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Experiencing the Past: The Virtual (Re)Construction of Places

by

Ahmed Hamed El Antably

A dissertation submitted in partial satisfaction of the

requirements for the degree of

Doctor of Philosophy

in

Architecture

and the Designated Emphasis

in

New Media

in the

Graduate Division

of the

University of California, Berkeley

Committee in charge:

Professor Yehuda E. Kalay, Chair
Professor Whitney Davis
Professor Andrew Shanken

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# Abstract

Experiencing the Past: The Virtual (Re)Construction of Places

by

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Doctor of Philosophy in Architecture

and the Designated Emphasis in New Media

University of California, Berkeley

Professor Yehuda E. Kalay, Chair

Place is characteristically imbued with a multiplicity of meanings contingent on the specificities of the society, time and space in which place is perceived. It is essentially subjective, relational and differential. As such, virtual multiplicity is the main characteristic of place where the virtual is understood as the sum of the real, a subjective mental act, and a motive or confusion. Space, conversely, is that which has no virtuality in it; it is objective. Accordingly, at least in theory, it is hard to distinguish between virtual and actual places. Outside of theory, virtual place typically suggests a system of representations that aims to convey through the senses an imagined or illusionary reality. Virtual place is mostly associated with places constructed using computational technology; most popular among them are massive multiuser online games (MMOGs).

Lately, scholars are increasingly using such MMOGs to virtually construct or reconstruct historic places. The interpretation of such historic places depends on the affordances of the medium through which place is perceived and the ways in which such a medium is socially deployed and interpreted. This dissertation explores (1) the ways in which MMOGs are perceived and (2) the formative effect virtual reconstructions of historic places using gaming technology exercise on the interpretation of such places.

Using two popular MMOGs as a case study, this dissertation shows that the perception of such places is conditioned by the suggestive technical affordances of the medium in addition to complex socio-historical forces. These conditions predispose expert users of MMOGs to perceive these virtual places in ways different than new users. New users perceive virtual environments in ways similar to the ways they perceive the actual environment: They assume an isomorphic relationship between the virtual reconstruction of a given place and its actuality. They value the formal and multi-sensory aspects of the environment. Expert users, on the other hand, perceive the virtual environment from a structural and functional perspective and pay less attention to its formal and

sensory qualities. They seek novel and interesting social activities, increased technical knowledge and improved social status.

This dissertation also uses the ancient settlement of Sirkap, located in modern-day Pakistan, as a case study, to demonstrate that the use of gaming technology to virtually reconstruct a historical place may entail a change in the interpretation of archaeological records. Most conventional historical accounts of Sirkap use two-dimensional site maps and city plans as the primary media to represent the urban fabric of the ancient settlement. The medium lends itself to interpret the Block D Apsidal Temple complex as the dominant socio-religious structure in the affluent northern parts of the settlement. When the author developed an interactive three-dimensional reconstruction of Sirkap using gaming technology—a medium that allows users, through their avatars, to explore the settlement from the standpoint of a pedestrian—it was immediately obvious that the aforementioned Block D Apsidal Temple complex did not demand such an interpretation. Instead, this study argues that, at least in the affluent northern parts of the settlement, the northern gate, its adjacent fortifications, and the Block A stupa court were the dominant structures. Such an interpretation leads the authors to question the canonical understanding of the role of the state and its military apparatus in the socio-religious life of Sirkap.

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This dissertation would not have been possible without the help, advice and supervision of some amazing people. I had a fascinating dissertation committee, chaired by Professor Yehuda Kalay and comprised of Professors Andrew Shanken and Whitney Davis. Kalay allowed me to pursue my own research agenda and always joked that somehow I persuaded him that I can play online games and call it research! He would patiently meet with me and discuss my research for hours. Shanken was my writing coach and a very patient and insightful reader. Davis' encyclopedic knowledge and stimulating discussions were always very rewarding.

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Finally, I am deeply thankful to Safa, my wife, and Yassine and Amine, my lovely sons. They bore with me through my doctoral degree with patience and love. I dedicate this dissertation to them, to my father and the memory of my mother.

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# Chapter I
# Introduction

## Exploring the Past

Place is in essence psychical, phenomenological and not physical. It is where memory and feelings are emplaced.[1] It is socially and historically constructed. It constitutes a social reality shared and produced under conditions of heterogeneity and multiform structures.[2] Thus, any virtual reconstruction of place, which is essentially a digitally mediated representation of such place, typically signifies one interpretation of place and ignores the others. Moreover, the signified interpretation is inherently influenced by the affordances of the digital medium and the ways in which such a medium is socially perceived and deployed.

There is a growing interest among scholars in Internet-based virtual reconstructions of place. This interest is founded on the established recognition of the Internet as today's public sphere[3] and is largely inspired by the colossal success of massive multi-user online role playing games (MMOG, e.g., World of Warcraft by Blizzard Entertainment) and social multi-user virtual environments (MUVE, e.g., Second Life by Linden Labs).

MMOGs, as a medium, have a formative effect on the re-emplacement of place outside of its specific society, history and space. The virtual reconstruction of places using MMOG lends itself to a reading of place through a phenomenological lens. The use of phenomenology for reconstructing place has a precedent in architecture. In the 1950s and 1960s, phenomenology was used, among other theories imported from the humanities, to divorce architectural history and theory from art history. Some architects argued that a history of architecture understood experientially brings architecture history closer to practice.[4] Hence, the first part of the title of this dissertation, "Exploring the Past: The Virtual (Re)Construction of Places," is an attempt to recall this precedent. It is an attempt to call into question whether the perception of place can be shared with others regardless of their social or historic remoteness. Only one school of phenomenology promotes a transcendental reading of perception: Husserl's transcendental phenomenology. Other schools, especially Continental traditions of phenomenology reject this reading, emphasizing the social and historic specificities of perception. Accordingly, such reconstructions are always vulnerable to concerns regarding their authenticity, authoritativeness and quality.

One way to address these concerns is to adopt Friedrich Nietzsche's and later Michel Foucault's arguments and claim that any historical reconstruction, regardless of the medium of representation, is in a sense a construction. It is an interpretation of history that can only entertain a narrow range of possibilities determined by current practices and by social and historical forces. The emphasis

thus should be shifted to the author based on whom one can determine the authoritativeness of the historic interpretation.[5]

This argument, I argue, is compelling only when the author and his representation are bound by academic discourse that regulates the ways in which an author establishes her authoritativeness and the methods in which historical interpretations are represented. Other authors, within discourse, can then challenge an interpretation using the same methods and conventions.

The problem with virtual (re)constructions of place, hence, is that they exist on the Internet, outside of academic discourse. In most cases, the author is not known or can only be known outside the medium of representation but not inside of it. Moreover, the medium of representation is not bound by any method or conventions outside of its code. Last, there exists no practical mechanism for other authors to challenge the proposed interpretation for that these reconstructions usually require a significant investment in sophisticated computer skills, software and hardware.

On the Internet and unlike academia, there exist no symmetry of power between the author and his audience. The Internet audience is not necessarily the affluent West who is generally able to critically examine representations and challenge them within the medium itself or outside of it. Furthermore, because all interpretations are products of their specific society, history and space, the range of interpretations allowed in the affluent West, especially in academia, may not coincide with interpretations outside of the West. Thus, considering the asymmetry of power, the range of interpretations allowed reflects a position of power and domination rather than a limited domain of free interpretations as envisioned by scholars who promote this approach.[6]

Another approach to the same problem is to think of virtual reconstructions, explicitly or not, as a Platonic space (a receptacle). A formal medium without qualities of its own, which does not affect the qualities of the objects it receives.[7] The virtual place is thus understood as a formal container where memories and meanings are emplaced by users. This approach implies an investment in geometrical accuracy to the smallest possible detail with little regard to qualitative clues in pursuit of perceptual realism. This schema eventually leads to a paradox: The pursuit of geometrical accuracy in virtual reconstructions is a computationally demanding proposition unattainable under the current technological conditions. Geometrical accuracy requires employing more details which results in larger data sets to be processed on the users' computers and transferred over their Internet connections. With increased details and larger data sets, eventually the average visitor would not have the appropriate computational power or network bandwidth to enjoy a smooth experience of the environment. With impaired computation, users would experience an environment that does not respond to their interaction in real time. They may also see some unintended and confusing performances. For example, a common effect in these kinds of worlds when the computational ability of the system is overtaxed is that avatars and non-playing characters will walk in place for some time before they suddenly teleport to a different location. While we certainly want to remind the visitor of their present location in a virtual world, such poor performance as teleporting creates an environment that is totally unreal and distracting. In other words, more realism only leads to lesser computational performance, which in turn negatively affects the perceived realism. Thus, reconstructions appear unreal and placeless.

The purpose of this study is to attempt to answer this problem. The study looks at social and gaming MMOG for help. In a game like Lords of the Rings Online (LOTRO) for example, which is an MMOG based on the fantasy world developed by J.R.R. Tolkien in his novels, a player asked his group of friends: "Let's meet at our rock." LOTRO does not allow for the creation of user's content. The rock referred to in this statement is one among dozens of rocks placed randomly by game designers in a virtual place called the Ettenmoors. Yet, the group of friends who listened to this statement knows exactly which rock is referred to. They all share play memories placed on or around this rock. Nowhere in virtual reconstructions of places done for academic purposes one can have that kind of memory emplacement. The reason is that such reconstructions mostly use the Platonic approach, in which they are invested in the geometrical accuracy of the depicted place and ignore socio-historic aspects of place.

There are two central questions being examined in this study. First, how is a virtual place spatially perceived and interpreted? Second, how a virtual reconstruction of a historic place affects the ways in which such a place is interpreted and perceived?

## Research Strategy

In order to answer my first stated research question, I use two MMOGs as exploratory case studies; namely, Second Life and LOTRO. For the second question, I use, as a case study, Virtual Sirkap, a virtual reconstruction of the ancient settlement of Sirkap, in modern-day Pakistan.

A case study, according to Robert Yin, has a distinct advantage when "a *how* or *why* question is being asked about a contemporary set of events, over which the investigator has little or no control."[8] Hence, it seems to be the most advantageous method of empirical inquiry when the main question of my research is *how* place is perceived. A case study also investigates "a contemporary phenomenon within its real-life context"[9] and hence is well placed within an essentially phenomenological study.

## Case Studies and Research Methods

This dissertation employs two sets of case studies with two different research methods for each set. For MMOG case studies, the two cases of choice are Second Life and LOTRO. Second Life is a multi-user virtual environment developed by Linden Labs, a company based in San Francisco, California.[10] It is a social MMOG where users meet online primarily for socializing. Second Life is the most populous and the best documented and researched MMOG of its kind.[11] Second Life also allows for the creation of users' content. Users can build objects and sell them for virtual money which is exchangeable for actual money. Second Life, therefore, is a primary venue for creating (re)constructions of actual places. It also hosts countless fantasy places.

Figure I-1: A reconstruction of the Avenue des Champs Elysées in Second
Life.

LOTRO on the other hand is not the most populous gaming MMOG; a place reserved for World of
Warcraft since 2004. Yet, LOTRO is usually ranked among the top five since its launch in 2007.
My choice of LOTRO is based on a personal bias but also on a research rationale. I personally
admire the literary work of J.R.R. Tolkien. Because of the wide popularity of this work it has been
translated into movies, single-user video games and MMOGs. Also, Tolkien's meticulously
described fantasy world of Middle Earth is considered the single most influential work in MMOGs
in general including World of Warcraft.[12] The translation from text to cinematography to MMOGs
represents for me the problematic of the formative effect of the medium on the message. Unlike
WoW, LOTRO is legally bound by copyrights to be authentic to the original world imagined by
Tolkien in his novels.

Figure I-2: A reconstruction of the Witch King's Castle, Angmar, in LOTRO.

According to Danny Jorgensen, participant observation is especially appropriate "when the meanings people use to define and interact with their ordinary habitat are central issues."[13] Therefore, from a theoretical perspective, participant observation is well suited for a study concerned with the perception of virtual places. From a practical perspective, however, most gaming MMOGs, including LOTRO, discourage conducting ethnographic research within their environments and most users are skeptical and dismissive about in-game interviews. Users are typically in the game under a mask; their avatars. The anonymity of users behind the mask is highly valued. They are typically not interested in giving out information that can or have the potential of identifying them.

In the two aforementioned MMOG case studies, data is collected through direct observation, casual conversation and informal interviews. As such, and following Jorgensen, my immediate anecdotal experience is the primary source of data.[14] The analysis of data is based on a context-bound thematic analysis. It is essentially a semantic and phenomenological analysis and has no statistical purpose.

The second set of case studies includes only one case, Virtual Sirkap. Virtual Sirkap is a joint project between the Digital Design Research Group (DDRG) at the Department of Architecture, University of California, Berkeley, and the Department of Religious Studies at Claremont McKenna College, and funded by a National Endowment for the Humanities (NEH) Digital Humanities Start-Up Grant. It aims at virtually reconstructing Sirkap, an extinct city in modern-day Pakistan, which was inhabited, in addition to the local Indian populace, by successive waves of Greeks, Scythians, and Parthians from the second century BCE to the second century CE.

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The research method for the analysis of Virtual Sirkap is a comparative phenomenological analysis of the affordances of representation media conventionally employed by historians for the reconstruction of Sirkap and Virtual Sirkap. Historians of Sirkap primarily used text and maps. Virtual Sirkap uses a game engine called Torque developed by GarageGames to virtually reconstruct the ancient settlement. Torque has the same technical affordances of MMOGs with one main exception. It only affords a maximum of 64 users simultaneously connected to any one instance of the environment.

## Theoretical Lens

This study is about the ways in which virtual places are perceived. Thus, it lends itself to a phenomenological interpretation. Phenomenology concerns itself with the study of experiences as they unfold in the mind of the observer. However, there are probably as many phenomenologies as there are phenomenologists. This study builds mostly on Maurice Merleau-Ponty's phenomenology of embodiment and on Martin Heidegger's hermeneutic phenomenology. It is also heavily influenced by Henri Bergson concepts of multiplicity and virtuality.

MMOGs are technological constructs. I study the role of technology in the ways a virtual place is perceived through the work of Bruno Latour on actor network theory (ANT). Technology is thus a social actor in a network that also includes individuals, concepts and history. I also employ Pierre Bourdieu's work. Social distinction, I argue, plays a central role in the ways virtual places are perceived.

## Dissertation Structure

Beyond the introductory chapter, Chapter Two develops a theoretical understanding of place. The literature on place, to some extents, must include other, equally abundantly theorized concepts like space, perception and society; to name just a few. Thus, one chapter in this study can never comprehensively cover theories of place in any sensible way. This chapter is a selective and critical survey of key concepts in the literature on place. It starts by examining phenomenology, the favorite theoretical toolkit used in scholarship on place. Phenomenology is also the theoretical lens through which case studies in this dissertation are examined. The chapter identifies two broad schools of phenomenology with two major offshoots in the literature on place: place as significant locale and place as being-in-the-world.

Chapter Three discusses the virtual and connects the literature of the virtual with that of place discussed in Chapter Two. It also argues that, at least from a theoretical perspective, little distinction can be made between actual and virtual places. Outside abstruse theory, the virtual is stereotypically associated with systems of representations, especially digital representations, aimed at deceiving the mind into an illusionary world. Accordingly, the chapter addresses representations of place, a technically, historically and socially problematic topic.

Chapter Four explores two case studies of MMOGs, Second Life and LOTRO, as examples of virtual place. The chapter uses participatory observation to understand the ways in which virtual

places are perceived. It argues that there are two groups of dwellers in these environments: new and expert users. New users perceive the environment in ways similar to the ways they would experience actual places. Expert users tend to overlook references to the actual world. Long hours of play with like-minded users create new dispositions based on a shared history and society outside of the actual world but yet rooted in it. Thus, expert users perceive the environment differently. They mostly focus on the functional aspect of place and value efficiency over visual appeal. The command of the environment and of complimentary technology becomes a tool of social distinction.

Chapter Five studies a case study in which gaming technology is used to virtually reconstruct the old settlement of Sirkap, in modern-day Pakistan. It demonstrates that a change in the representational medium entails a change in the interpretation of the historic place. Most conventional historical accounts of Sirkap use two-dimensional site maps and city plans as the primary media to represent the urban fabric of the ancient settlement. The medium lends itself to interpret the Block D Apsidal Temple complex as the dominant socio-religious structure in the affluent northern parts of the settlement. A virtual reconstruction of Sirkap using gaming technology—a medium that allows users, through their avatars, to explore the settlement from the standpoint of a pedestrian—it was immediately obvious that the aforementioned Block D Apsidal Temple complex did not demand such an interpretation. Instead, at least in the affluent northern parts of the settlement, the northern gate, its adjacent fortifications, and the Block A stupa court were the dominant structures. Such an interpretation leads the authors to question the canonical understanding of the role of the state and its military apparatus in the socio-religious life of Sirkap.

The last chapter is a concluding chapter that discusses the finding of this study and explores future areas of research.

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[1] See for example: Frances Yates, *The art of memory*, Pbk. ed. (Chicago: University of Chicago Press, 1974); Pierre Nora, "Between memory and history: les lieux de mémoire," *Representations*, no. 26 (1989).

[2] See for example: Michel Foucault, "Of other spaces," [Des Espaces Autres.] *Diacritics* 16, no. 1 (1986); Henri Lefebvre, *The production of space* [La production de l'espace], trans. Donald Nicholson-Smith (Oxford, OX, UK; Cambridge, Mass., USA: Blackwell, 1991).

[3] Mark Poster, "The net as a public sphere?," *Wired*, November 1995.

[4] Jorge Otero-Pailos, *Architecture's historical turn: phenomenology and the rise of the postmodern* (Minneapolis: University of Minnesota Press, 2010).

[5] Hubert L. Dreyfus, Paul Rabinow, and Michel Foucault, *Michel Foucault, beyond structuralism and hermeneutics*, 2nd ed. (Chicago: University of Chicago Press, 1983). 122-23. See also: Friedrich Nietzsche, "On the uses and disadvantages of history for life," in *Untimely meditations*, ed. Daniel Breazeale, *Cambridge texts in the history of philosophy* (Cambridge; New York: Cambridge University Press, 1997). Michel Foucault, *Archaeology of knowledge*, trans. A.M. Sheridan Smith, Routledge classics (London; New York: Routledge, 2002).

[6] In a conference labeled "the Spaces of History / Histories of Space: Emerging Approaches to the Study of the Built Environment" held at the University of California, Berkeley, in 2010, I presented a paper on the epistemic merits of the virtual constructions of place. After my presentation, I engaged in a long discussion with many scholars in the field who strongly held the position I mentioned here.

[7] Plato and Francis Macdonald Cornford, *Plato's cosmology: the Timaeus of Plato*, trans. Francis Macdonald Cornford (Indianapolis, Ind.: Hackett Pub. Co., 1997). 192.

[8] Robert K. Yin, *Case study research: design and methods*, Applied social research methods series; v. 5 (Thousand Oaks, Calif: Sage Publications, 2003). 9.

[9] Ibid., 1.

[10] http://secondlife.com

[11] See for example: Tom Boellstorff, *Coming of age in second life: an anthropologist explores the virtually human* (Princeton, N.J.; Woodstock: Princeton University Press, 2010); Hubert L. Dreyfus, "Virtual embodiment and myths of meaning in Second Life," in *On the Internet* (London; New York: Routledge, 2009).

[12] Richard A. Bartle, *Designing virtual worlds* (Indianapolis, Ind.: New Riders Pub., 2004). 61.

[13] Danny L. Jorgensen, *Participant Observation: a Methodology for Human Studies*, Applied Social Research Methods Series (Newbury Park: SAGE Publications, 1989). 23.

[14] Ibid., 22.

# Chapter II
# A Space for Place:
# Place in Postmodern Anglo-American and Continental Literature

## Introduction

Unless we want to reduce place to merely a locale, there is no ostensive definition of place, as there is for mugs, tables and chairs that can be pointed at by the index finger. The only way to define place is discursively. Place is not directly susceptible to our experience even in the strictest realist sense. Space suffers from the same problem and the relation between space and place is often ambiguous. To our senses, spatiality, defined as properties relating to space or to place, may be experienced as a set of concrete orientations and physical affordances.[1] Any other qualifications of spatiality are qualities abstracted from our sensual experience and are inherently relational, opening up the concepts of space and place for theorization and debates among scholars. Thus, there is no conventionally accepted discursive definition of place or space. For this reason, I start this chapter by providing some guidelines for the ways in which I use the terms place, space and spatiality.

