen

<table>
<thead>
<tr>
<th>Furniture</th>
<th>Quantity</th>
<th>Dimensions</th>
</tr>
</thead>
<tbody>
<tr>
<td>counter space</td>
<td>4-6</td>
<td>2' x 6'</td>
</tr>
<tr>
<td>storage (cabinets)</td>
<td>3</td>
<td>2' x 3'</td>
</tr>
</tbody>
</table>
| fridge             | 1        | 1'9" x 3' 1/8"
| range              | 2-4      | 3' x 1.75'   |
| oven               | 2-4      | 3' x 1.75'   |
| sink               | 2-4      | 1'5" x 1'7"  |

**OVERALL SQ FT** 300 sq ft

#### Table 13 – Lab/Studio Spaces

<table>
<thead>
<tr>
<th>Furniture</th>
<th>Quantity</th>
<th>Dimensions</th>
</tr>
</thead>
<tbody>
<tr>
<td>flexible storage</td>
<td></td>
<td></td>
</tr>
<tr>
<td>counter space</td>
<td>8</td>
<td>2' x 6'</td>
</tr>
<tr>
<td>chair/stool</td>
<td>5</td>
<td>1'11&quot; x 2'2&quot;</td>
</tr>
</tbody>
</table>

**overall sq ft per studio** 600 sq ft

**OVERALL SQ FT** 1200 sq ft

#### Table 14 – Maintenance, Mechanical, Storage, Washrooms

<table>
<thead>
<tr>
<th>Furniture</th>
<th>Quantity</th>
<th>Dimensions</th>
</tr>
</thead>
</table>
| a/c unit           | 1        | 2' 7.75" x 6'3"
| boiler             | 1        | 8'2.5" x 6'1" |
| washer             | 1        | 2'7" x 2'7"  |
| watercloset        | 19       | 2.5' x 2'    |
| lavatory           | 17       | 1'7" x 1'5"  |
| counter            | 10       | 2' x 5'      |

**washroom sq ft** 12 female 7 male = 19 870 sq ft

**mechanical sq ft** 3 rooms 632 sq ft

**OVERALL SQ FT** 1502 sq ft
Appendix D
first floor demolition plan

Figure 91 – First floor demolition plan. Scale: 1/16" = 1'0".
Figure 92 – Second floor demolition plan. Scale: 1/16" = 1'0".
Figure 93 – Basement floor demolition plan. Scale: 1/16" = 1'0".