In this chapter, I discuss the ways in which place was historically theorized in both the Anglo-American (Analytical) and the Continental European traditions. I use the terms "spatial" and "spatiality" as neutral terms that escape the determinism of the theoretically contentious terms: space and place. In other words, I sometimes use spatiality when I want to refer to spatial properties without recalling any theory of space or place. Otherwise, I use the terms space and place in the same way each tradition is using them. I use the term space in its Platonic sense while discussing the Anglo-American tradition and in its Aristotelian sense for the Continental tradition. In the following sections, I explain the difference between Platonic and Aristotelian spaces.

The contemporary use of the terms space and place can be traced back to the works of Plato and Aristotle. For Plato, space (*chōra*) was *a priori* to the perceivable world. It did not belong to the realm of the perceivable; it was not an object of perception but the medium (a "receptacle") for it. It also did not belong to the realm of the intelligible. It was a permanent being that did not change. It had a form but had no qualities of its own. In other words, space was a formal medium without qualities of its own, which did not affect the qualities of the objects it received. On the other hand, Plato did not seriously theorize place and his account of it was obscure and brief.[2]

Aristotle, Plato's student, entertained the concept of space as a receptacle or a container inherited from Plato. However, and unlike his teacher, Aristotle dwelled more on the concept of place (*topos*). For Aristotle, place was the limit of the containing body while space was the sum total of all places occupied by objects. We can think of Aristotle's space in terms of layers of containers (places). The sailor's boat dwells in the river, the latter runs in the river bed, which is located in the

valley, etc., until we reach the universe, the final receptacle, the center of which is Earth, flat and circular. The universe is the terminal container, since nothing exists beyond it. It is not contained in any further receptacle.[3]

Many contemporary scholars, especially in the Analytical tradition, use the term space in a Platonic sense with limited variations: a space devoid of meaning and reduced to its formal and physical properties. Place, on the other hand, is humanized and imbued with qualities. Continental European scholars, especially in Germany and France (the Continental tradition), employ Aristotelian space: the space of all places. Thus, the Continental tradition uses space as a plural form of place where place is understood in ways similar to the Analytical tradition. This disparate use of terms causes confusion and ambiguity especially in translated works. I argue however that this disparity mirrors deeper theoretical rift between the two traditions. I address this rift in details later in this chapter.

In this chapter and through a review of the literature, I argue that place is a social, historical and spatial phenomenon. By that I mean that the meaning of place changes according to the specificities of the society, the time and the physical attributes in which place is interpreted. As such, place is not fixed in any of these three dimensions. For example, a given classroom, as a place, may mean something for an American student and something else for a Chinese student who just came to the U.S. for study. The same classroom has a third meaning for an American student who used to study in the same place 20 years ago. And if one changes the physical settings of the classroom, the meaning changes for all three students.

Place is also heterogeneous; it affords a multiplicity of mixed and sometimes contradicting meanings that juxtapose each other and yet they don't negate each other. A given classroom may be understood simultaneously as a place of ecstasy by a student and a place of agony by his classmate. Ecstasy and agony co-exist within the class population despite their opposing meanings. Furthermore, the presence of one meaning does not necessary entail the absence of the other. The meaning of a classroom may also change in the mind of one student over time. It can be a place of ecstasy at the start of the academic semester and a place of agony at its end. The meaning of the classroom can also change in the mind of this given student depending on the presence of one teacher or the other.

The heterogeneity of place also applies to larger social groups. However, in this case, dominant groups typically try to impose one meaning of a given place (theirs) on suppressed groups. Thus, the place becomes an object of dialectics of domination and appropriation. For example, Colonial Williamsburg is a preservation of the historic district of the city of Williamsburg, Virginia. The historical foundation of the place was criticized as elitist. It ignored the harsh reality of the life of black Americans in the colony. Attempts to "democratize" the story faced a paradox: The portrayal of a celebratory and patriotic history is conflicting with the story of marginalized groups, a story that often portrays conflict not assimilation. Yet, as Gable et al. note, the museum asserts that black history is conjectural, but it continues to present mainstream history as factual. In other words, the inclusion of a previously excluded group works to insure the legitimacy of mainstream dominant history by making it seem more real and truthful than the history of other groups.[4]

## Place: A Social, Historical and Spatial Phenomenon

Attempts to construct a history of place have been made by many scholars in different disciplines of the humanities and the sciences. The two most comprehensive attempts are Edward Casey's *The Fate of Place: A Philosophical History* and Max Jammer's *Concepts of Space: The History of Theories of Space in Physics* in which both authors were interested in different aspects of spatiality and their development in their respective fields.[5] The fact that these histories differ, in both their interpretation of historical text or their choice of precedents, or both, shows that any history of spatiality is essentially selective and interpretive. This chapter is interested in developments in contemporary thoughts that provide the foundations for our current conceptualization of spatiality. An account of these developments is, without doubt, historicized, selective and subjective. It is used as a means to construct an argument for the problematic nature of representing place which will be discussed in the next chapter.

A look back at post-modern literature on place shows two main conceptualizations of place. Jef Malpas labeled these two approaches as conceptualizing place as a "significant locale" versus place as the "existential ground;"[6] while Tim Cresswell named them place as a "social construct" versus place as "being-in-the-world".[7] The two conceptualizations reflect a basic historic rift in philosophical interpretations of the nature of knowledge—epistemology—and its offshoots in different disciplines within the humanities and social sciences. The distinction between these two epistemologies is paramount to the comprehension of place as discussed in the literature. Moreover, later in this and the next chapters, this distinction will emerge as essential to the work and critique of the representation of place especially in immersive computed environments. This is not, however, a philosophical treatise: I will not attempt a survey of the history of philosophy despite the fact that some historical discussions are inescapable. I will focus instead on phenomenology; the philosophical theory and the research toolkit that most scholars of place employ.[8]

## Phenomenology

The term "phenomenology" was first invented by the German eighteenth-century mathematician Johann Heinrich Lambert to describe the science of appearances and was later used by many scholars to denote different concepts.[9] The first philosopher to develop phenomenology into a method of thought is Edmund Husserl and thus is conventionally considered the founder of phenomenology in philosophy.[10] Between the two world wars in Europe and after WWII in the U.S., an important school of phenomenology gathered around Husserl; whose influence is still among us today especially in the Analytical tradition. This is the mentalist school. Husserl's student, Martin Heidegger, departed from his mentor's teaching and developed a non-mentalist school that deeply influenced the Continental tradition.

The aim of phenomenology in general is to describe phenomena as they unfold to the person who experiences them and not as they appear to an external observer. Husserl developed phenomenology as a philosophy and a method of inquiry based on many principles, two of them concern this study. First, he reaffirmed the Cartesian dualism: the strict separation between the subject and the object of knowledge.[11] In other words, the only immediate and certain knowledge

that I have is of my own thinking, feelings and experiences. I cannot know of another person or thing (objects of knowledge) with the same certainty. This first principle privileges the first person (the subject: the "I") as the only provider of certainty.[12] This position which originated in Renée Descartes' philosophy and continued in Husserl's is labeled mentalism or the mentalist tradition in philosophy.

The second principle advanced by Husserl is transcendental reduction. Following this principle, all reference to the particular or individual in the immediately given phenomenon is excluded. What is left, according to Husserl, is the experience of a phenomenon free from all presuppositions. As such, the "essence" of the phenomenon from which all meaning is derived is revealed to consciousness. This essence, according to Husserl, transcends society and history.[13]

Therefore, the only way mentalist phenomenology can explain society is through empathy, since, based on Husserl's first principle, intended meaning is essentially inaccessible to every other individual. I can intentionally grasp someone else's experiences because I assume that her facial expressions and her gestures are a field of expression for her inner life. I arrange what I see within my own meaning context, while she has arranged it in hers. In other words, my understanding of another person is always empathetic, segmented and interpreted.[14]

Heidegger, in his major work *Being and Time* published in 1927, tries to break from the mentalist tradition of separating the subject and the object, blaming it for the loss of meaning in modernity.[15] He argues that the first person, the "I", cannot be considered as the source of certainty anymore. Shared language, everyday skills, discriminations and practices into which we are socialized provide the conditions for us to understand ourselves as subjects and make sense of the world.[16] Thus, he prioritizes the third person, the collective "we" (and not the "I") as the source of knowledge. Space, history and society are given conditions that allow for our experience but also shape them. Heidegger described his approach as hermeneutic phenomenology but some of his followers labeled it existential phenomenology, a label he rejected.[17] Heidegger's philosophy is the foundation of non-mentalist phenomenology.

Many "phenomenologies" developed under the influence of both Husserl and Heidegger. For example, Alfred Schütz's phenomenology of the social world and Max Scheler's phenomenology of the person followed Husserl's mentalist philosophy. Meanwhile, Hannah Arendt's phenomenology of the public world, Jean-Paul Sartre's existential phenomenology, Maurice Merleau-Ponty's phenomenology of embodiment, Simone de Beauvoir's feminist phenomenology and Paul Ricœur's hermeneutic phenomenology, to name a few, are influenced by Heidegger's non-mentalist philosophy.[18]

Regardless of his contributions to contemporary philosophy, after the war, Heidegger was a controversial figure because of his relation to the Nazi.[19] Meanwhile, Merleau-Ponty and Sartre became the dominant intellectual figures in France and the most recognized phenomenologists in the West. Yet, both philosophers were politically active Marxists, creating a perceived association between phenomenology and Marxism in the Anglo-American world.[20] At a time when McCarthyism was rampant in the U.S., the association between phenomenology and Marxism inhibited scholars from the study of phenomenology for fear of prosecution.[21] Catholic schools, which were relatively immune to communist charges, were safe havens for the study of

phenomenology, especially Husserl's transcendental phenomenology, which lends itself to the study of the transcendental religious values of the Catholic Church's art and architecture.[22]

During the 1960s, phenomenology became in vogue in the U.S. and, according to Jorge Otero-Pailos, it became a major force in architectural academe and played a pivotal role as a theoretical apparatus for architectural historians in order to separate themselves from art historians.[23] Starting from the 1970s, phenomenology started to gradually eclipse in the U.S., giving way to other Continental philosophies like critical theory, structuralism, post-structuralism, etc.

In terms of research questions, mentalists are interested in the mind: How does the mind experience a given phenomenon? Their methodological approach is usually analytical: an investigation of the component parts of a whole and their relations in making up the whole. Non-mentalists, on the other hand, are interested in being-in-the-world. When faced with the same phenomenon, the most relevant question is: what are the social, historical and spatial conditions that predispose our experience of the phenomenon in this particular way? Existentialists in general reject scientism since they consider science itself as predetermined by social, historical and spatial conditions. As such, they do not conform to a specific method. They mostly investigate a phenomenon from a *Gestalt* point of view, in which a phenomenon is unified as a whole and cannot be described as the sum of its parts.[24]

The two aforementioned interpretations of place are direct offshoots of these two traditions. Place as a significant locale mirrors a mentalist approach to the understanding of place. Place as being-in-the-world or as an existential ground, on the other hand, follows the premises of existential phenomenology. In the following sections, I will examine these two interpretations. Nevertheless, it is important to note that these two interpretations emerged almost simultaneously and the order here does not represent a chronological order.


## Phenomenology in Architecture

Phenomenology, according to Otero-Pailos in *Architecture's Historic Turn*, was a theoretical tool used by architecture scholars and practitioners in their effort to construct architecture as an academic discipline independent from art history. Otero-Pailos also sees these efforts as playing a significant role in the rise of postmodern architecture.[25]

For a long time, architectural theory was conventionally taught in architectural history classes by art historian. In the 1950s, according to Otero-Pailos, many new "architect-historians" started to challenge this convention. They thought that architectural history must be connected to practice. As such, they saw themselves in a better position to teach architectural history.[26] Meanwhile, during and after WWII in the U.S., the demand on scientific research increased exponentially.[27] Especially after the war, universities exercised significant pressure on departments of architecture to engage in scientific research.[28] The intellectualization of architecture was then the tool that architect-historians used to meet the demands of the university and to divorce architectural history and theory from art history.

In 1949, Jean Labatut, then the Director of Graduate Studies in Architecture at Princeton University, founded the first architectural doctoral program in the U.S., from which he explicitly excluded art historians.[29] Labatut stressed humanism as the center of the new program. At the time, humanism was increasingly used in academe to counter the strict functionalism of the international style. Alvar Aalto at the Massachusetts Institute of Technology (MIT) and William Wurster at the University of California, Berkeley, employed humanism for similar purposes.

Under the umbrella of humanism, architects drew from other disciplines—which are perceived as more legitimate than architecture by university administrators—to intellectualize and legitimate their own discipline. In his teaching, Labatut promoted experiential historiography which focused on the creative reading of architectural history through the multiplicity of experience. Labatut was also a devout Catholic who resented existentialism which was then associated with Sartre and perceived as communist and anti-Catholic. As such, transcendental phenomenology was Labatut favorite theoretical tool. According to Otero-Pailos, by the time Labatut retired in 1967, seven candidates received doctoral degrees in architecture from Princeton University. Four of the seven dissertations were on the theological dimension of church architecture. One dissertation (by Charles Moore) examined the spiritual experience of water in architecture. Another dissertation theorized the human bodily experience as the "primitive roots" of architecture. One dissertation studied the persistence of the building spirit through architectural preservation.[30]

Charles Moore, one of the most influential postmodern architects, was one of the first graduates of the doctoral program at Princeton University. Moore's professional partners were also students of Labatut but without a doctoral degree, including Donlyn Lyndon, Bill Turnbull and Richard Whitaker. Moore taught at the University of California, Berkeley, under the deanship of William Wurster. From 1965 till 1967, Moore was the chair of the Department of Architecture at Yale University, followed by one year as the Dean of the school succeeding Paul Rudolph. During this time, Yale was among the most important centers for the study of phenomenology in the U.S. Consequently, Moore invited phenomenologists to teach in the department, most notable among them is the philosopher Karsten Harries who still writes on phenomenology in architecture.[31]

Outside of Labatut's circle, many architectural phenomenologists managed to occupy academic positions as architectural theorists or historians. These positions were, at the time, traditionally held by art historians. The most prominent of these phenomenologists are Christian Norberg-Schulz and Kenneth Frampton.

Norberg-Schulz, Sigfried Giedion's student, is perhaps the first architect to introduce Heidegger's philosophy into architecture theory. His books on place are still widely read as classics in architectural literature on place. Norberg-Schulz started as an analytical scholar interested in phenomenology. Slowly he became an existential phenomenologist and one of the foremost interpreters of Heidegger in architecture.

The design of built-places is of a paramount importance for architecture as a profession and as a discourse. As such, it is used by architects to draw the boundaries of their discipline, justifying their identity to outsiders.[32] It legitimates architecture's cultural authority, socializes its members, standardizes its procedures, rewards its heroes and protects architectural discourse porous

boundaries from encroachments by engineers, developers, amateurs and design-it-yourself software. The architectural profession peculiarity, according to the sociologist Thomas F. Gieryn, "depends upon convincing clients that architects alone possess the creative skills and artistic judgments necessary for making this transit from idea or need to place. Architects sell 'style,' which—when built-in—becomes the look or feel that people associate with a place." [33]

## Mentalist Place: Place as a Significant Locale

Place became the subject of many debates in Academe in general and in architecture in particular during the 1960s and 1970s. An interest in place and meaning developed with a focus on issues of surveillance, simulacra, deterritorialization, post-modern hyper-space and marginality triggered scholars in the humanities and social sciences to reconsider issues of society, culture and identity from a sense of place point of view. [34] By the 1980s, according to Otero-Pailos, place was widely used to signify a postmodernist sensitivity toward the experience of space. [35] Place as we know of today, according to Edward Casey, is a postmodern construction. [36]

### Bachelard: The Heterogeneity of Place

The French philosopher Gaston Bachelard is credited with the first attempt to humanize space using a phenomenological approach, in *The Poetics of Space*, first published in French in 1958. Bachelard studies the "felicitous" home, focusing on the emplacement of images. He employs Husserl's transcendental phenomenology as his theoretical toolkit.

> The house, quite obviously, is a privileged entity for a phenomenological study of the intimate values of inside space, provided, of course, that we take it in both its unity and its complexity, and endeavor to integrate all the special values in one fundamental value. For the house furnishes us dispersed images and a body of images at the same time. In both cases, I shall prove that imagination augments the value of reality. A sort of attraction for images concentrates them about the house. Transcending our memories of all the houses in which we have found shelter, above and beyond all the houses in which we have dreamed we lived in, can we isolate an intimate, concrete essence that would be a justification of the uncommon value of all of our images of protected intimacy? This, then, is the main problem. [37]

Yet, the major contribution of *The Poetics of Space* is the argument for the heterogeneity of space: The human values imbued upon space cannot be grasped through the indifferent homogenous space of mathematics. The different "poetic shadings" of space entail a heterogeneous space. This conception of space is influenced by the work of the French philosopher Henry Bergson who argued that the essential characteristic of our mental acts is their "multiplicity." One example that Bergson uses is the experience of pity. Pity, as defined by Bergson, is putting oneself in the place of others and suffering their pain:

> True pity consists not so much in fearing suffering as in desiring it. The desire is a faint one and we should hardly wish to see it realized; yet we form it in spite of ourselves, as if Nature were committing some great injustice and it were necessary

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to get rid of all suspicion of complicity with her. The essence of pity is thus a need for self-abasement, an aspiration down wards. This painful aspiration nevertheless has a charm about it, because it raises us in our own estimation and makes us feel superior to those sensuous goods from which our thought is temporarily detached. The increasing intensity of pity thus consists in a qualitative progress, in a transition from repugnance to fear, from fear to sympathy, and from sympathy itself to humility.[38]

According to Bergson, when we experience pity, we transition from repugnance to fear to sympathy to humility. These disparate feelings coexist and do not juxtapose or negate each other. They create a multiplicity of meaning.[39] Bachelard's space is heterogeneous in this Bergsonian sense. We can have different "poetic shadings"—felicitous feelings in Bachelard's case—regarding home. According to Bachelard,

> beyond all the positive values of protection, the house we were born in becomes imbued with dream values which remain after the house is gone. Centers of boredom, centers of solitude, centers of daydream group together to constitute the oneiric house which is more lasting than the scattered memories of our birthplace. Long phenomenological research would be needed to determine all these dream values, to plumb the depth of this dream ground in which our memories are rooted.[40]

These feelings of safety, boredom, solitude and phantasm, can be contradicting and yet they don't negate each other. They coexist and, as a result, the felicitous home is a heterogeneous space.

Bachelard coins the term "topophilia": the love of "topoi"—the Greek word for "places." He claims that his investigations "would deserve to be called topophilia. They seek to determine the human value of the sorts of space that may be grasped, that may be defended against adverse forces, the space we love."[41] He also calls his phenomenological approach "topoanalysis," which is essentially a mentalist transcendental approach that focuses on the individual subject as the seat of all significant images and transcends society and history.[42] Nevertheless, Bachelard's influence on the literature of place in Analytical and Continental scholarship is foundational.


**Anglo-American Literature**

Early scholarship on place in the Analytical tradition tended to conceptualize place as a significant locale, building on the mentalist tradition, either explicitly or not. The basis for the conceptualization of place is that place is space plus some mental constructs about place and its social meaning. This is exemplified in David Canter's generic definition of place: "The way in which we define any particular region as 'place' depends upon the particular attributes we are using as the basis for our definition."[43] Space (or region in Canter's words) here is generally understood in a Platonic sense: an objective physical receptacle devoid of any qualifications or meaning in and of itself, while place is perceived as subjective, idealist and relational.

Early works on place in the Analytical tradition explored the relation between human experience and space. The most influential forerunner of the literature on place in the mentalists tradition is

probably Kevin Lynch's *The image of the City* (1960). Lynch who conducted a phenomenological study of three American cities: Boston, Jersey City and Los Angeles, did not theorize place. Instead, he famously developed his five basic elements that form a mental map of the environment; namely: paths, edges, districts, nodes and landmarks. According to Lynch, these elements make the city legible. "Above all, if the environment is visibly organized and sharply identified, then the citizen can inform it with his own meanings and connections. Then it will become a true 'place,' remarkable and unmistakable."[44] Lynch was thus thinking of the city as a platonic space, an abstract receptacle or medium. When the city is well articulated and made legible, it turns into a medium for meanings: a place.

Paths are "the channels along which the observer customarily, occasionally, or potentially moves."[45] Examples of paths include streets, walkways, transit lines, canal and railroads. Edges are "the linear elements not used or considered as paths by the observer. They are boundaries between two phases, linear breaks in continuity."[46] Edges may be shores, railroad cuts, edges of development or walls. Districts are "medium-to-large sections of the city, conceived of as having two-dimensional extent, which the observer mentally enters 'inside of,' and which are recognizable as having some common, identifying character."[47] Nodes are "points . . . into which an observer can enter, and which are the intensive foci to and from which he is travelling. They may be primarily junctions, places of a break in transportation, a crossing or convergence of paths, moments of shift from one structure to another. Or the nodes may be simply concentrations, which gain their importance from being the condensation of some use or physical character, as a street-corner hangout or an enclosed square."[48] Landmarks are "another type of point reference, but in this case the observer does not enter within them, they are external. They are usually a rather simply defined physical object: building, sign, store, or mountain. Their use involves the singling out of one element from a host of possibilities."[49]

According to Lynch, most observers mainly construct their mental maps using either paths or districts. He attributed their choice to personal differences and the specificity of the given city.[50] Lynch's influence on later scholarship on place, especially in architecture, is unmistakable.

Another influential work is Yi-Fu Tuan's *Topophilia* (1974), in which Tuan does not give credit to Bachelard for the book's title.[51] Instead, he claims that "the word 'topophilia' is a neologism, useful in that it can be defined broadly to include all of the human being's affective ties with the material environment."[52] Otherwise, Tuan does not engage the concept of place. He instead meticulously examines human perception of the "environment" and the ways in which perception changes according to the observer's culture and worldview. Yet, following transcendental phenomenology, he maintains that the essence of perception is transcendental. For example, he argues that "the dome is a three-dimensional symbol of heaven. It may be a nomad's tent on the steppes of Central Asia, the Temple of Heaven in Peking, Santa Sophia in Constantinople or St. Paul's Cathedral in London."[53]

In his following book, *Space and Place* (1977), Tuan defines place as such: "In experience, the meaning of space merges with that of place. 'Space' is more abstract than 'place.' What begins as undifferentiated space becomes place as we get to know it better and endow it with value."[54] In other words, space is essentially abstract. Yet, through our experience, we imbue it with meaning,

transforming it into place. As I show in the following sections, Tuan's conceptualization of place as space plus meaning is the most recurrent definition of place in the Anglo-American tradition.

Among the most influential works on place, outside of architecture, are Edward Relph's *Place and Placelessness* (1976) and Canter's *The Psychology of Place* (1977).[55] Both scholars offered a strikingly similar analysis of place in which place is understood as the interaction between three main components. Relph argued that place is comprised of "physical settings," "activities" and "meanings," while Canter was interested in place as the interaction of "physical attributes," "actions" and "conceptions." In other words, for both scholars, place seems to be an interaction of physical space, activity and meaning (Figure II-1).
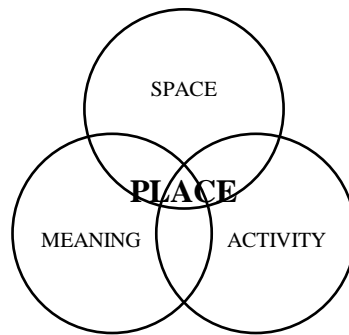


Figure II-1: A three-component analysis of place as the interaction between space, meaning and activity.

Since the publication of these two major works, other scholars stressed different attributes of place as the most relevant. Relph himself seemed to emphasize meaning as the most relevant of the three dimensions. Some concurred with Relph, some stressed activities.[56] Architects naturally stressed space.

In their book *Body, Memory and Architecture*, Charles Moore and Kent C. Bloomer argue that the meaning of place lies in the act if inhabiting it:

> [Architectural] forms have been important to humankind because they accommodate the initial human act of constructing a dwelling, the first tangible boundary beyond the body, they accommodated the act of inhabiting, and they called attention to the sources of human energy and to our place between heaven and earth.[57]

As such, "[t]he prime characteristic of a public place is public inhabitability."[58] When places are not inhabited they become "the blank horrors of our public environment."[59] The purpose of architecture is the making of places. This is done by "extending the inner landscape of human beings into the world in ways that are comprehensible, experiential, and inhabitable."[60]

In all cases, place was studied from a mentalist point of view, in which questions of history and society receded to a trivial status while the individual experience and perception became the most relevant question. This approach was apparent in Relph and Canter's works and continued to

dominate most literature on place in Anglo-American scholarship. For example, Tuan in his introduction to *Space and Place* stressed the triviality of the question of culture in the study of place despite his recognition of place's cultural peculiarity. Instead, he focused on "general questions of human dispositions, capacities, and needs."[61] Tuan's statement suggests that there exists a general and fixed place that can be understood through a study of human perception seen as universal and transcending societies and histories. As a consequence, perception became essential to the study of place and mentalist phenomenology its favorite theoretical toolkit. Some later works on place read like textbooks on cognitive and analytic approaches to perception theory and the role of different sensory modalities in the perception of place.[62]

Some later scholarship in the Anglo-American tradition started to criticize and relatively depart from this approach. Most notably, Doreen Massey who argued that place cannot be fixed in time and space as the aforementioned approach implies. Place, for Massey, is a process.[63] Others, like Edward Soja, borrowed from Continental literature in an attempt to reconcile the problems inherent in this approach.[64]

## Existential Place: Place as Being-in-the-World (the Space of Places)

The scholarship that interprets place as being-in-the-world is largely influenced by Heidegger's philosophy and its influence, to different degrees, on post-modern literature, especially in France and Germany. Everyday social practices, in this view, are seen as the foundation of the intelligibility of the world. Since these social practices exist in a place, our existence is fundamentally a matter of our being in place.

Continental philosophy opens up any phenomenon, place included, for study from a position that prioritize the everyday life—the social, historical, and spatial contexts that preconditions our knowledge of the world. French and German scholars are generally more interested in the "space of places": the spatial conditions from which our individual places emerge. However, in most of their writings they use the simpler form "space" which, in the analytical tradition, sometimes recalls the de-humanized space of modernity and causes confusion. Space here is one of a three-fold approach to the study of phenomena. It is an *a priori* to and a constitutive of the intelligibility of the world.

### Heidegger: The Space of Dwelling

Heidegger did not concern himself with the question of spatiality in his magnum opus: *Being and Time*. In *Building, Dwelling, Thinking*, originally published in 1951, he argues that the purpose of building in general is dwelling.[65] Even buildings that are not dwellings in themselves, like bridges and power stations, exist for and are predisposed by our human need for dwelling.

Heidegger then uses language to argue for the nature of dwelling. He starts with his famous statement: "Man acts as though *he* were the shaper and master of language, while in fact *language* remains the master of man."[66] For Heidegger, language is not merely a medium of expression; it is a condition of our being-in-the-world. From this position, he argues that the Old English and High

German word for building, *buan*, etymologically means to dwell, to remain, to stay in place.[67] Thus, for Heidegger, dwelling is the way humans exist on earth. It is an activity that takes place somewhere. It is spatially bound. Heidegger then uses the example of the bridge to explain the relation between building and dwelling.

> The bridge swings over the stream "with ease and power." It does not just connect banks that are already there. The banks emerge as banks only as the bridge crosses the stream. The bridge designedly causes them to lie across from each other. One side is set off against the other by the bridge. Nor do the banks stretch along the stream as indifferent border strips of the dry land. With the banks, the bridge brings to the stream the one and the other expanse of the landscape lying behind them. It brings stream and bank and land into each other's neighborhood. The bridge *gathers* the earth as landscape around the stream.[68]

The verb to gather has a special use here for Heidegger: "The bridge *gathers* to itself in its *own* way earth and sky, divinities and mortals."[69] Gathering is the foundation of the bridge's meaning and it is manifested in place (location). As such, place has meaning only because the bridge exists in it:

> To be sure, the bridge is a thing of its *own* kind; for it gathers the fourfold [earth, sky, divinities and mortals] in *such* a way that it allows a *site* for it. But only something *that is itself a location* can make space for a site. The location is not already there before the bridge is. Before the bridge stands, there are of course many spots along the stream that can be occupied by something. One of them proves to be a location, and does so *because of the bridge.* Thus the bridge does not first come to a location to stand in it; rather, a location comes into existence only by virtue of the bridge. The bridge is a thing; it gathers the fourfold, but in such a way that it allows a site for the fourfold. By this site are determined the localities and ways by which a space is provided for.[70]

Heidegger understands space here in ways similar to Aristotle; it is the sum of all places (spots). He then goes back to language to elaborate on the meaning of space. For Heidegger, space is an abstract boundary which in itself has no qualities. It receives meaning from the places (locations) it contains. Space can be described mathematically reducing places to mere locations. This mathematical description constructs the meaning of place universally. Thus, the bridge becomes a location that can be occupied or replaced. Heidegger's bridge however contains many places that escape a mathematical description. These meanings are constructed through everyday practices.

> The spaces through which we go daily are provided for by locations; their nature is grounded in things of the type of buildings. If we pay heed to these relations between locations and spaces, between spaces and space, we get a clue to help us in thinking of the relation of man and space.[71]

Thus, the activity of "letting-dwell" or simply construction, for Heidegger, brings forth the meaning of place.

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> For building brings the fourfold *hither* into a thing, the bridge, and brings *forth* the thing as a location, out into what is already there, room for which *is* only now made *by* this location.[72]

In *The Origin of the Work of Art*, Heidegger further elaborates his ideas on place and architecture.[73]

> [*T*]*echne* means neither craft nor art, and absolutely not the technical in the modern sense. It never means any kind of practical accomplishment.
>
> Rather, *techne* designates a way of knowing. "Knowing" means: having seen, in the broad sense of seeing which means the apprehension of something present as something present. For Greek thought, the essence of knowing is based on *aletheia*, on, that is, the unconcealment of beings. Unconcealment supports and guides all comportment toward beings. As knowledge experienced in the Greek manner, *techne* is a bringing forth of beings in that it brings *forth* what is present, as such, *out of* concealment, specifically *into* the unconcealment of their appearance. *Techne* never designates the activity of making.
>
> The artist is not a *technitēs* because he is also a craftsman but rather because both the setting-forth of works and the setting-forth of an equipment happen in that bringing forth which allows beings, by assuming an appearance, to come forth into their presence.[74]

Thus, etymologically, *techne* in archi-tect, is for knowledge. Architecture, following Heidegger, reveals the everyday practices that make place. It brings forth the meaning of place.

Heidegger conceives of place in ways different than Bachelard. Yet, the two scholars present place as idealist and apolitical. Later continental scholars will take issue with these relatively simplistic interpretations. Perhaps the two most influential scholars in the Continental tradition, in terms of their contribution to the conceptualization of space, are Michel Foucault and Henri Lefebvre. Both wrote extensively in the 1960s and early 1970s, especially in reaction to the events of May 1968 in France,[75] criticizing the French state and Marxism as a political system and as a system of knowledge. These two scholars were not phenomenologists. Yet, both sometimes used phenomenology in their work, some other times they developed work that originated in phenomenology using other approaches.[76] In the coming sections, the influences of Bachelard on Foucault and of Heidegger on Lefebvre are unmistakable.


## Foucault: Places as Exclusive Heterotopias

Foucault was cautious about generalizing from his ideas outside of their spatial socio-historical specificities. Only in a lecture presented in 1967 and published posthumously in 1984 under the title: *Of Other Spaces* that Foucault attempted to address space in a normative way.[77] The translation into English of this article is sadly misleading. Key terms employed by Foucault are badly translated, including the French words *localisation*, *lieu*, *place*, *emplacement*, and *espace*.

Therefore, in the following, I will put next to each key term the original French word between brackets.

Building on Bachelard's work, Foucault argues that: "Bachelard's monumental work and the descriptions of phenomenologists have taught us that we do not live in a homogeneous and empty space (*espace*), but on the contrary in a space thoroughly imbued with quantities (*qualités*) and perhaps thoroughly fantasmatic as well."[78] Foucault starts from Bachelard's conceptualization of space as essentially heterogeneous and imbued with qualities. However, he departs from the mentalist phenomenology that Bachelard employed in his analysis toward an existential one: "Yet these analyses . . . primarily concern internal space. I should like to speak now of external space."[79] By internal space, Foucault means the mental space which is inaccessible to others. He turns his attention thus to the external space of the everyday life.

In a second departure from Bachelard, Foucault develops his concept of heterogeneous spaces as "heterotopias" by way of contrast to the felicitous utopian house:

> First there are the utopias. Utopias are sites (*emplacements*) with no real place (*lieu*). They are sites that have a general relation of direct or inverted analogy with the real space of Society. They present society itself in a perfected form, or else society turned upside down, but in any case these utopias are fundamentally unreal spaces.

> There are also, probably in every culture, in every civilization, real places—places that do exist and that are formed in the very founding of society—which are something like counter-sites, a kind of effectively enacted utopia in which the real sites, all the other real sites that can be found within the culture, are simultaneously represented, contested, and inverted. Places of this kind are outside of all places, even though it may be possible to indicate their location in reality. Because these places are absolutely different from all the sites that they reflect and speak about, I shall call them, by way of contrast to utopias, heterotopias. [80]

The French word *emplacement* as defined by the French dictionary Larousse can be easily translated into "emplacement" in English: the action of placing in a certain position.[81] The English word "site" used in this translation does not have the active nuance of emplacement. Moreover, site does not connote place the way emplacement does and thus loses much of the complexity of the original French word. Accordingly, Foucault here moves away from Bachelard's individual mental place to the collective space of all places. He argues that different individuals and social groups actively create their own places (utopias) which are simultaneously represented, contested and inverted. As such, for Foucault, there is no utopia to reflect on, but heterotopias where the prefix "hetero" is Greek for "the other of two." In other words, Foucault is interested in other spaces outside of Bachelard's idealist space.

Foucault then describes five principles that govern heterotopias. In the first principle, he argues for the social specificity of space. He uses examples that in a way sum up most of his work:

In the so-called primitive societies, there is a certain form of heterotopia that I would call crisis heterotopias, i.e., there are privileged or sacred or forbidden places, reserved for individuals who are, in relation to society and to the human environment in which they live, in a state of crisis: adolescents, menstruating women, pregnant women, the elderly, etc. In our society, these crisis heterotopias are persistently disappearing, though a few remnants can still be found. For example, the boarding school, in its nineteenth-century form, or military service for young men, have certainly played such a role, as the first manifestations of sexual virility were in fact supposed to take place "elsewhere" than at home. . . . But these heterotopias of crisis are disappearing today and are being replaced, I believe, by what we might call heterotopias of deviation: those in which individuals whose behavior is deviant in relation to the required mean or norm are placed. Cases of this are rest homes and psychiatric hospitals, and of course prisons; and one should perhaps add retirement homes that are, as it were, on the borderline between the heterotopia of crisis and the heterotopia of deviation since, after all, old age is a crisis, but is also a deviation since, in our society where leisure is the rule, idleness is a sort of deviation.[82]

The examples provided by Foucault are other spaces—spaces of deviation. Most of his work is an engagement with these spaces. These spaces are historical as he argues in his second principle. He uses the example of the cemetery in Western societies: Its meaning and location changed over time. According to Foucault, back in the time when Western society was more religious and had a strong belief in the resurrection of the body of the dead and the immortality of the soul, the cemetery was housed in the sacred space of the church. Later, when Western society became more "atheistic," when it was no longer certain of one's fate after death, death became an illness and cemeteries were shifted to the suburbs. "The cemeteries then came to constitute, no longer the sacred and immortal heart of the city, but 'the other city,' where each family possesses its dark resting place."[83]

In the third principle, Foucault argues that "heterotopia is capable of juxtaposing in a single real place (*lieu*) several spaces, several sites (*emplacements*) that are in themselves incompatible."[84] Here, Foucault applies Bachelard's argument for heterogeneous space on society. Space affords a multiplicity of meaning. However, unlike Bachelard's space, within society, different meanings juxtapose each other. He uses here as an example, theatre and cinema: "Thus it is that the theater brings onto the rectangle of the stage, one after the other, a whole series of places that are foreign to one another; thus it is that the cinema is a very odd rectangular room, at the end of which, on a two-dimensional screen, one sees the projection of a three-dimensional space."[85]

In the fourth principle, "heterotopias are most often linked to slices in time—which is to say that they open onto what might be termed, for the sake of symmetry, heterochronies."[86] Foucault argues here that most spaces exist in "other times" by way of symmetry to "other spaces." He uses the example of the library (the archive), the museum and festival grounds. In these places, according to Foucault, one has experiences outside of actual time and into other times.

Foucault's fifth principal is that "heterotopias always presuppose a system of opening and closing that both isolates them and makes them penetrable."[87]  Heterotopias are not spaces of inclusion:

"Either the entry is compulsory, as in the case of entering a barracks or a prison, or else the individual has to submit to rites and purifications."[88] Foucault here uses the example of the great farms that once existed in Brazil. Family houses in these farms had doors that did not lead to living quarters of the house but directly to bedrooms. Every traveler who came by had the right to open the door and sleep there for the night. The design of these rooms maintained that the traveler never had access to the family's living quarters. As such, the traveler was a guest in transit but never an invited guest. It will be up to Henri Lefebvre and later to Michel de Certeau to fully develop this principle.

At the end of his article, Foucault discusses a last trait of heterotopias. "They have a function in relation to all the space that remains. This function unfolds between two extreme poles. Either their role is to create a space of illusion that exposes every real space, all the sites inside of which human life is partitioned, as still more illusory."[89] Foucault here uses the example of the brothel. "Or else, on the contrary, their role is to create a space that is other, another real space, as perfect, as meticulous, as well arranged as ours is messy, ill constructed, and jumbled."[90] For this function, Foucault uses the example of the Puritan societies created by the first waves of immigrants to America. These places, according to Foucault, "were absolutely perfect other places." [91]

## Lefebvre: the Spatial Triad

Lefebvre was early on more interested in introducing a systematic theorization of space. The pinnacle of Lefebvre's work on space is *The Production of Space*,[92] originally published in French in 1974 and translated into English in 1991, the year in which Lefebvre died.[93] In this work, Lefebvre conceives of space as the outcome of social and historic modes of production. In an explicit reference to Heidegger, he argues that everyday life is an *a priori* to these modes of production.[94] As such, for Lefebvre, space is both result and precondition of society. Space enjoys social and historic specificities and cannot be understood universally.

He then attempts to escape the conceptualization of space in terms of Cartesian mentalist dualism—subjective versus objective space—which he finds unable to explain social space, by advancing his famous spatial triad. Space is socially produced through spatial practice, representations of space and representational space:

> Spatial practice: The spatial practice of a society secretes that society's space; it propounds and presupposes it, in a dialectical interaction; it produces it slowly and surely as it masters and appropriates it. From the analytical standpoint, the spatial practice of a society is revealed through the deciphering of its space.

> Representations of space: conceptualized space, the space of scientists, planners, urbanists, technocratic subdividers and social engineers, as of a certain type of artist with a scientific bent—all of whom identify what is lived and what is perceived with what is conceived. This is the dominant space in any society (or mode of production).

> Representational spaces: space as directly lived through its associated images and symbols, and hence the space of the 'inhabitants,' and 'users,' but also of some

artists and perhaps of those, such as a few writers and philosophers, who describe and aspire to do no more than describe. This is the dominated—and hence passively experienced—space which the imagination seeks to change and appropriate. It overlays physical space, making symbolic use of its objects.[95]

Space is socially produced by everyday practices. This is the space that we live in. Architects and planners produce representations of space while some spaces are representational. They do not signify themselves but something else. These three modes of production, for Lefebvre, exist in dialectics of domination and appropriation. Space is almost always produced by dominant groups in the society to be appropriated later by the subordinate groups that dwell in it.[96] The typical practice of architectural production of space is an example. Representations of space, produced for patrons, dominate, mediate and transform space. The constructed space, on the other hand, according to the architect's intentions, may stand for something else outside itself and its inhabitants; for example, a historical precedent. Finally, inhabitants of this given space perceive and appropriate their space in ways that are usually in contradiction with these representations. As such, for Lefebvre, space is political, so is architecture.

Lefebvre then develops three phenomenological spaces: perceived, conceived and lived spaces.[97] Perceived space is the product of spatial practices in which society masters and appropriates its space. Conceived space is the product of representations of space in which practices of social domination prevail. Lastly, lived space is representational space. It is passively experienced and dominated by social forces. In this three-fold conceptualization, Lefebvre assumes that the intelligibility of space exists in society and not in the subject/object dualism of the analytical tradition. He also conceives of space as an agent in the everyday life, an argument that for many earlier scholars was saved only for the social and the historical.


**De Certeau: Strategies and Tactics of Place**

Michel de Certeau, a scholar from the continental tradition, builds in *The Practice of Everyday Life* on the dialectic of spatial domination and appropriation introduced in the works of Foucault and Lefebvre. He develops his concepts of spatial "strategies" and "tactics":

> I call a "strategy" the calculus of force-relationships which becomes possible when a subject of will and power (a proprietor, an enterprise, a city, a scientific institution) can be isolated from an "environment." A strategy assumes a place that can be circumscribed as *proper (propre)* and thus serve as the basis for generating relations with an exterior distinct from it (competitors, adversaries, "clientèles," "targets," or "objects" of research). Political, economic, and scientific rationality has been constructed on this strategic model.

> I call a "tactic," on the other hand, a calculus which cannot count on a "proper" (a spatial or institutional localization), nor thus on a borderline distinguishing the other as a visible totality. The place of a tactic belongs to the other. A tactic insinuates itself into the other's place, fragmentarily, without taking it over in its entirety, without being able to keep a distance.[98]

For de Certeau, strategies are spatial practices of domination exercised by structures of power, while inhabitants employ spatial tactics of appropriation and resistance. De Certeau contemplates the example of Manhattan, New York City, as seen from the top of the World Trade Center:

> The desire to see the city preceded the means of satisfying it. Medieval or Renaissance painters represented the city as seen in a perspective that no eye had yet enjoyed. This fiction already made the medieval spectator into a celestial eye. It created gods. . . . The same scopic drive haunts users of architectural productions by materializing today the utopia that yesterday was only painted. The 13700 foot high tower that serves as a prow for Manhattan continues to construct the fiction that creates readers, makes the complexity of the city readable, and immobilizes its opaque mobility in a transparent text. . . . The voyeur-god created by this fiction . . . must disentangle himself from the murky intertwining daily behaviors and make himself alien to them.[99]

Being on top of the World Trade Center, for de Certeau, is similar to being at the architect's plan. It transforms the architect into a reader and transforms place dwellers into objects of domination.


**Castells: Spaces of Flows**

Manuel Castells, in *The Urban Question*, rejects the agency of space argued for by Lefebvre.[100] "But the whole problem is here: the term 'urban' . . . is not an innocent one; it suggests the hypothesis of a production of social content . . . by a trans-historical form [space]. . . . One might add many remarks on the theoretical and historical error of the supposed determination of content by form (Castells 1977)."[101]  In *The Rise of the Network Society*, Castells advances his famed conception of space in the information age as "spaces of flows" which is based on a departure from Lefebvre: "[S]ocial processes influence space by acting on the built environment inherited from previous socio-spatial structures. Indeed, *space is crystallized time* (italics in text)."[102] Castells grants agency to history and society and deny it from space, reducing it to an expression of socio-historical forces: "The space of flows is the material organization of time-sharing social practices that work through flows. By flows I understand purposeful, repetitive, programmable sequences of exchange and interaction between physically disjointed positions held by social actors in the economic, political, and symbolic structures of society."[103]

Castells, thus, maintains the dialectic of domination inherent from Bachelard, Foucault, Lefebvre and de Certeau. He also theorizes spatiality from the perspective of the Continental tradition in which the space of all places is a socio-historical phenomenon. However, unlike many other scholars in the same tradition, he does not grant agency to space and accepts only social and historical determinism.


# Hybrid Concepts and Place

Some scholars use hybrid concepts for both the mentalist and the existentialist traditions in order to overcome some the limitations in each tradition. Perhaps the most important examples are Edward Soja's "thirspace" and Christian Norberg-Schulz's "genius loci."

**Soja: An-Other Space**

In *Thirdspace: Journeys to Los Angeles and Other Real-and-Imagined Places*, Soja reads Lefebvre's triad as real, imaginary and third spaces. Real space is the materialized space, imaginary space is the space of perception and third space is "an-Other" space. Instead of the typical Cartesian dialectics of the real and imaginary common in Anglo-American scholarship, Soja offers a "trialectic" of the real, the imaginary and the other. However, by doing so, he returns spatiality to the dualism of objective (material) and subjective (perceptual) space that Lefebvre is trying to overcome in his triad while hoping that a hybrid third space of the "real-and-imagined" would resolve the social uncertainty of this epistemology.[104]

**Christian Norberg-Schulz**

Norberg-Schulz, a champion of reading architecture through the lens of existential phenomenology, appropriates Lynch's elements, discussed before in the mentalist tradition, in an existential doctrine in his book *Existence, Space & Architecture*.[105] He introduces social and historical dimensions to the otherwise strictly physical and functional elements introduced by Lynch. Norberg-Schulz reduces Lynch's elements to three: places (nodes), paths (directions) and domains (districts). Norberg-Schulz introduces the term *genius loci*, Latin for the protective spirit of place. Every place has genius loci that can only be discovered experientially. The genius loci of the built environment are, thus, perceived and described in terms of these three elements.[106]

In *Genius Loci: Towards a Phenomenology of Architecture*, Norberg-Schulz takes a more existential position with a notable Heideggerian twist.

> A concrete term for environment is *place*. It is common usage to say that acts and occurrences *take place*. In fact it is meaningless to imagine any happening without reference to a locality. Place is evidently an integral part of existence.[107]

> What, then, do we mean with the word "place"? Obviously we mean something more than abstract location. We mean a totality made up of concrete things having material substance, shape, texture and color. Together these things determine an "environmental character," which is the essence of place. In general a place is given as such a character or "atmosphere." A place is therefore a qualitative, "total" phenomenon, which we cannot reduce to any of its properties, such as spatial relationships, without losing its concrete nature out of sight.[108]

> Everyday experience moreover tells us that different actions need different environments to take place in a satisfactory way. As a consequence towns and houses consist of a multitude of particular places.[109]

> Being qualitative totalities of a complex nature, places cannot be described by means of analytic, "scientific" concepts. As a matter of principle science "abstracts" from the given to arrive at neutral, "objective" knowledge. What is lost, however, is the everyday life-world, which ought to be the real concern of man in general and planners and architects in particular.[110]

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Norberg-Schulz's interpretation of place then comes very close to Heidegger's introduced previously in this chapter. Place is the gathering of the world and architecture brings forth the nature of place. Nevertheless, place is apolitical and idealist. The book is generally an exercise in materialism. Heidegger stressed material culture as one aspect among many of being-in-the-world. The materiality of place is only one aspect of its intelligibility, next to other social and historic aspects. Norberg-Schulz argues that "[c]haracter however, depends upon *how things are made*, and is therefore determined by the technical realization (building)."[111] He recognizes the temporal aspect of the character of place but not as a history, as a the material manifestation of time through light: "To some extent the character of a place is a function of time; it changes with the seasons, the course of the day and the weather, factors which above all determine different conditions of *light*."[112] This is a very limited reading of Heidegger.

## Conclusion

Phenomenology is the favorite theoretical toolkit for the study of place. There are many schools of phenomenology and consequently many ways of conceiving of place. In this chapter I identified to broad schools of phenomenology: mentalism and existentialism. For the mentalist school, place is space imbued with meaning. Space here is Platonic, formal and devoid of qualities. For the existential school, place is a social, historic and spatial phenomenon. In this case, space is understood as Aristotlian, it is the sum of all places.

As such place is a social, historical and spatial phenomenon. It is not fixed in any of these three dimensions; it is a process. Place is characteristically imbued with a multiplicity of meanings at both the individual and social levels, producing heterogeneous places. This heterogeneity often results in incompatible and juxtaposed places; which are often exclusive and subject to a dialectic of domination and appropriation. It also renders the representation of place problematic, a concern which I address in the next chapter.

[1] James J. Gibson, *The ecological approach to visual perception* (Hillsdale, N.J.: Lawrence Erlbaum Associates, 1986).

[2] Plato and Cornford, *Plato's cosmology: the Timaeus of Plato*.

[3] Aristotle, *Physics*, trans. Robin Waterfield, Oxford world's classics (Oxford; New York: Oxford University Press, 2008).

[4] Eric Gable, Richard Handler, and Anna Lawson, "On the uses of relativism: Fact, conjecture, and black and white histories at Colonial Williamsburg," *American Ethnologist* 19, no. 4 (1992).

[5] Max Jammer, *Concepts of space: the history of theories of space in physics*, 3rd enl. ed. (New York: Dover Publications, 1993); Edward S. Casey, *The fate of place: a philosophical history* (Berkeley: University of California Press, 1997).

[6] Jeff Malpas, "New media, cultural heritage and the sense of place: Mapping the conceptual ground," *International Journal of Heritage Studies* 14, no. 3 (2008): 201.

[7] Tim Cresswell, *Place: a short introduction*, Short introductions to geography (Malden, MA: Blackwell Pub., 2004). 29-33.

[8] Ibid., 49.

[9] See for example: Joseph M. Bocheński, *The methods of contemporary thought* [Die Zeitgenössischen Denkmethoden], trans. Peter Caws (New York: Harper & Row, 1968); Seppo Sajama and Matti Kamppinen, *A historical introduction to phenomenology* (London; New York: Croom Helm, 1987); Roger Scruton, *A short history of modern philosophy: from Descartes to Wittgenstein*, Routledge classics (London; New York: Routledge, 2002).

[10] Most historians actually points to Franz Brentano, a German philosopher and psychologist and Husserl's mentor, as the founder of phenomenology since he is the one who reintroduced the scholastic concept of intentionality into modern philosophy. While

intentionality is the core concept of phenomenology, it was Husserl who developed it into a system of thought and a method of inquiry.

[11] The term "Cartesian" refers to Renée Descartes, conventionally considered as the founder of modern philosophy.

[12] Joseph J. Kockelmans, *Edmund Husserl's phenomenology*, Purdue University series in the history of philosophy (West Lafayette, Ind.: Purdue University Press, 1994).

[13] Ibid.

[14] Alfred Schütz, *The phenomenology of the social world*, trans. George Walsh and Frederick Lehnert, Northwestern University studies in phenomenology & existential philosophy (Evanston, Ill.: Northwestern University Press, 1972).

[15] Martin Heidegger, *Being and time* [Sein und zeit (1927)], trans. John Macquarrie and Edward Robinson (San Francisco, Calif.: HarperSanFrancisco, 1962).

[16] Hubert L. Dreyfus, *Being-in-the-world: a commentary on Heidegger's Being and Time, division I* (Cambridge, Mass.: MIT Press, 1991).

[17] Ibid. Jean-Paul Sartre promoted the term existentialism in his work *Being and Nothingness: A Phenomenological Essay on Ontology*, published in 1943, and criticized by Heidegger himself as a misreading of *Being and Time*.

[18] For an overview of the most important schools of phenomenology, see: Dermot Moran and Timothy Mooney, *The phenomenology reader* (London; New York: Routledge, 2002).

[19] Jürgen Habermas, "Work and Weltanschauung: The Heidegger Controversy from a German Perspective," *Critical Inquiry* 15, no. 2 (1989).

[20] Otero-Pailos, *Architecture's historical turn: phenomenology and the rise of the postmodern*.

[21] The term McCarthyism refers to the U.S. Senator Joseph McCarthy who from the late 1940s to the late 1950s claimed that there were large numbers of Communists and Soviet spies inside the U.S. government and elsewhere.

[22] Otero-Pailos, *Architecture's historical turn: phenomenology and the rise of the postmodern*: xvi-xvii.

[23] Ibid.

[24] David E. Cooper, "The Presidential Address: Analytical and Continental Philosophy," *Proceedings of the Aristotelian Society* 94(1994).

[25] Otero-Pailos, *Architecture's historical turn: phenomenology and the rise of the postmodern*.

[26] Ibid.

[27] Paul N. Edwards, *The closed world: computers and the politics of discourse in Cold War America*, Inside technology (Cambridge, Mass.: MIT Press, 1997).

[28] Otero-Pailos, *Architecture's historical turn: phenomenology and the rise of the postmodern*.

[29] Ibid.

[30] Ibid., 97.

[31] Ibid.

[32] Klaus Krippendorff, *The semantic turn: a new foundation for design* (Boca Raton: CRC/Taylor & Francis, 2006).

[33] Thomas F. Gieryn, "A space for place in Sociology," *Annual Review of Sociology* 26, no. 1 (2000).

[34] See for example: N Merriman, "Review article: understanding heritage," *Journal of Material Culture* 1, no. 3 (1996); Akhil Gupta and James Ferguson, "Beyond "Culture": Space, Identity, and the Politics of Difference," *Cultural Anthropology* 7, no. 1 (1992).

[35] Otero-Pailos, *Architecture's historical turn: phenomenology and the rise of the postmodern*: 19.

[36] Edward S. Casey, "Between geography and philosophy: what does it mean to be in the place-world?," *Annals of the Association of American Geographers* 91, no. 4 (2001).

[37] Gaston Bachelard, *The poetics of space (1958)* [La Poétique de l'Espace], trans. Maria Jolas (Boston: Beacon Press, 1994). 3.

[38] Henri Bergson, *Time and free will: an essay on the immediate data of consciousness (1910)* [Essai sur les données immédiates de la conscience.], trans. F.L. Pogson, Muirhead library of philosophy (London: G. Allen & Co., 1950). 19.

[39] Gilles Deleuze, *Bergsonism* [Le Bergsonisme (1966)], trans. Hugh Tomlinson and Barbara Habberjam (New York: Zone Books, 1988); Leonard Lawlor and Valentine Moulard, "Henri Bergson," in *Stanford Encyclopedia of Philosophy*, ed. Edward N. Zalta (2010).

[40] Bachelard, *The poetics of space (1958)*: 17.

[41] Ibid., xxxv.

[42] Casey, *The fate of place: a philosophical history*.

[43] David V. Canter, *The psychology of place* (New York: St. Martin's Press, 1977). 36.

[44] Kevin Lynch, *The image of the city* (Cambridge, Mass: MIT Press, 1960). 92.

[45] Ibid., 47.

[46] Ibid.

[47] Ibid.

[48] Ibid.

[49] Ibid., 48.

[50] Ibid., 47.

[51] Tuan cites two works by Bachelard, one of which is in English and the other is in French but does not cite the Poetics of Space.

[52] Yi-Fu Tuan, *Topophilia: a study of environmental perception, attitudes, and values* (New York: Columbia University Press, 1974). 93.

[53] Ibid., 170.

[54] Yi-Fu Tuan, *Space and place: the perspective of experience* (Minneapolis: University of Minnesota Press, 1977). 6.

[55] Canter, *The psychology of place*; E. C. Relph, *Place and placelessness*, Research in planning and design (London: Pion, 1976).

[56] For the primacy of meaning, see for example: Tuan, *Space and place: the perspective of experience*; Paul Rodaway, *Sensuous geographies: body, sense, and place* (London; New York: Routledge, 1994); Sarah Menin, *Constructing place: mind and matter* (London; New York: Routledge, 2003). For the primacy of activities, see for example: William Hollingsworth Whyte, *The social life of small urban spaces (1980)* (New York: Project for Public Spaces, 2001; repr., 3rd); John Brinckerhoff Jackson, *A sense of place, a sense of time* (New Haven: Yale University Press, 1994).

[57] Kent C. Bloomer, Charles Willard Moore, and Robert J. Yudell, *Body, memory, and architecture* (New Haven; London: Yale University Press, 1977). 77.

[58] Ibid., 84.

[59] Ibid., 77.

[60] Ibid., 105.

[61] Tuan, *Space and place: the perspective of experience*: 5-6.

[62] See for example: Tim Ingold, *The perception of the environment: essays on livelihood, dwelling & skill* (London; New York: Routledge, 2000).

[63] Doreen B. Massey, *Space, place, and gender* (Minneapolis: University of Minnesota Press, 1994).

[64] Edward W. Soja, *Thirdspace: journeys to Los Angeles and other real-and-imagined places* (Cambridge, Mass.: Blackwell, 1996).

[65] Martin Heidegger, "Building dwelling thinking," in *Poetry, language, thought*, *His Works* (New York: Harper & Row, 1971).

[66] Ibid., 146.

[67] Ibid.

[68] Ibid., 152.

[69] Ibid., 153.

[70] Ibid., 154.

[71] Ibid., 156.

[72] Ibid., 159.

[73] Martin Heidegger, "The Origin of the Work of Art," in *Off the beaten track*, ed. Kenneth Haynes (Cambridge; New York: Cambridge University Press, 2002).

[74] Ibid., 34-35.

[75] In May 1968, France saw the largest strike in its history that included millions of students and workers and almost caused the collapse of the de Gaulle government. The events that occurred before, during and after the strike are conventionally understood as signaling a major shift in the French society.

[76] See for example Foucault's analysis of Diego Velázquez's painting Las Meninas in Michel Foucault, *The order of things: an archaeology of the human sciences* [Les mots et les choses] (New York: Vintage Books, 1973).

[77] Foucault, "Of other spaces," 146. For the original French version, see: Michel Foucault, "Des espaces autres," [Des Espaces Autres.] *Empan* 2, no. 54 (2004).

[78] Foucault, "Of other spaces," 23.

[79] Ibid.

[80] Ibid., 24.

[81] The word emplacement also has some military connotations in English. This is probably why the translator tried to avoid it.

[82] Foucault, "Of other spaces," 24-25.

[83] Ibid., 25.

[84] Ibid.

[85] Ibid.

[86] Ibid., 26.

[87] Ibid.

[88] Ibid.

[89] Ibid., 27.

[90] Ibid.

[91] Ibid.

[92] Lefebvre, *The production of space*.

[93] A deep discussion of this work must include the Marxist discourse in France at the time, the work of Guy Debord and the Situationalists, and Manuel Castells.

[94] Lefebvre, *The production of space*: 121.

[95] Ibid., 38-39.

[96] Ibid., 164-68.

[97] Ibid., 38-41.

[98] Michel de Certeau, *The practice of everyday life* [L'invention du Quotidien: Arts de Faire], trans. Steven Rendall, Information age, economy, society, and culture (Berkeley: University of California Press, 1984). xix.

[99] Ibid., 92-93.

[100] *The Urban Question* is published in 1977 two years before the first French publication of Lefebvre's *The Production of Space*. Thus, Castells criticism of the agency of space was driven by Lefebvre earlier work. In the Production of Space, Lefebvre did not regress from his position; on the contrary, he provided a lengthier and more articulate argument for it.

[101] Manuel Castells, *The urban question: a Marxist approach* [La question urbaine], trans. Alan Sheridan, Social structure and social change 1 (Cambridge, Mass.: MIT Press, 1977). 89.

[102] Manuel Castells, *The rise of the network society*, 2nd ed., Information age, economy, society, and culture (Malden, Mass.: Blackwell, 2000). 441.

[103] Ibid., 442.

[104] Soja, *Thirdspace: journeys to Los Angeles and other real-and-imagined places*.

[105] Christian Norberg-Schulz, *Existence, space & architecture* (New York: Praeger, 1971).

[106] Ibid., 53.

[107] Christian Norberg-Schulz, *Genius loci: towards a phenomenology of architecture* (New York: Rizzoli, 1980). 6.

[108] Ibid., 8.

[109] Ibid.

[110] Ibid.

[111] Ibid., 15.

[112] Ibid., 14.

# Chapter III
# Virtual Place and the Problem of Representation

## Introduction

This chapter is interested in the question: What is virtual place? Theoretical treatment of the virtual can be very abstruse, yet there is a theoretical nexus that this chapter explores which links conceptions of place discussed in the previous chapter and conceptions of the virtual. This nexus is Henry Bergson's conception of multiplicity, which was, as Chapter Two demonstrates, instrumental in Gaston Bachelard's conception of place as heterogeneous, and which deeply influenced literature on place in both the Anglo-American Analytical and French-German Continental traditions. At the same time, Bergson's conception of "virtual multiplicity" deeply influenced the French philosopher Gilles Deleuze. Together, the works of Bergson and Deleuze are conventionally considered the most influential work on the virtual. Through this nexus, this chapter argues that, at least from a theoretical perspective, it is hard to distinguish between actual and virtual place.

Exploring Bergson's conception of "virtual multiplicity" will inescapably delve into his conception of perception and representation. It is imperative here to acknowledge that Bergson's conception of perception is simply one among many theories of perception available in the literature.[1] There is not enough space in this chapter to attempt a survey of such literature without diverting it from its intended concern, the virtual. Instead, Bergson's conception of perception is used as simply a means to understand the virtual and to link it to the literature on place. On the other hand, representation, which is foundational to the understanding of the virtual, is discussed here in details. The reason is in many disciplines, beyond abstruse theory, the virtual is associated with a system of representation that aims to deceive the mind into an illusion of depth.

Representation is the foundation of knowledge, yet it is typically seen with skepticism because of its historic use (or misuse) as a tool of power and control. Representation of place is, accordingly, problematic too. Place is characteristically imbued with a multiplicity of meanings contingent on the specificities of the society, time and space in which such place is perceived. The interpretation of places also depends on the affordances of the representational medium through which these places are perceived and the ways in which such a medium is socially deployed and interpreted. Representation tends to signify one meaning of place and ignore the others. Moreover, representation tends to have a formative effect on such a signified meaning depending on the type and the medium of representation.

## The Virtual

Chapter Two credited the earliest attempt to humanize place to the French philosopher Gaston Bachelard who, in 1958, stressed that place has a multiplicity of meaning (different poetic shadings). Bachelard's conception of place later deeply influenced place theory in both the Analytical (Anglo-American) and the Continental (French-German) scholarly traditions. Bachelard in turn was influenced by the-turn-of-the-century French philosopher Henry Bergson's conception of multiplicity. Bergson, whose philosophy sunk into oblivion after his death in 1941 until its resurrection by the French philosopher Gilles Deleuze,[2] had a major influence on many post World War II phenomenologists including Maurice Merleau-Ponty and Jean-Paul Sartre.[3] Beside multiplicity, Bergson had many influential contributions to philosophy and to the humanities in general. The most important of these contributions, for the purpose of this study, are his conceptions of time (duration), perception and "virtual multiplicity." These are interconnected concepts that in a sense depend on each other.

Bergson developed a new conception of time for which he used the term "la durée", French for duration. Duration can be understood in terms of Bergson's conception of multiplicity. Chapter Two used the example of the feeling of pity to illustrate multiplicity. Pity comprised a transition from repugnance to fear to sympathy to humility, desperate feelings that coexist but do not juxtapose or negate each other. Despite their heterogeneity, these feelings are continuous with one another, progressive and temporal. For Bergson, they constitute a multiplicity of successive meanings and a unity which binds them together. Duration is the "synthesis" of this unity and this multiplicity.[4] Bergson explained how duration works by using an image of two spools and a tape running between them. One spool is unwinding the tape and the other is winding it up.[5] As we grow older, one spool gets larger (the past) and the other gets smaller (the future). In terms of perception, this image shows that no two experiences are the same. Thus, for Bergson, the main characteristic of perception is not sameness (re-cognition) but difference.

Perception, according to Bergson, is characterized by how the current experience is different from past experiences. Two functions are at stake here, "that which is no longer there" and "that which could have or ought to have been there."[6] In other words, when we perceive a place, we tend to direct our attention to the aspect of place that interests us. Such an aspect is understood in terms of duration: our previous experience with such a place or similar places. However, what grasps our attention is not its resemblance to the past, but the ways in which it is different from it. For example, if my bedroom always had a specific poster on the wall behind the bed, the absence of such a poster will immediately grasp my attention. The poster is an example of, according to Bergson, that which is no longer there. Also, if I am used to visit cafés with wireless Internet access, I will be struck by its absence when I visit a new café. Wireless Internet access is an example, according to Bergson, of that which could have or ought to have been there. As such, perception, for Bergson, depends on what happened before (history) and what ought to happen (the possible) more than what is (the real).[7] Yet, Bergson saw a problem in the use of the pair possible/real.

Bergson criticized the then prevailing conception of the possible.[8] The logic of the possible at the time was that the real is a realization of one possibility among many. For example, I could have gone to school today, went to the beach, or visited a friend but instead I stayed home. Being at

home, thus, means that the other possibilities can no longer realize. As such, and according to this logic, a multiplicity of the possible must exist as an *a priori* to the real. Bergson argued that this logic makes the real determined by the possible and cannot explain the new. This process of realization, according to Bergson, follows two rules: resemblance and limitation. The possible must resemble the real. The possibility of me staying at home resembles the realization of me staying at home. Also, not every possible is realized, thus, realization produces limitations. Other possibilities that are not realized are excluded. Dissatisfied with this logic, Bergson offered the virtual as logical concept that replaced the possible.

The virtual is better understood in Bergson's conception of perception. For Bergson, all we sense are images. The image, as explained by Bergson, is virtual. It is less than the material object and more than its representation.[9] The use of the terms "more" and "less" means that the image differs from the real and its representation by degree and not by kind. The real "consists in the totality of its elements and of their actions of every kind."[10] The virtual (the image) is "the measure of our possible action upon bodies: it results from the discarding of what has no interest for our needs, or more generally for our functions."[11] As such, for Bergson, perception takes place within virtuality. It operates within a "virtual multiplicity" and it is essentially subjective.[12] Bergson distinguished the subjective and the objective in terms of the virtual and the real. The objective is defined as that which has no virtuality in it, whether realized or not. The subjective, on the other hand, is defined by the virtuality of its parts.[13] Accordingly, Bergson defined the virtual as the sum of the real, a subjective mental act, and a motive or confusion.[14] We make sense of the real by recalling the virtual expressed in a multiplicity of personal history and effects.[15]

By attaching his conception of perception to the real, Bergson deliberately took an intermediate position between two prevailing theories of perception at his time, realism and idealism.[16] Unlike realism, he didn't believe that the things themselves are able to produce representations in the human mind. On the other hand, unlike idealism, he believed that perception is linked to the real and not to mental concepts disconnected from any notion of the real.

Bergson, from the above discussion, was a mentalist. He continuously stressed the individual mental experience as a virtual multiplicity. Deleuze developed Bergson's conception of the virtual further in his philosophical work. However, Deleuse was not a mentalist. Deleuze, who wrote his primary thesis for the *doctorat d'état* on Bergson's philosophy and which he published later as a book in French in 1966,[17] was heavily influenced by Heidegger and Sartre.[18] Keith Ansell-Pearson argues that Deleuze's reading of Bergson stressed "the primacy of ontology over psychology" pushing the virtual in a Heideggerian direction.[19] The virtual thus became for Deleuze the condition of the genesis of real experience.[20] In *Difference and Repetition*, originally published in French in 1968, virtual multiplicity became a property of being-in-the-world. Differential virtual multiplicities produce (actualize) localized and individuated actual "substances." Differentiation, following Bergson, becomes the main property of such actualizations and not identification.[21]

Deleuze was the first to argue for the replacement of the "possible-real" pair with the "virtual-actual" pair.[22] Our perception of the actual is preconditioned by the virtual expressed in a multiplicity of personal and social history and effects.[23] The virtual can only be opposed to the actual and not the real. Both the actual and the virtual, for Deleuze, are aspects of the real.

Chapter Two stressed that place is inherently subjective and contingent on a multiplicity of meanings. It also stressed that place is spatial, historical and social. Bergson did not engage in a discussion of place. Nevertheless, if the domain of the virtual is the duration and individual mental acts, then it is safe to argue that, according to Bergson, from an Analytical perspective, place is virtual. It is virtuality that imbues place with meaning. While space, understood in its platonic sense as devoid of meaning and reduced to its formal and physical properties, is objective and real.

One can also see similarities between Deleuze's reconceptualization of virtual multiplicity, and his fellow Continental thinkers Henry Lefebvre's and Michel de Certeau's conceptions of the spatial multiplicities expressed in the dialectics of domination and appropriation. Virtuality, according to Deleuze, is central to being-in-the-world. It does not proceed by resemblance and limitation but by difference and divergence. It also proceeds by a socio-historical act (actualization). It produces localized and differential actual places. De Certeau would see similarities between the actualization of place and his theory of the appropriation of place discussed in Chapter Two. For de Certeau, different social groups appropriate (act) their own meanings of place through their spatial practices. These meanings juxtapose each other in the same place and create a multiplicity characterized mainly by its differentiation and not by its resemblance. Thus, it is also safe to conclude that in the Continental tradition, place is virtual.

Nevertheless, these conclusions, while attractive, are contingent on Bergson's and Deleuze's definitions of the virtual. Despite the consensus that both scholars are the most influential and the most cited theorists of the virtual, their work preceded the information age. The argument of the philosopher Ludwig Wittgenstein must be considered here, that "the meaning of a word is its use in the language." [24] One must refer to the current use of the term "virtual" to understand its meaning. In most cases, the virtual recalls a technological construct that aims to convey through the senses an imagined or illusionary reality.[25] For example, a virtual place typically suggests a place constructed using computational media whether on a flat screen or using immersive technology. In other words, the virtual is reduced to a system of representation.

Some later scholars tried to appropriate Bergson's and Deleuze's theories of the virtual in light of the rise of the information age. The philosopher John Rajchman, for example, uses Deleuze's conception of the virtual in an attempt to theorize virtuality in architecture. Two aspects of the virtual are of special importance for Rajchman. First, the virtual proceeds by differentiation and not by identification. Second, the virtual is about "what should have" or "ought to have been." Using these aspects of the virtual, Rajchman advocates an architecture that explores the singularity of space and "small 'virtual futures,' which deviate from things known, inserting the chance of indetermination."[26] Rajchman thus selectively reads Deleuze's conception of the virtual to theorize architectural singular subjective formal experimentations. By dropping the socio-historical aspect of Deleuze's conception of the virtual, Rajchman also promotes an apolitical and ahistorical architecture.

Another example is the French philosopher Pierre Lévy who is considered one of the main contemporary authorities on the virtual in the digital age. In *Becoming Virtual* published in French in 1995, Lévy stressed that the virtual has little relationship to the false, the illusory or the imaginary. He also emphasized, along with Deleuze, that the virtual should not be opposed to the real. "On the contrary, it is a fecund and powerful mode of being that expands the process of

creation, opens up the future, injects a core of meaning beneath the platitude of immediate physical presence."[27] Here, Lévy also stresses the futuristic aspect of the virtual. Nevertheless, he explores a new dimension of the virtual that prevailed in the digital age, namely displacement. "Virtualization is not a derealization but a change of identity, a displacement of the center of ontological gravity of the object considered."[28] As such, "[t]he principal modality of virtualization is detachment from the here and there."[29] Lévy gives the example of the phone.[30] When I am having a conversation on the phone with a friend, my tangible self is here. Meanwhile, my audible self is there, doubled, on the other side of the phone conversation. I am actually here and virtually there. One can add to this example that if my voice is recorded there on an answer machine, I am doubled in both space and time. Thus, the virtual displacement is both spatial and temporal. In virtual environments like the ones discussed in Chapter Four, thousands of users are virtually doubled there. The concept of being there or presence is further discussed in that chapter.

Other contemporary scholars theorize the virtual as an interpretive tool or as a technical construct or both. The sociologist Rob Shields, for example, uses the virtual to interpret ancient and contemporary cultures, arguing that virtuality was always part of human culture.[31] Shields gives the example of the debate between the Church and Reformation theologians concerning the Christian Eucharist—the conversion (transubstantiation) of bread and wine into the body and blood of Christ. The Church insisted that the transubstantiation was actually real, material body and blood. Reformation theologians argued it was virtually real.[32] While this example is metaphysical, Shields also uses an example where the virtual is understood as a technical construct aimed at producing an illusion, namely Baroque art and architecture. The Baroque church ceiling, according to Shields, draws the viewer "into a spectacle which transcends the everyday spaces of the temporal world, at the same time pushing that participant away as a 'fallen' mortal."[33] For Shields, Baroque spaces are among the most interesting virtual environments in history, preceding the contemporary interest in digital virtual environments.

Another example is the art historian David Summers who also uses the virtual as a new method for interpreting art. For Summers, visual arts are spatial arts comprising two fundamental categories, real and virtual spaces. Real space is the physical properties of a work of art, for example a painting or a sculpture, which suggest in the subjective mind an imagined or illusory space. Virtual space, on the other hand, is this perceived imagined or illusory space.[34] As such, Summers also reduces the virtual to a system of representations.

Regardless of how the virtual is defined, it seems that the convention among scholars is that the virtual expresses itself in a system of representations. Such a position is in accord with Bergson's description of the virtual, discussed above, as something less than the real and more than its representation. In this case, in order to understand virtual place, this study needs to dwell on the concept of representation in general and the representation of place in particular.

## Representation

Representation can be roughly defined as something that stands for something else. For example, a photograph of a given house can be used in real estate marketing instead of the house itself. Thus, the photograph is a representation of the house. The Oxford English Dictionary (OED) provides

three different senses of representation: political, symbolic and cognitive representations. Political representation is when an individual (or a group of individuals) stands for a larger group of individuals. This type of representation is best exemplified by parliament representatives who speak for and act on behalf of the people in their constituencies. Symbolic representation occurs when a symbol stands for an object[35]. An example of symbolic representation is a nation's flag. Mental representation is the formation of ideas (cognition) relating to an object in the mind.[36]

Political representation is out of the scope of this chapter. Mental and symbolic representations seem to be the most relevant types of representation that relate to the topic at hand. However, the philosopher Ludwig Wittgenstein, among others, argues that "it is misleading . . . to talk of thinking as of a 'mental activity.' We may say that thinking is essentially the activity of operating with signs."[37] In order to operate with mental representations of objects and memorize them, I need, at least, to name them. As such I must use words which do not have private meanings independent of their public use.[38] Thus, it is hard to draw a clear distinction between mental and symbolic representations.

I defined representation earlier as something that stands for something else. This definition implies a persistent relation between a representation and the object it represents. This relation is sometimes called a relation between a reference and a referent or, from a linguistic perspective, a sign and a signified. The assumed purpose of representation is to reproduce an object in a subjective mind. The primary criterion of evaluation, therefore, is faithfulness to this object, or simply put, accuracy. Thus, at least three concerns emerge: (1) the ontological status of the represented object, (2) the type and medium of representation and the ways in which they are socially constructed, interpreted and deployed, and (3) the perceived accuracy with which the medium represents the object in question.[39]

Nevertheless, the accuracy or truthfulness of the relation between representation and objectivity is historically problematic. Friedrich Nietzsche argues that there is no truth in representation; it is a lie.[40] Ferdinand de Saussure argues that there is no truth in it on any rigorous epistemic base so it belongs to the domain of semiology.[41] And Michel Foucault claims that it is an expression of historical or political forces; a matter of power.[42] Jean Baudrillard, in his famous essay *The Precession of Simulacra*, historicized four successive phases of representation that led to the so-called the crisis of representation.[43] The first phase was when representation referred to a "profound reality."[44] Baudrillard here referred to reality as construed by the Catholic Church in Western Europe. This profound reality might have been challenged sometimes by advances in science, yet the Church kept its control of a meta-narrative of reality till the dawn of the Enlightenment. The second phase, characteristic of the Enlightenment and Modernity, was when representation was thought to "mask or denature a profound reality."[45] During this phase, the West, in the name of rationality, rejected the Church's meta-narrative of reality. Instead, the West was in search of an objective reality hidden behind deceptive appearances. In the third phase, according to Baudrillard, representation masked "the absence of a profound reality."[46] Baudrillard here, along with Jean-François Lyotard, referred to the Postmodern condition where any meta-narrative of reality commanded by science or by the Church is dismissed in favor of micro-narratives.[47] As such, there is no profound reality that legitimate representation in postmodernity.

Baudrillard then described a fourth and last phase when a crisis of representation emerged. He claimed that today representation "has no relation to any reality whatsoever: it is its own pure simulacrum."[48] This is when representation is taken for the object itself. But since this object is absent (the third procession), representation becomes a simulacrum that acts as a model of "a real without origin or reality: a hyperreal."[49]

Representation, as such, is socially and historically constructed. It depends on the time and the society in which it is deployed and on the conceptual and practical frameworks within which it is located. For example, a century ago, photographs were valued as documents of unquestioned authenticity.[50] Today, at least in the affluent West, this is not the case anymore. Thus, an understanding of representation as "standing for" something else becomes questionable and mostly problematic. Consequently, some scholars are currently interested in a non-representational theory of perception that depends on the affect rather than the known.[51] Yet, the focus of this study is the representation of place.

## Representing Place

The question concerning the representation of place is not that it happens because there is no such a thing as an unrepresented place.[52] The question is how it happens, which raises two concerns. First, representation tends to signify one interpretation of the place and to erase the others. Second, representation tends to have a formative effect on the signified place.

### Erasure

Postmodern place is understood as inter-subjective and heterogeneous. It has a multiplicity of meanings depending on the specificity of the individual, the society, and the time in which it is interpreted.[53] Representation fixes the meaning of place according to its producer's time and worldview. Such a producer can be an individual (e.g., a painter) or a group of individuals (e.g., the dominant class). For example, Chapter Two discussed the case of Colonial Williamsburg, the reconstruction of the eighteenth century historic district of the town of Williamsburg, Virginia. The reconstruction contains more than just the physical buildings and natural environment: the tangible heritage. Colonial Williamsburg also employs actors to play the roles of eighteenth century inhabitants of the town. These actors recreate the intangible heritage of the site, and attempt to recreate the meaning of the place. In the early 1970s, this historical recreation of Colonial Williamsburg was criticized as elitist as it ignored the harsh reality of the life of black Americans in the colony.[54] In response to these critiques, the curators of Colonial Williamsburg sought to incorporate African-American history into the site. However, much of this was, as the curators put it, "conjectural;" that is, the history and material culture of such a marginalized group did not survive in a form that is readily accessible to us in the present. Thus, another critique arose after the interleaving of "conjectural" black history into the site. The effect of juxtaposing the dominant history of the white colonists with a "conjectural" black history created an interesting, and disturbing, paradox: the museum, by including a black history that is "conjectural" implied that mainstream, dominant history is "actual." In other words, the inclusion of a previously excluded group worked to ensure the legitimacy of the mainstream, dominant history by making it seem

more real and truthful than the history of other groups.[55] At Colonial Williamsburg, one interpretation of the historic place is signified and other interpretations are at least diminishing in importance.


## Formation

The inherently selective nature of representing place is not its only problem. Edward Casey points out a process he calls "re-emplacement." According to Casey, the act of representing a place, for example in a painting or a map, is an act of a re-emplacement of this place. It is a subjective act in which one tries to reinstate the meaning of a place in a representational medium. Re-emplacement connotes displacement. The reinstated meaning of place is reinterpreted in a different place by a different society at a different time, resulting in a formative effect on the meaning of the place.[56] For example, Nezar AlSayyad discussed his anecdotal experience in which an American colleague of his was very disappointed when he visited the Sphinx on the Giza plateau, Egypt. The American scholar thought that the Sphinx was too small. The reason is, as AlSayyad suggested, that the aforementioned scholar teaches at the University of Nevada, Las Vegas. He was accustomed to park his car in the famous Luxor Hotel, at the lot that faced the three-times-enlarged Sphinx at the hotel entrance.[57] The representation of the Sphinx in Las Veags had a formative effect on the ways in which this American scholar perceived the actual Sphinx in Giza.

Yet, the formative effect of representation is not limited to the social, historical and spatial conditions in which a representation of place is perceived. Technical characteristic of representations are also at play, namely medium, type and style. To clarify the difference these three characteristics, architectural representations can be used as an example. The types of architectural representations include drawings, physical models, computational models, etc. Each of these types includes several sub-types. For example, drawings can be conceptual sketches, orthogonal projections, perspectival constructions, etc. Architectural representations also use different media, for example pen on paper, foam boards, computer aided drafting (CAD) systems, etc. Last, each representation has an intrinsic style that depends on the agency of the architect and the socio-historical conditions in which the representation is produced. For example, orthogonal projections produced by students in the École des Beaux Arts, Paris, are of a different style when compared to representations of the same type and medium produced by students at the Bauhaus, Desseau. The art historian Ernst Gombrich showed in his seminal work *Art and Illusion* that the media, types and styles of representations all place limits on the ways artists and architects express their ideas.[58] Or as Mark Hewitt puts it in the context of architectural drawings, "[t]he parameters of drawing itself may have a powerful impact on building form, even though, in theory, the mind's conceptual powers are limitless."[59] Style falls outside the scope of this study which, in the following sections, will focus on medium and type of representations of place.


### *Medium*

One concern is that the medium itself is inherently selective in its signification depending on its technical affordances. For example, a photograph does not afford sound, a film does. The medium is also socially constructed and the way in which it is perceived has an impact on the meaning it

conveys. For example, a photograph typically suggests an actual event while a painting suggests artistic expression. Therefore, a re-emplacement of place through representation can entail a change of meaning depending on the medium, type and style of the representation, and on the time and the society in which the representation is deployed.

Representations are typically mediated. When I talk, I represent my ideas through language. Language is the medium for the expression of my ideas. Yet, philosophers, linguists and literary critics have argued, for quite some time now, against the neutrality of language.[60] Heidegger, for example, famously argued that "[m]an acts as though *he* were the shaper and master of language, while in fact *language* remains the master of man."[61] Language, hence, at least partially determine the way a place is represented. Media theorists have also detailed how text has its limitations which typically emerge when a textual narrative is appropriated into a different medium. An example of this dissonance that relates to the concern of representing place is when a novel (textual representation) is appropriated for the stage (spatial representation). A novel, according to H. Porter Abbott, is full of gaps in its prose narrative and "[t]here is no way that a narrator can avoid calling on listeners or readers to help bridge one gap after another." [62] On stage, however, the novel's characters are alive and actions unfold in actual time, and as Abbott continues, "[w]hat happens is that many of these narrational gaps disappear. This is what happens on stage. The difference in effect is great."[63]

The choice of tools for the expression of ideas has a formative effect. Friedrich Kittle argues that not only do people operate upon media, but media also operate upon people.[64] Perhaps the most famous statement of this effect comes from the philosopher and prolific writer Friedrich Nietzsche, "[o]ur writing tools are also working on our thoughts."[65] Thus, transitions across time and space, from oral discourse to writing,[66] from hand copying manuscripts to the printing press, from pen to typewriter, to name a few, have all been transformative moments in the way we think about the world. Representation tools used by architects are not an exception.

Architects use sketches as a primary medium for representing place. They employ a pen and a paper to express their ideas. These are tools that mediate their thoughts and the ways in which their representations are perceived by the public. Such mediations are twofold. First, the medium has an impact on the ways representations are conceived. Second, the medium impacts the ways a representation is perceived. This process largely depends on the affordances of the medium but also on the ways in which the medium itself is socially constructed and perceived.

In architecture, many scholars addressed the concern that the representation medium has an effect on the produced design. Iain Fraser and Rod Henmi argue that "drawing is not a transparent translation of thought into form, but rather a medium which influences thought just as thought influences drawing."[67] Anyone familiar with sketching knows that drawing with a pencil is not the same as drawing with charcoal. Historically, Robin Evans argues that seeing buildings through paper—as opposed to models—had a formative effect on the architecture of the Renaissance and Neoclassicism.[68] According to James Smith Pierce, Renaissance architects preferred the pen which afforded the distinct outlining of individual elements, integral to Renaissance compositions. High renaissance architects used washes, emphasizing masses. Nevertheless, boundaries were still emphasized using the pen. By the seventeenth century, architectural representations in Italy employed only the brush signifying the play of light and shadows on facades. Details receded in

significance and the total effect was emphasized.[69] While the use of the pen is still popular today, most representations of place today are digital, including maps, images and three-dimensional models.

The formative effect of the digital medium is of special interest to the discipline of new media studies. Yet, many new media scholars confuse the representation medium with the representation type, often reducing both to one. For example, in her introduction to *The New Media Reader*, Janet H. Murray argues that it is hard to conceive of such a digital medium as one medium because many "media" can be identified under the digital medium rubric that have little in common, including virtual reality CAVEs,[70] the Internet, video games, etc.[71] Murray's examples are all different types of representation expressed using the digital medium.

In terms of the technical affordances of the digital medium, the convention is to refer to the mathematician Claude E. Shannon's information theory as the first attempt to understand the effect of the medium on the message. In a seminal paper originally published in 1948, Shannon described a model for the transmission of information that became the foundation for both analog and digital communication since its publication (Figure III-1).[72] The model comprises an information source (a person) that produces a message, a transmitter that transforms the message into a signal, a channel (a medium) that carries the signal, a receiver that transforms the signal back into a message, and finally a destination (another person) that receives the message. According to this model, the process of transforming the message into a signal and back into a message, or using Shannon's technical terms, the process of encoding and decoding a message, unavoidably includes a loss of information. Moreover, the transmission of the signal through the medium is typically affected by noise, that is the received signal is not necessarily the same as that sent by the transmitter. Thus, most of Shannon's paper discusses algorithms designed to insure the best possible "lossless" transmission. In other words, Shannon indirectly argued, using mathematics, that a digital medium has an effect on the message it carries.
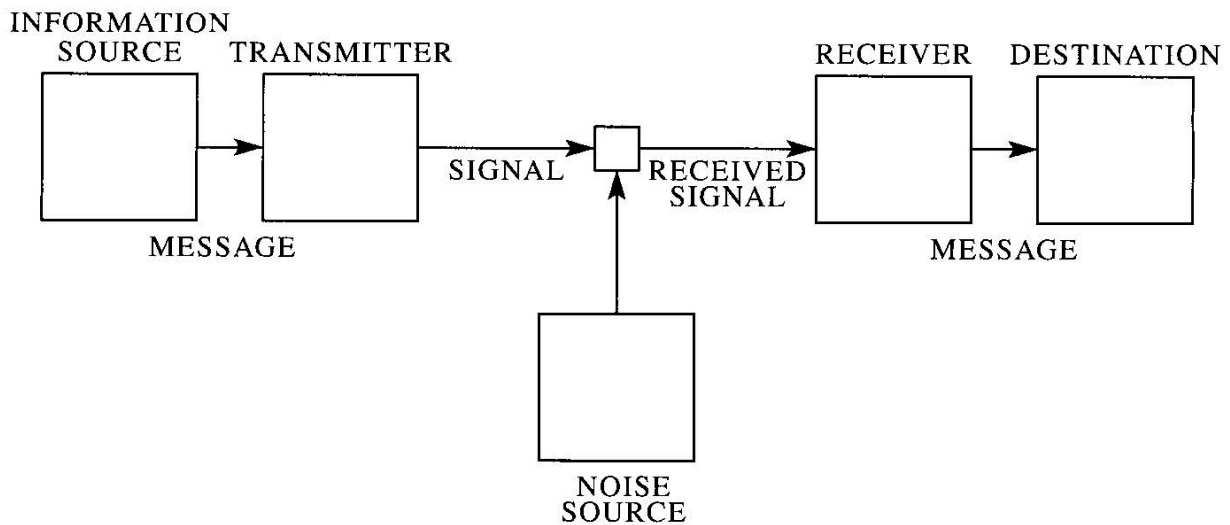


Figure III-1: A schematic diagram of Shannon's information theory.

Nevertheless, it was Lev Manovich who is credited for the first systematic analysis of the impact of new media on representation. In *The Language of New Media*, a book that is considered by now a classic, Manovich identified five characteristics for new media, namely numerical representation, modularity, automation, variability, and transcoding.[73] First, all new media objects are numerical representations. Whether they are created from scratch using computers or converted from analog media sources, such objects are digital code. As such, they can be described formally (mathematically) and they are subject to algorithm manipulation. For example, a digital image is comprised of digital code and can be described using a mathematical function. Moreover, an algorithm can be applied on the image to, for example, improve its contrast. Second, all new media objects are modular. For example, a digital image is comprised of a large matrix of pixels where each pixel maintains its separate identity. A digital image can in turn become a modular for another new media object, for example, a digital movie. Third, based on the first two characteristics, the creation, manipulation and access of new media can be automated. As such, humans can be at least partially removed from the creative process. For example, tools for architectural generative modeling (sometimes called morphogenesis) automatically produce three-dimensional digital objects from an initial set of abstract mathematical constrains set by the architect. Fourth, also based on the first two characteristics, new media objects are characterized by their variability. They can exist in different, potentially infinite, versions. Media objects are typically stored in databases to which, a number of different interfaces can be created, allowing a user to access the content of her choice or as suggested by a computer that tracks her choices. Another aspect of this characteristic is the scalability of new media objects, in which different versions of the same media object can be generated at different sizes and levels of details. An example of this characteristic is online maps, which can be scaled by the user to the desired level of details. The last characteristic of new media, according to Manovich, is transcoding, which is the most relevant characteristic of new media in terms of its formative effect on representation.[74]

In technical terms, to transcode something is to translate it into another format. Manovich uses the term to refer to the translation between digital logic and culture. According to Manovich, on one level, new media objects represent cultural objects that make sense to human users. For example, a features in a digital image are recognizable objects that can be analyzed in the contest of other images in terms of perception, semiotics and cultural production. The same example can be used for virtual places which are discussed in details in the next chapter. On another level, these representations are computer files structured according to digital logic. For example, a digital image consists of a machine-readable header, followed by numbers representing the red-green-blue (RGB) color value of each pixel. At this level, a digital image is understood as file size, file type, file format and compression, etc. According to Manovich, we should expect the second level—digital logic—to have an influence on the first level—cultural logic:

> Since new media is created on computers, distributed via computers, stored and archived on computers, the logic of a computer can be expected to significant influence on the traditional cultural logic of media. That is, we may expect that the computer layer will affect the cultural layer. The ways in which computer models the world, represents data and allows us to operate on it; the key operations behind all computer programs (such as search, match, sort, filter); the conventions of HCI—in short, what can be called computer's ontology, epistemology and

pragmatics—influence the cultural layer of new media: its organization, its emerging genres, its contents.[75]

As such, Manovich thinks that there exist a two-way relationship between cultural logic and digital logic. "To use another concept from new media, we can say that they are being composited together. The result of this composite is the new computer culture: a blend of human and computer meanings, of traditional ways human culture modeled the world and computer's own ways to represent it."[76] The effect of digital logic on culture has been studied by many scholars before and after Manovich.

Technology, defined as the making, usage and knowledge of tools, mediate our representations. Most scholars argue that such a process is never neutral. For example, Martin Heidegger argues that technology frames our knowledge. Through technology, a phenomenon can be revealed, concealed or changed.[77] Thomas Kuhn identifies technology as an instigator of paradigm shifts.[78] Bruno Latour thinks of technology as a "full-fledged social actor."[79] Thus, whether in science or in everyday life, the tools that we create and use have a formative effect on the ways in which we perceive the world. Thus, just as Kittler details how relatively new media technologies such as the gramophone, film, and typewriter shattered the hegemony of the printed word in the late nineteenth century,[80] in the twenty-first century, computer generated three-dimensional virtual environments have the potential to create similar shifts.[81] We can thus expect that these new technologies (new media), following Manovich, will challenge and change the way we think and represent ideas much like those key transformative moments in the past.

Historically, according to Paul Edwards, digital logic started to influence American military and the academe during World War II and continued till today.[82] In 1940, Vannevar Bush, an engineer who was also the president of the influential Carnegie Institution, sold President Franklin D. Roosevelt on the idea of attracting scientific research in the service of warfare. The National Defense Research Committee (NDRC) was created with Bush as chairman. Within a year, the NDRC became the Office of Scientific Research and Development (OSRD) which employed the brightest scientists from the U.S. and Europe for secret research on military applications, most notable of them at the time was the radar and the atomic bomb. Bush was also instrumental in the creation of the National Science Foundation (NSF) in 1950.[83] From the creation of NDRC till the 1960s, the U.S. Department of Defense was the single most important driver of research on digital computers. Bush himself was interested in theories of automata which he expressed in his essay *As We May Think* first published in 1945, including ideas that can be seen now as predecessors for personal computers, the Internet and speech recognition.[84]

Much of academic research in the U.S. in the two decades that followed WWII was oriented toward automation and artificial intelligence for military purpose. The premises that underlined this research program were heavily influenced by Bush and a group of mathematicians who worked in OSRD projects at different times including, to name a few, Norbert Wiener and John von Neumann.[85] Their influence exceeded the disciplines of the natural sciences and engineering to include, in different ways, the humanities and the social sciences, architecture included.[86]

Two important premises underlined this research program. The first is a foundational principle in mathematics called the axiomatic principle. Based on this principle, a phenomenon is to be

understood in terms of its elementary parts. These elementary parts are to be treated as "black boxes" the inner structure of which need not to be disclosed but which behave in a very determined and predictive way.[87] The rules are important; the content is not. For example, in a mathematical equation, the value of variables is not important. What is important is the rule that govern the relation between these variables.[88] Based on this premise and because of it, school of thoughts like behaviorism and cognitivism received major research fund and gained ground in many disciplines in the humanities and the social sciences for they seemed to explain the mind and society in ways compatible with the principles of computation.[89]

The second premise is a belief that any phenomenon that can be defined logically and unambiguously in a finite number of words can also be described using axioms, and hence by a computing machine.[90] Accordingly, a matching research agenda that aims at reading world phenomena as language emerged in many disciplines, including Nelson Goodman's "Languages of Arts" and Noam Chomsky's (Goodman's student) "Universal Grammar."[91] Such scholarship may not have necessary been funded my military research but it was preconditioned by the academic environment created by such funding.

The impact of this research program on architecture was the emergence of design methods as a research field. At least the first generation of research in this field aimed at analyzing architectural design axiomatically. For example, in *Notes on the Synthesis of Form*, Christopher Alexander tried to decompose architectural design into its elementary parts. He then black-boxed the parts and focused on the relations that govern them.[92] Another example is George Stiny analysis of architectural shapes as language in his Shape Grammar Theory.[93] Later, Alexander parted from his earlier work and tried to escape the determinism of language by investigating architecture's "quality without a name."[94]

While the field of design methods is disappearing from most academic programs today, it had a major offshoot that has a significant impact on architecture theory and practice that persisted till today: the emergence of Computer Aided Design/Drafting (CAD).[95] CAD and computation in design are where one can still find research on design methods today, especially in research on collaborative design, building automation and virtual places.[96]

From the 1970s till mid-1990s, Computers and CAD systems were expensive and only few architectural firms could afford them. Nevertheless, their effect on architecture theory and practice was deep. CAD started as a more accurate and efficient replacement of conventional drawing methods.[97] Yet, in accordance with Marshal McLuhan's dictum: "the content of any medium is always another medium,"[98] architects did not initially use CAD for design. They typically designed using conventional media and turned to CAD after the design process was over to produce polished visualizations for their clients.[99] Yet, overtime and with the cheap and ubiquitous adoption of computers in practice since the late 1980s, architects started to become aware of other potentials of CAD. To some degree, the long revered manual skills of architects became obsolete. Together with developments in network technologies, CAD also changed the ways documentations, specifications and reports are produced and communicated.[100]

By the 1990s, computer became cheaper and architectural CAD systems started to afford more complex geometries, copying from more advanced systems in the aviation, the automobile and the

film industries.[101] Architects first experimented with the affordances of CAD as a design tool in which they sought geometries inconceivable in conventional representations. Greg Lynn, for example, was among the first who tried this route, starting a new trend that was sometimes labeled "hypersurface" architecture and sometimes "blob" architecture. At the same time, architects also experimented with the affordances of computer aided manufacturing (CAM). For example, CAM transformed the practice of Frank Gehry, catapulting him to the forefront of architectural stardom.[102]

The latest trend of computation in design is labeled "morphogenesis" or "generative modeling." The term "morphogenesis," according to Neil Leach, originated in biological sciences, referring to "the logic of form generation and pattern-making in an organism through processes of growth and differentiation."[103] In architectural discourse, morphogenesis designates "an approach to design that seeks to challenge the hegemony of top-down processes of form-making, and replace it with a bottom-up logic of form-finding."[104] Leach's description with its focus on growth and differentiation, echoes Rajchman's philosophy of the virtual in architecture discussed above and in which Rajchman appropriates Deleuze's conception of virtual multiplicity. At the outset of this design approach, the only problem that concerns the architect is the formal aspects of design. Based on an abstract set of mathematical parameters and within a predetermined space for solutions defined by code, the digital medium is expected to automatically and randomly produce forms.

The above discussion shows that the medium has a formative effect on the ways a representation is produced and perceived. However, the medium is only one component of representations. The following sections argue that the type of representation has a similar formative effect.

*Type*

There exist many schools of thought that address the ways in which types of representation can be analyzed. Scholars like the media theorist Marshall McLuhan and the semiotician Roland Barthes stress that the meaning of any representation does not exist alone. It is always in constant interplay with other representations.[105] The art historians Erwin Panofsky and Ernst Gombrich argued that for images, primary meanings are perceived on the basis of the observer's ordinary experience. Secondary meanings are revealed according to an observer who possesses the necessary education and worldview to grasp such meanings.[106] For a sociologist like Bourdieu, this phenomenon becomes a way to express cultural competence and social distinction.[107] Thus, the meaning of a representation of place depends considerably on which type of representation is employed and the ways in which such a type is conceived and socially perceived.

A place may have different meanings when represented in pure elevation, in axonometric, or in perspective views. The meaning also changes according to the eye-level view from which a representation is produced. A normal eye-level view differs from bird's-eye view or projections showing the building as though seen from beneath the ground (worm's-eye view). According to Pierce, orthogonal projections typically emphasize structure rather than exact appearance. They also imply objectivity and scientific rigor since, unlike perspective constructions, measurements can be taken directly from drawings.[108] Drawings seen from a bird's-eye view, either in parallel

projections or in perspective constructions, signify a place that is removed from the experience of the viewer. The removal effect is stronger when the object depicted is a building with no or little clues about its surroundings. Perspective constructions in which a place is seen at eye-level view signify the subjective relation of the place to the perceiver, especially views in which the place is represented at an angle and not frontally and symmetrically. Even the location of the station point of a perspective construction has an impact on the perception of place. When a place is depicted at sharp angles, a near view usually signifies monumentality.[109]

Historians have discussed many examples in which a change in the representation type has change the ways in which place is conceived and perceived. The most outstanding of these examples is Raphael's systemization of orthogonal architectural drawings. By the year 1514, Raphael was commissioned by the Pope Leo X to draw the ancient monuments of Rome and as the chief architect of St. Peter's Basilica after the death of Bramante.[110] Overburdened by many commissions, Raphael had to develop a method that could accurately delegate his architectural intentions to his assistants and to construction sites in his absence.[111] The new drawing method proposed by Raphael was thus superior to older methods that employ linear perspective in terms of precision and applicability in the fields of construction and historic documentation. By adapting the new method, Raphael changed "from an independent artist to the head of a large-scale cultural operation."[112]

According to the art historian Wolfgang Lotz, the new methods also had an impact on how architects designed a place and how the place itself was perceived. Lotz compared Bramante's and Raphael's designs, namely Raphael's Chigi Chapel in Santa Maria del Popolo and Bramante's choir in the same church almost a decade later.[113] Both architects were contemporaneous and both were commissioned at some point of time as chief architects for the St. Peter's Basilica, the largest and most prestigious architectural commission of their time. Bramante used the old conventions of architectural drawings which employed perspectival (non-orthogonal) sections. As a result, Bramante's design "must be seen as an image in perspective."[114] All parts of the choir are visible from a certain stand point from the altar, from which the perspectival section is constructed (Figure III-2). Raphael's new orthogonal drawing method does not have a stand point from which the chapel can be grasped. "A visitor to the Chigi Chapel must go inside, look about him, and lift his gaze up to the cupola. He needs the cumulative effect of many impressions in order to take in and truly comprehend the chapel interior" (Figure III-3).[115]

Figure III-2: General view of the choir at the left side chapel in Santa Maria del Popolo, designed by Bramante. Today, two tombs are to the left and to the right of the choir that were not part of Bramante's design. The design can be comprehended from a single stand point.



Figure III-3: Plan and two views of the Chigi Chapel, designed by Raphael. The interior cannot be grasped from a single stand point.

Beside the formative effect of Raphael's systemization of orthogonal drawings, which shows the formative effect of the adoption of a new type of representations, many other historical examples can be highlighted. Such examples include the emergence of sectional drawings in the Renaissance discussed by Jacques Guillerme and at.,[116] axonometric projections in the 1920s discussed by Yve-Alain Bois,[117] CAD and information technology in the 1990s discussed by Alfredo Andia and Yehuda Kalay.[118]

Moreover, the transition between representations, for example, the translation of thinking into a design solution, into a drawing, into a model, into a space, entails a transformation of meaning. Nevertheless, in architectural discourse, a distinction is always made between design representations, which are mostly based on projective geometry, and the building itself. In other words, the representational continuum described above is somehow ruptured when projective geometries are translated into actual spaces during construction. Little attention is paid to the transformation of meaning—the mediation process—caused by construction.[119] The specificities of the social and historical context within which a space is constructed determine the way it is perceived, regardless of the designer's intentions.

An understanding of how different types of conventional representations are perceived is central to this dissertation, especially for its concern with virtual reconstructions of place using a digital medium. In the above discussion of the medium, I quoted the media theorist Marshal McLuhan's famous dictum that "the content of any new medium is always another medium."[120] The term "content" here can be understood as representation type. Typically, McLuhan's dictum holds true for a while until users realize new potentials for the new medium. At this point, relatively new content is generated.[121] For example, since its invention, the content of the Internet was always text, using the page metaphor (webpage). Only with the advance of technology and a realization of the potentials of the Internet that new content was generated, including the type of representation at hand: virtual places. The content of virtual places, in turn, is old content. It is mainly comprised of prespectival constructions depicted using cinematography techniques, maps, text and audio conversations. All these representation types are historical and socially constructed prior to their use in the new medium. As such, they predispose users to perceive the environment in certain ways. Yet, as McLuhan suggested in 1964, "electric extensions of ourselves by-pass space and time and create problems of human involvement and organization for which there is no precedent,"[122] the next chapter argues that new ways of perceiving place emerge in digitally constructed virtual places that may not have a precedent in actual places.

Regardless of its medium and type, representation exercises a formative effect on the meaning of place. As such, this chapter concurs with the philosopher Jeff Malpas when he claims:

> no attempt to recreate a place elsewhere can ever be successful as a recreation of 'that' place, since the identity of the place is itself tied to its specificity and singularity, and the very attempt at 'recreation' marks off the 'recreated' place from the original—similarly no such 'recreation' can ever do justice to the original sense of place at issue.[123]

## Conclusion

This chapter concerns itself with the question of the virtual. It argues that, at least from a theoretical perspective, the boundaries between actual and virtual places are very porous. Such a conclusion is based on an analysis of a theoretical nexus, the work of the French philosopher Henry Bergson who exercised a deep influence on both the literature on place and on the virtual. Nonetheless, this chapter acknowledges that this conclusion is contingent on an understanding of the virtual through the lens of Bergson's philosophy and may have little in common with how the virtual is perceived in popular culture or in some academic disciplines.

Outside theory, the virtual is understood as a system of representations that aims at deceiving the eye into an illusory or imagined reality. However, this chapter shows that conceiving of the virtual as such, brings to the forefront the question of representing place. While postmodern place is understood as heterogeneous and imbued of a multiplicity of meanings, representations of place typically signify one meaning and ignore the others. Moreover, they tend to have a formative effect on such signified meaning.

The main concern of this dissertation is virtual reconstruction of places using the digital medium. The next chapter explores the technical affordances of such a representation and the ways in which it is perceived by its users.

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[1] For more on the different schools of perception, see for example: Alva Noë and Evan Thompson, eds., *Vision and mind: selected readings in the philosophy of perception* (Cambridge, Mass.: MIT Press, 2002).

[2] Deleuze's doctoral dissertation, which he published later as a book, was about the philosophy of Bergson. See: Deleuze, *Bergsonism*. Because of Deleuze's fame and explicit use of Bergson concepts, many agree that he single handedly reawakened the interest in Bergson's philosophy. See, for example, Lawlor and Moulard, "Henri Bergson."

[3] Lawlor and Moulard, "Henri Bergson."

[4] Henri Bergson, *An introduction to metaphysics* [La pensée et le mouvant (1934)], trans. T. E. Hulme (New York and London: G. P. Putnam's sons, 1912). 57.

[5] Ibid.

[6] Ibid.

[7] Ibid.

[8] Keith Ansell-Pearson, *Philosophy and the adventure of the virtual: Bergson and the time of life* (London; New York: Routledge, 2002).

[9] Henri Bergson, *Matter and memory* [Matière et mémoire (1896)], ed. J. H. Muirhead, trans. Nancy Margaret Paul and M. E. Dowson, Library of philosophy (London; New York: G. Allen & Co.; Macmillan, 1929).

[10] Ibid., 30.

[11] Ibid.

[12] Ibid., 53-54.

[13] Ibid., 58.

[14] Deleuze, *Bergsonism*: 17.

[15] Ibid., 25.

[16] Lawlor and Moulard, "Henri Bergson."

[17] Deleuze, *Bergsonism*.

[18] Daniel Smith and John Protevi, "Gilles Deleuze," in *The Stanford Encyclopedia of Philosophy*, ed. Edward N. Zalta (Stanford, CA: The Metaphysics Research Lab, Center for the Study of Language and Information, 2008).

[19] Ansell-Pearson, *Philosophy and the adventure of the virtual: Bergson and the time of life*: 15.

[20] Smith and Protevi, "Gilles Deleuze."

[21] Gilles Deleuze, *Difference and repetition* [Différence et répétition (1968)], trans. Paul Patton, European perspectives (New York: Columbia University Press, 1994).

[22] Ansell-Pearson, *Philosophy and the adventure of the virtual: Bergson and the time of life*: 72.

[23] Deleuze, *Bergsonism*: 25.

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[25] Steve Jones, "Virtual," in *New keywords: a revised vocabulary of culture and society*, ed. Tony Bennett, et al. (Malden, MA: Blackwell Pub., 2005).

[26] John Rajchman, *Constructions*, Writing architecture (Cambridge, Mass.: MIT Press, 1998). 9.

[27] Pierre Lévy, *Becoming virtual: reality in the Digital Age* [Qu'est-ce que le virtuel? (1995)], trans. Robert Bononno (New York: Plenum Trade, 1998). 16.

[28] Ibid., 26.

[29] Ibid., 27.

[30] Ibid., 39.

[31] Rob Shields, *The virtual*, Key ideas (London; New York: Routledge, 2003).

[32] Ibid., 5-6.

[33] Ibid., 8.

[34] David Summers, *Real spaces: world art history and the rise of Western modernism* (London; New York, NY: Phaidon Press, 2003).

[35] I use the term "object" here to refer to an object of knowledge. As such, an object can refer to a thing, a person, a group of persons or a concept.

[36] Anne Freadman, "Representation," in *New keywords: a revised vocabulary of culture and society*, ed. Tony Bennett, et al. (Malden, MA: Blackwell Pub., 2005), 306-07.

[37] Ludwig Wittgenstein, *Preliminary studies for the "Philosophical investigations": generally known as the Blue and Brown books*, Harper torchbooks. Academy library (New York: Harper and Row, 1965). 6.

[38] Wittgenstein, *Philosophical investigations*: 93-100.

[39] Paul Tibbetts, "Representation and the realist-constructivist controversy," *Human Studies* V11, no. 2 (1988).

[40] Friedrich Wilhelm Nietzsche, "On truth and lying in an extra-moral sense (1873)," in *Friedrich Nietzsche on rhetoric and language*, ed. Sander L. Gilman, Carole Blair, and David J. Parent (New York: Oxford University Press, 1989).

[41] Ferdinand de Saussure, *Course in general linguistics*, ed. Charles Bally and Albert Sechehaye, trans. Wade Baskin (New York: Philosophical Library, 1959).

[42] Foucault, *The order of things: an archaeology of the human sciences*.

[43] Jean Baudrillard, "The precession of simulacra," in *Simulacra and simulation*, *The Body, in theory* (Ann Arbor: University of Michigan Press, 1994).

[44] Ibid., 6.

[45] Ibid.

[46] Ibid.

[47] Jean-François Lyotard, *The postmodern condition: a report on knowledge* [La condition postmoderne: Rapport sur le savoir (1979)], trans. Geoff Bennington and Brian Massumi, Theory and history of literature v. 10 (Minneapolis: University of Minnesota Press, 1984). 7-8.

[48] Baudrillard, "The precession of simulacra," 6.

[49] Ibid., 1.

[50] John Tagg, *The burden of representation: essays on photographies and histories* (Minneapolis, Minn.: University of Minnesota Press, 1993).

[51] See for example: Nigel Thrift, *Non-representational theory: space, politics, affect*, International library of sociology (Milton Park, Abingdon, Oxon ; New York, NY: Routledge, 2008).

[52] See for example: Edward S. Casey, *Representing place: landscape painting and maps* (Minneapolis: University of Minnesota Press, 2002); Lefebvre, *The production of space*.

[53] See Chapter Two.

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[60] See for example: Wittgenstein, *Philosophical investigations*; George Lakoff and Mark Johnson, *Metaphors we live by* (Chicago: University of Chicago Press, 1980).

[61] Heidegger, "Building dwelling thinking," 146.

[62] H. Porter Abbott, *The Cambridge introduction to narrative*, 2nd ed., Cambridge introductions to literature (Cambridge; New York: Cambridge University Press, 2008). 121.

[63] Ibid.

[64] See the Geoffrey Winthrop-Young and Michael Wutz's introduction to their translation of Friedrich A. Kittler, *Gramophone, film, typewriter* [Grammophon, Film, Typewriter], trans. Geoffrey Winthrop-Young and Michael Wutz, Writing science (Stanford, Calif.: Stanford University Press, 1999). xxii.

[65] Ibid., 20.

[66] Most famously cited is Plato's *Phaedrus*. See, ibid., xiii.

[67] Iain Fraser and Rod Henmi, *Envisioning architecture: an analysis of drawing* (New York: Van Nostrand Reinhold, 1994). viii.

[68] Robin Evans, *The projective cast: architecture and its three geometries* (Cambridge, Mass.; London: MIT Press, 1995). 107-21.

[69] James Smith Pierce, "Architectural Drawings and the Intent of the Architect," *Art Journal* 27, no. 1 (1967).

[70] CAVE stands for Cave Automatic Virtual Environment and refers to a digital immersive technology popular during the 1990s. It refers to an immersive virtual reality environment where projectors are directed to three, four, five or six of the sides of a room-sized cube. CAVE is also a reference to "the Simile of the Cave (receptacle)" found in Plato's *Republic*, where a philosopher contemplates inferred reality from projections on the cave wall. See: Carolina Cruz-Neira, Daniel J. Sandin, and Thomas A. DeFanti, "Surround-screen projection-based virtual reality: the design and implementation of the CAVE," in *Proceedings of the 20th annual conference on Computer graphics and interactive techniques* (Anaheim, CA: ACM, 1993).

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[74] Ibid.

[75] Ibid., 63-64.

[76] Ibid., 64.

[77] Martin Heidegger, "The question concerning technology," in *The question concerning technology and other essays*, *Harper colophon books* (New York: Harper & Row, 1977).

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[82] Edwards, *The closed world: computers and the politics of discourse in Cold War America*.

[83] Ibid.

[84] Vannevar Bush, "As we may think," *The Atlantic Monthly* 176, no. 1 (1945).

[85] Wiener is credited for the theory of cybernetics which he developed during WWII as a system to guide British air defense systems against German pilots. Von Neumann is known for game theory. He also had many contributions to the Manhattan Project and to the development of digital computers.

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[87] Morris Kline, *Mathematics, the loss of certainty* (New York: Oxford University Press, 1982). 4.

[88] Max Horkheimer and Theodor W. Adorno, *Dialectic of Enlightenment: philosophical fragments*, trans. Edmund Jephcott, Cultural memory in the present (Stanford, Calif.: Stanford University Press, 2002).

[89] Edwards, *The closed world: computers and the politics of discourse in Cold War America*: 162-65.

[90] John von Neumann, "The general and logical theory of automata," in *Collected works of J. von Neumann*, ed. A. H. Taub (Oxford: Pergamon Press, 1961), 309.

[91] Edwards, *The closed world: computers and the politics of discourse in Cold War America*: 234.

[92] Christopher Alexander, *Notes on the synthesis of form* (Cambridge [Mass.]; London: Harvard University Press; Distributed by Oxford University Press, 1964).

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[95] Alfredo Andia, "Reconstructing the Effects of Computers on Practice and Education during the Past Three Decades," *Journal of Architectural Education* 56, no. 2 (2002).

[96] Yehuda E. Kalay, "The impact of information technology on design methods, products and practices," *Design Studies* 27, no. 3 (2006).

[97] See for example: Thomas Chastain, Yehuda E. Kalay, and Christopher Peri, "Square peg in a round hole or horseless carriage? Reflections on the use of computing in architecture," *Automation in Construction* 11, no. 2 (2002); William J. Mitchell, "Roll over Euclid: How Frank Gehry designs and builds," in *Frank Gehry, architect*, ed. J. Fiona Ragheb, et al. (New York: Guggenheim Museum Publications, 2001).

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[100] Andia, "Reconstructing the Effects of Computers on Practice and Education during the Past Three Decades."

[101] Mitchell, "Roll over Euclid: How Frank Gehry designs and builds," 356.

[102] Ibid., 363.

[103] Neil Leach, "Digital Morphogenesis," *Architectural Design* 79, no. 1 (2009): 34.

[104] Ibid.

[105] See for example: McLuhan, *Understanding media: the extensions of man*; Roland Barthes, *Image, music, text*, trans. Stephen Heath (New York: Hill and Wang, 1977).

[106] See for example: E. H. Gombrich, "Image and code: scope and limits of conventionalism in pictorial representation," in *Image and code*, ed. Wendy Steiner, *Michigan studies in the humanities* (Ann Arbor, Mich.: Horace H. Rackham School of Graduate Studies, 1981); Gombrich, *Art and illusion: a study in the psychology of pictorial representation*; Erwin Panofsky, *Meaning in the visual arts*, Phoenix ed. (Chicago: University of Chicago Press, 1955).

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[108] Yve-Alain Bois, "Metamorphosis of Axonometry," [Metamorphosen der Axonometrie.] *Daidalos* 1(1981).

[109] Pierce, "Architectural Drawings and the Intent of the Architect."

[110] Ingrid D. Rowland, "Raphael, Angelo Colocci, and the Genesis of the Architectural Orders," *The Art Bulletin* 76, no. 1 (1994): 83.

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[112] Rowland, "Raphael, Angelo Colocci, and the Genesis of the Architectural Orders," 82.

[113] Lotz, *Studies in Italian Renaissance architecture*.

[114] Ibid., 21.

[115] Ibid., 22.

[116] Jacques Guillerme, Hélène Vérin, and Stephen Sartarelli, "The Archaeology of Section," *Perspecta* 25(1989).

[117] Bois, "Metamorphosis of Axonometry."

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[120] McLuhan, *Understanding media: the extensions of man*: 8.

[121] Chastain, Kalay, and Peri, "Square peg in a round hole or horseless carriage? Reflections on the use of computing in architecture."

[122] McLuhan, *Understanding media: the extensions of man*: 105.

[123] Malpas, "New media, cultural heritage and the sense of place: Mapping the conceptual ground," 206.

# Chapter IV
# Online Virtual Places: A Transgression into the Real

## Introduction

This chapter studies multi-user computed virtual environments as a medium for representing place. These environments, traditionally understood as a genre of computer games, gained significant scholarly attention recently because of the colossal success of electronic games in the last decade. Many historians and design instructors are using these environments now for academic and pedagogic reasons unfolding new ways in which places are interpreted and perceived.

The goal of this chapter is to understand the ways in which places constructed in these environments are perceived and to contrast the findings to available theory on place perception in actual life. For this purpose, the chapter employs a phenomenological lens. There are many schools of phenomenological perception. The two schools of philosophy highlighted in Chapter Two, namely mentalist and existentialist traditions have off shoots in the study of per caption as well as in the study of place. The mentalist approach separates between the subject (the mind) as the seat of the intelligibility of the world and the object of perception or the outside world. The existential tradition, conversely, concerns itself with the social and historical conditions that allow an experience to unfold in a particular way. It seems that lately, existential approaches to the study of virtual environments are becoming more popular among scholars. Paul Daurish explains that

> [A] new perspective on which tangible and social computing rest argues that a disembodied brain could not experience the world in the same ways that we do, because our experience of the world is intimately tied to the ways in which we act in it. Physically, our experiences cannot be separated from the reality of our bodily presence in the world; and socially, too, the same relationship holds because our nature as social beings is based on the ways in which we act and interact, in real time, all the time. So, just as this perspective argues that we act in the world by exploring its physical affordances, it also argues that our social actions are ones that we jointly construct as we go along. A conversation between two people is shaped in response to the moment rather than abstractly planned, in much the same way as a juggler has to respond dynamically to the way in which each ball falls.[1]

The hypothesis that guides this study is that the perception of virtual place is similar to the perception of actual place. It is important to highlight that, unlike conventional ways of representing place, MMOGs afford the simultaneous interaction between hundreds of users with each other and with the environment. The social interactions produced by the presence of others and the history of such interactions condition the ways in which such environments are perceived. This is not to discount the role of technology and the technical affordances of the medium in

perception. Accordingly, both the socio-historic aspects and the technical aspects are equally explored in this chapter.

The first task of this chapter is to challenge the traditional understanding of virtual places as places of play. This problematic view framed academic discourse on the subject in a misleading dichotomy of play versus work, or inauthentic versus authentic lives. Many scholars recently started to deconstruct these distinctions. In the following sections, the chapter situates these environments historically and socially. The aim is to show that these environments are a complex phenomenon that extends beyond the simplistic view of play.

This complexity predisposes longtime users of virtual environments to perceive these environments in ways different than first time users. Based on four years of direct observation of two of the leading massively multi-user online games (MMOGs): Lord of the Rings Online and Second Life, it has become apparent that new users perceive virtual environment in ways similar to the ways they perceive the actual environment. They appreciate the formal and multi-sensory aspects of the environment. Expert users, on the other hand, perceive the environment from a structural and functional perspective and pay less attention to its formal or sensory properties. Understandably, these are not fixed groups since new users are continuously moving toward the advanced users group and, at least theoretically with the current growth of the popularity of these environments, the two groups are merging.

## Electronic Games in the U.S.

Electronic games have enjoyed an enormous success in the last few years. The electronic game industry in the U.S. generated a $38.1 billion in revenue in 2010 with exports valued at $5.1 billion and profits at $2.2 billion. Between 2005 and 2010, the game industry annual growth was 5.7% in average.[2]

A sequel of a popular game called Call of Duty, earned $310 million in North America and the U.K. alone.[3] World of Warcraft, a massively multi-user online game (MMOG) launched in 2004, had 11.8 million monthly subscribers by 2008.[4] Second Life, a free multi-user virtual environment had a population of over two million residents in 2007; roughly 230,000 of them are active users who log in on a recurring basis.[5]

The phenomenal popularity of video games in general and online games in particular has not gone unnoticed. In 2008, the Data Mining Report to Congress, prepared by the Office of the Director of National Intelligence, announced a seedling project named "Reynard" aimed at studying "the emerging phenomenon of social (particularly terrorist) dynamics in virtual worlds and large-scale online games and their implications for the Intelligence Community."[6] In April 2008, Congress had a subcommittee hearing in both Second Life and the actual world, discussing the possibility of Second Life being used by terrorists.[7] On the other side, in 2006, Congress was interested in taxing virtual assets in World of Warcraft and Second Life.[8] During the 2008 U.S. presidential election, Barak Obama purchased advertisements in eighteen different video games[9] and his grassroots supporters campaigned in Second Life.[10]

Thus, it is of no surprise that gaming is a serious research topic across existing academic disciplines. The U.S. army is conducting research on the potentials of MMOGs for warfare.[11] Gaming has also triggered new disciplines like ludology and game development in the humanities and computer science, respectively. Many interdisciplinary conferences worldwide have labels like: state of play, digital culture, ludic culture, etc.[12]

Of special interest is a genre of online computer games and the places they represent; namely MMOGs, the fastest growing sector of gaming representing 14% of the market for online games[13] and 47.6 million active monthly subscribers in 2008.[14]

In recent years, many scholars started to experiment with MMOGs as a new medium for representation. Many architectural programs run architectural design studios in Second Life while some practitioners are using it for remote collaboration with foreign firms.[15] Historians and archeologists also use it to construct or reconstruct places of significance.[16] Second Life currently hosts "islands" companies, universities, research institutions and government offices. The list of Second Life "resident" institutions includes Dell Inc., International Business Machines (IBM), the University of California, Berkeley, Stanford University, Harvard University, the National Aeronautics and Space Administration (NASA), the Central Intelligence Agency (CIA), to name just a very few. The virtual environment also hosts reconstructions of places like Çatalhöyük, Rome and Mecca.

In terms of user numbers and commercial production, MMOGs are predominantly a U.S. and South Korean phenomenon with significant differences between games designed for each country. In this study, I am only interested in American MMOGs as a medium of representing place and the ways in which place is socially and historically constructed, interpreted and deployed. Therefore, South Korean MMOGs are excluded from this study.

I will briefly survey the history of MMOGs as a medium and as a social phenomenon. Then, I will explore the demographics of MMOGs and the ways in which they are shaped by their implementation within the American society. Next, I will look at the affordances of the medium as a technology and as a medium of representation. Finally, I will discuss how place is generally perceived in these MMOGs.


## Massively Multi-User Online Games (MMOG)

There is no consensus on the term MMOG in the game industry nor in academia. Other terms in use include MMO for massively multi-user (or multi-player) online, MMORPG for massively multi-user (or multi-player) online role-playing games, MMOPW for massively multi-user (or multi-player) online persistent world (sometimes: universe), and MUVE for multi-user virtual environments. While some terms in use may suggest a qualitative difference between these terms, actually they all designate one genre of online games. MMOGs are Internet-based computer generated environments that allow a large number of users to interact with each other and with the environment. Some MMOGs are strictly for social interactions (e.g., Second Life and Active Worlds). Others are game-based environments where users interact to achieve structured goals

such as to defeat a monster or reach a destination (e.g., World of Warcraft and Lord of the Rings Online).[17]

In all cases, these environments continue to exist and change due to users' interactions around the clock, even while some users are not in the environment. For example, in a single-user game, if I choose to stop playing the game to have lunch, I can pause or stop the game. The game will be saved on my computer or my game console. I can later start playing the game exactly from where I left it. An MMOG, conversely, is a virtual environment shared by many users. (I will describe the technical aspects of MMOGs later in this chapter.) If I choose to stop playing and leave the MMOG, the game is not paused or saved. Other users are still interacting with each other and with the environment while I am eating my lunch. Depending on the theme of the MMOG, when I am back, I may have missed something that can alter my in-game experience afterward. I may have missed an important conversation. The structure that I started building with my friends may have changed beyond recognition. Or the shared task that I started with my friends is now competed and I did not get credit for it. For that reason, MMOGs are sometimes called "persistent" worlds or universes. If no technical issues are at stake, the environment does not pause at any time and users cannot undo their actions which may have consequences that they must deal with.



Figure IV-1: An image of the "Welcome Area" in Second Life. The image shows avatars interacting in a perspectival construction of space.

Almost all MMOGs ground their social interactions in a realistic or quasi-realistic perspectival representation of space where users are represented as anthropomorphic self-representations called "avatars" (Figure IV-1). MMOG users are required to create an avatar on their first entry to the environment. These avatars are usually gendered and highly customizable. Users typically spend a

considerable amount of time manipulating facial and bodily features and purchasing outfits to make their avatars unique (Figure IV-2). Some game-based MMOGs allow users to select a fictional race for their avatars (e.g., human, elf, dwarf, etc.) and a template role (e.g., mages, warriors, priests, etc.) that have different strengths and vulnerabilities. Over time, continuous game-play also allows for further attunements of avatars through reaching higher levels, gaining advanced skills, acquiring better equipment, etc. The amount of time invested in creating and customizing an avatar, which may be measured in months of game-play, partially explains why most users are strongly attached to their avatars. This is a topic that I will discuss in more details later in this chapter. Yet, The first step to understand the ways in which these environments are perceived is through a brief survey of their history. Such survey accounts for both the technical and social aspects of the development of MMOGs.



Figure IV-2: Second Life allows its users to customize almost every aspect of their avatars. Gaming MMOGs usually offer fewer possibilities for the customization of avatars' look, but in turn give users the possibility to customize avatars' abilities, such as might, agility, etc.

## A Virtual History

The origin of MMOGs is rooted in role-playing games (RPG). The practice of role-playing (RP), defined as the improvised acting out of roles in a specific scenario, can be traced back to the Ancient Greeks.[18] Today, RP exists as both a serious and a ludic practice. As a serious practice it can be seen in professional training, for example, in education, business and the military. The contemporary interest in ludic RP started with the popular rise in the 1970s and 1980s of tabletop

fantasy RPGs, especially a game called Dungeons and Dragons (D&D) which was played by an estimated 20 million people worldwide since its first publication.[19]

In the mid-1970s, computer mediated versions of RPGs emerged under the label multi-user "dungeon" (MUD),[20] a multi-player text-based RPG hosted on private computer networks or on the Internet. MUDs were popular among college students in the U.S. and the U.K. from mid 1970s onward, especially among students in computer science departments. As computational technology advanced, MUDs developed from text-based descriptions of the environment to graphical representations. Hence, early MMOGs were called Graphical MUDs.

The first fully functional Graphical MUD was Avatar, written by a few students in 1979 and deployed on a computer system named PLATO at the University of Illinois.[21] The game was a success among university students to the extent that 6% of all hours spent on the system were dedicated to Avatar.[22] Habitat, released in 1986 by Lucasfilm, was a two-dimensional (2D) environment that supported 16 players connected over a private network (Figure IV-3).[23] It was the first MMOG to use the term "avatar"[24] in the sense currently popular in computer games.[25]



Figure IV-3: A typical scene from Habitat.[26]

The first MMOG to be deployed on the Internet was Meridian 59 in 1996. Trip Hawkins, the chief executive officer (CEO) of the 3DO Company, the company that published Meridian 59, is credited for the terms "massively multi-player" and "3D persistent world" which he used liberally in his efforts to explain the game to the press.[27] Meridian 59 used two-and-a-half-dimensional (2.5D) technology, in which a 2D graphic system represented the environment isometrically so that it appeared to be 3D when in fact it was not. It was deployed on 12 servers; each supported 250 users, who paid a $9.95 monthly subscription. Upon its launch, Meridian 59's user interface, game-play and business model became the prototype for all upcoming MMOGs (Figure IV-4).[28]

In 1997, Ultima Online was released by Origin Systems, a division of Electronic Arts (EA). It was based on a successful single player game that sold five million copies. Ultima Online used a top-down looking 3D graphics and attracted 200,000 subscribers, proving to the game industry that there was a market for MMOGs (Figure IV-5). EverQuest (EQ), launched in 1999 by Sony Online

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Entertainment, had a sustained user base of 400,000.[29] World of Warcraft, originally launched in 2004 by Blizzard Entertainment, had 11.5 million monthly subscribers worldwide by 2008.[30]



Figure IV-4: A typical scene from Meridian 59. The environment and avatars were isometric 2D digital constructions that appear as if they are 3D.[31]

Figure IV-5: A typical scene from Ultima Online.[32]

In four decades of MMOG history, many conventions have settled. Some conventions are historical, some are social and some are technical. Nevertheless, they have an impact on the ways in which the environment is perceived. These conventions are discussed in the following sections, starting by technical conventions and followed by social ones.


## The Medium

All MMOG are, to some degree, technically the same. In a virtual environment, users liberally explore the environment and interact with other users and non-player characters (NPCs). These interactions are channeled through their avatar. Users can communicate with each other via text or voice. Communication can occur publicly, where every other avatar in the area can read or listen to the conversation. Avatars can also whisper so only the targeted avatar can receive the message even if other avatars are around. In gaming MMOGs, avatars can form a temporary group and only members of the group can read or listen to the conversation even if they are not in the same area. Avatars can also perform gestures or "emotes" that can convey messages through body language. For example, an avatar can use a finger to point at something or nod his head in agreement.

Users observe the environment through a "camera." The viewed scene is completely synthetic, yet MMOGs typically simulate cinematographic cameras to construct the observer's view and not

natural vision. They use, for example, field of vision, camera lens effects and oversaturated colors. The camera is usually mounted either at the eye level of the user's avatar (first person view) or at a certain point behind the avatar (third person view). A three-dimensional (3D) graphics engine constructs a perspectival view of the environment according to the position and orientation of the camera.

Thus, the primary role of the 3D graphics engine is to compute what the users see, through the camera, in real-time. When a user interacts with the environment, she expects immediate real-time feedback. Technically, the basic principle is that a central dedicated hardware/software computer system on which the environment is hosted (the server), sends data to the software running on the user's computer (the client). The client uses these data to construct a computer generated image, called "frame." In order for the user to experience a smooth movement, the client needs to produce a large number of frames every second. A frame rate of 30 frames per second (fps) is conventionally accepted as the minimum. Many factors are at stake to achieve a real-time user experience, including the design of the environment, the number of users, the network capacity, and the computation power of both clients and server.

One strategy often employed by game developers is to represent an artifact by means of a simplified geometrical model. Developers, then, compensate for the loss of details by applying complex images as the model's texture (texture map). Thus, all information pertaining to the artifact's details, surface texture, light and shadows, are "baked" into the image of the object's texture map. Another strategy for the optimization of the environment is the use of levels of detail (LoD). Most objects in the virtual environment have different alternative models with decreasing details and complexity. The richest model is computed when the object is closest to the camera while the poorest is computed when the object is furthest, significantly saving computation time.

All technical aspects of MMOGs are regulated by code. Because the task of creating code anew is economically taxing, the design and implementation of MMOGs are typically a process of evolution rather than revolution. New MMOGs usually draw heavily from one or more parent games, even to the extent that, according to Richard Bartle, it is possible to map out an entire family tree for all the various code bases.[33]

Code comprises the elements of the 3D engine itself. It also comprises the underlying, automated rules that enable players to effect changes to the environment but not to the rules that grant them this ability. These rules are conventionally called the environment's "physics." The apparent freedom to explore places and to interact with others is regulated by code which has an extraordinary potential for control. Therefore, Lawrence Lessig, a professor of law, argues that:

> In real space, we recognize how laws regulate—through constitutions, statutes, and other legal codes. In cyberspace we must understand how a different "code" regulates—how the software and hardware . . . that make cyberspace what it is also regulate cyberspace as it is. . . . Code is law.[34]

Code is not found, it is the product of society. The ways in which code regulates social interactions depends on the choices made by such society. To the same extent laws change in actual life, code changes in virtual environments. It can change due to social pressure from users, computational

technology, business model or marketing strategies. It can change due to hackers' activities but it can also change due to changes in users' behavior. An example of a code change due to an unexpected behavior is discussed in the following section where I discuss the social aspect of MMOGs.

## A Virtual Society

Once MMOGs started to attract hundreds of thousands of users, many social issues surfaced. In August 8, 1997, a landmark incident in the history of MMOGs occurred in Ultima Online. The MMOG was in its testing phases. Right after restarting the servers in preparation for a population stress test, Lord British and Lord Blackthorne, respectively the invincible avatars for Richard Garriott and Starr Long the founders of Ultima Online, where giving a "royal" speech for a mass of players gathered at Lord Blackthorne's castle.[35] An avatar known as Rainz, donned by a Minneapolis software consultant named Ali Shahrooz, was within the mass of the crowd. Rainz was part of an in-game guild self-dedicated to maintaining the balance of power in Ultima Online.[36] Rainz's avatar was a thief who had high stealing skills. He managed to steal from the backpack of a nearby avatar a scroll for a "fire field" spell and casted it on Lord British. To the surprise of everyone who attended the speech, the supposedly invincible Lord British was killed (Figure IV-6). Confused, Lord Blackthorne, Lord British's friend, summoned four "daemons" and started killing all of the avatars in the castle. Rainz and many other avatars were killed.[37]

It turned out that Garriott, after the restart of Ultima Online servers, forgot to reactivate his avatar's "immortality" option. Nevertheless, the first response to the incident from Ultima Online was the expulsion of Rainz from the virtual environment. Ultima Online users reacted by staging protests along its virtual streets complaining about the indiscriminate killing and the subsequent expulsion of the assassin (Figure IV-7). The incident drew the attention of the news.[38]

While many other less significant incidents had occurred before the assassination of Lord British, this landmark incident caused a sea-change. Ultima Online designers faced a politically charged environment diametrically different than the insular controllable mechanics of a single-player game and quite at odds with the conventionally ludic nature of such games. One designer explains: "Events like this also underscored what is perhaps the most critical truth about [MMOG] design, a truth that every single design team . . . has learned, quite often the hard way: You cannot anticipate or control player behavior."[39] Another designer recognizes that: "you're making a mold but the players fill it. They'll shape their community to fit the rule sets you have, but you never really get to control it. And odds are pretty good they'll leak out of the mold and do something you never expected."[40] For decades, designers assumed that players' behavior was determined by the game content. This assumption was not challenged until the emergence of MMOGs and more specifically, until the incidence in which Lord British was killed.

Figure IV-6: The assassination of Lord British in Ultima Online. The corpse
is on the ground to the left of the fire.[41]

MMOGs, as such, are not simply a technological construct; they are a social one as well. They are
the setting for social and spatial interactions that take "place" only in these virtual environments.
These interactions are, naturally, informed by individual, social and historical developments in
actual life, but also by similar developments in the virtual one. In that sense, they double or extend
our actual places. Many scholars were intrigued by such a doubled social life and started to
investigate its motivations and its mechanics.

Figure IV-7: Example of virtual protests in Ultima Online.[42]

Between 2000 and 2003, the psychologist Nickolas Yee conducted a quantitative study in the form of an online survey of 30,000 users of the four major North American MMOGs then in use: Ultima Online, EverQuest, Dark Age of Camelot, and Star Wars Galaxies. He concluded that the age range of MMOGs users varied from 11 to 68 where the average was 26.57 years old, playing an average of 22 hours per week (60.9% of Yee's respondents played continuously for at least 10 hours). The majority of players (85.4%) were males whose average age was 25.71. For female players, the average age was 31.The majority of players (72. 50%) worked full-time, 22% were full-time students and only 13% of female players were homemakers. 36.3% of users were married and 22.1% had children.[43]

Yee concluded that, contrary to the stereotype, MMOG users did not belong to a subculture of youth video-gamers. The overall demographic composition of MMOG users is diverse, consisting of college students, early adult professionals, middle-aged homemakers, as well as retirees. He also dismissed the stereotype of the lone, socially withdrawn video-gamers because 15.8% of male players and 59.8% of female players participated in the environment with a romantic partner, while 25.5% of male players and 39.5% of female players participated with a family member, and 26.9% of female players were introduced to MMOGs by their romantic partner.[44]

The diversity of MMOG users' base in terms of gender and class is corroborated by many scholars who employed direct observation and not quantitative studies.[45] Other non-academic publications by the Entertainment Software Association (ESA) and the now extinct National Institute on Media and the Family (NIMF) produce figures similar to Yee's.[46]

Almost all scholars on the subject identify two major motivations for playing MMOGs. According to their statistical significance, achievement is the most important motivation for male players while socializing is the most important for females.[47] Achievers are interested in advancing their avatars through the world's built-in ranking system. They see virtual worlds as games. Their aim is to improve, advance, and ultimately win. Socializers interact with other people, through the medium of the virtual world. Some do it as themselves; others role-play behind a mask. They see the virtual world as entertainment, comparable to social clubs. Discussion of the performance and behavior of themselves and others is their main draw.[48]

As such, MMOG players are not a new sort of social group. Chess clubs, sewing circles and amateur sports teams operate relatively in similar ways: groups of friends who group up around a shared activity. The social ties that are formed last beyond the activities that helped forming them, or as Johan Huizinga, in his classical book on play: *Homo Ludens* originally published in Dutch in 1938, puts it:

> A play community generally tends to become permanent even after the game is over. [. . .] The feeling of being "apart together" in an exceptional situation, of sharing something important, of mutually withdrawing from the rest of the world and rejecting the usual norms, retains its magic beyond the duration of the individual game.[49]

Kathy Peiss in her study of the issues of class, gender and race in places of play in turn-of-century New York also argues that play (or leisure) promotes the formation of social groupings. She argues that the social aspects of play are deeply embedded in actual life:

> [L]eisure is not simply a vessel whose contents revealed a unified culture, nor is its relationship to other spheres of life such as work and family one-dimensional. Leisure activities may affirm the cultural patterns embedded in other institutions, but they may also offer an arena for the articulation of different values and behaviors.[50]

This argument also applies to MMOGs where class is the most explicit issue. MMOGs offer a seemingly equal opportunity for players at the start: All avatars start at the lowest possible level and with minimal equipments and wealth. Depending on the MMOG theme, players then have to defeat enemies, craft artifacts, or explore the environment in order to "level up" their avatars, acquire enhanced combat abilities and crafting skills, or accumulate wealth. Because MMOGs are persistent environments, they do not stop even if players leave them. Some players may be able to commit more time to the game and advance their avatars ahead of their friends who log out of the game. Garriott (Lord British), the co-founder of Ultima Online and one of the leading figures in the MMOG industry explains:

[T]he game mechanic is based upon how quickly players can advance their characters (avatars) to keep up with their friends or get ahead in the sense of wealth and power. If you don't keep up with your friends, the people you started out with will leave you behind and not be willing to travel with you because you will be a liability versus an asset to their activities.[51]

Another designer comments that "[w] hat we found was that, for a small percentage of gamers, time is essentially meaningless."[52] Because of their commitment and devotion to the game, a small percentage of players is at the top of the power structure, reaching maximum player levels, accumulating conspicuous virtual wealth and creating an in-game culture of haves and have-nots.

Matt Firor, an acknowledged MMOG designer and producer puts it this way in an interview:

You created a social inequality in the game. On one side you had the experienced players who were well connected and rich. On the other, new players who could not access expensive items. You got classes, in the Marxist sense of the word. Naturally, starting a game where you're lower-lower class is not very inspiring. . . . The rich keep getting richer.[53]

It is not clear whether Firor's evocation of Marxist class distinctions is theoretically informed or not. Karl Marx explained class distinctions only in terms of capitalist modes of production and division of labor. Marx also required that social classes can self-identify themselves in their respective classes.[54] In a Marxist sense, MMOG users accumulate virtual wealth which may contribute to their social status and give them access to expensive items. Yet, only gaming MMOGs can have an identifiable division of labor (play) due to their design. This is expressed in template roles that users choose to play. MMOGs are designed so that group tasks require a balanced mix of different template roles to complete. For example, a group engaged in killing a monster needs template roles that can inflict damage to the monster in addition to template roles that can heal the damage that the group receive from the monster. The economy of these roles depends on many factors including the population of the MMOG and playing styles of different in-game guilds. The supply and demand of each template role create class distinction. However, there is more to social distinction in MMOGs than class in a Marxist sense.

Max Weber broadened Marx's concept of the economic determinism of class. He added that "social honor, or prestige, may even be the basis of economic power, and very frequently has been."[55] Power here is defined as "the chance of a man or a number of men [sic] to realize their own will in a social action even against the resistance of others who are participating in the action."[56] Thus, a Marxist class distinction is ill suited to interpret the social aspect of MMOGs. Instead, social distinction as identified by Pierre Bourdieu, offers a better model.

Social class is not defined by a property (not even the most determinant one, such as the volume and composition of capital) not by a collection of properties (of sex, age, social origin, ethnic origin—proportion of blacks and whites, for example, or natives and immigrants—income, educational level, etc.), nor even by a chain of properties strung out from a fundamental property (position in the relations of production) in a relation of cause and effect, conditioner and conditioned; but by the

structure of relations between all the pertinent properties which gives its specific value to each of them and to the effects they exert on practices.[57]

As such, investment in time and the accumulation of wealth are not the only aspects of social distinction in MMOGs. Ann-Sofie Axelsson argues that, like the actual world, language, race and country of origin contribute to the stratification of the MMOG players' community.[58] English is the dominant language in any MMOG in the West. A player's command of English mirrors her in-game social stratum. In audio conversations, different accents and colloquia give up the origin, gender and race of native and non-native English speakers and factor into their placement in the social hierarchy. Axelsson remarks that she was sometimes welcomed in social interactions because she was, as a native of Sweden, from a "safe country."[59]

One of the major status differentiators in virtual environments, according to Axelsson, is access to technology.[60] Players who have access to faster Internet connections or advanced hardware systems are at an advantage since they can be more effective in their game-play. For example, if one user in a group has a microphone, she is more likely to lead the group because verbal communication is timely when compared to typing text.

Other status differentiators include avatars and social networking. The look of an avatar typically reflects the extent of its user's achievement and knowledge of the virtual environment. Also, in both social and gaming MMOGs, a player's connection to more advanced players allows her swifter upward mobility compared to a player with on-level social connections.

In MMOGs, all users start at equal entry level. This design appeals to values deeply embedded in American society, namely a strong belief in social mobility accompanied by a strong commitment to the ideal of equality.[61] Americans wrongly believe that everyone is supposedly born free and equal, and has the right—if not the moral duty[62]—to seek the best and reach the top despite the fact that these two propositions are mutually contradictory: If everyone is equal, then there is no hierarchy and upward mobility makes no sense. With relatively few exceptions, the race, gender and class in which Americans are born determine to a large extent their future social mobility.[63] Nevertheless, subjective feelings about social mobility have a greater impact on social attitudes than objective, actual movements.[64] Thus for many users, MMOGs offer a double virtual life in which one can start from scratch and work (play) one's way to the top. This sense of achievement that many players acquire in MMOGs is an escape or a distraction from everyday life failures and the major motivation to play the game. Many MMOG players, who sit at the top of the power structure in their double virtual life, are jobless in actual life. Nevertheless, the next section shows how the aforementioned relations of power produce spatial dialectic of domination and appropriation in the MMOGs.

## A Virtual Space

Spatiality defined as the physical settings and affordances we encounter in actual life does not exist as such in virtual places. They exist as a code that aims to recall in the mind of user mental and social constructs of space. Without these representations, the virtual environment becomes abstract and requires re-education for it to make sense. Digital space is code and as such, according to

Dourish, it is socially produced. "Mathematical models of space, and the grid systems that can be imposed over it, are similarly enmeshed in other forms of social practice. Space and its representations are crafted in support of particular needs."[65] In other words, platonic space, understood as a formal container without qualities of its own, does not exist in virtual place. For example, MMOG designers continuously make suggestive decisions about the affordances of the space they create: One object affords jumping on top of it, the other—of the same size—does not. Such decisions structure the affordances of space.[66]

A virtual space is thus a spatial model of interaction in which, according to Harrison and Dourish, "participants' awareness of each other, and opportunities for interaction, are managed through spatial extensions of their presence."[67] Such a model uses spatial metaphors—perspectival constructions of space—to visualize users in an otherwise and information landscape.[68]

Place, on the other hand, is an important aspect in the conception of MMOGs. While single-user games are typically designed around characters, almost all MMOG developers agree that, regardless of the environment's theme and purpose, MMOG are designed around a sense of place. William Wright, a prominent game designer argues that:

> Books and movies are by definition very linear properties, as seen from a single protagonist's point of view. That's very hard to put into an online world. What works is an environment, a place, something like a Disneyland, with no strictly narrative base. You want an environment laden with narrative opportunities. Something like Star Trek: When you think of Star Trek, you don't think of one particular plotline, or even one particular group of characters.[69]

These places are expressions of social status where dialectics of domination and appropriation are continuously practiced.[70] In the same way exclusive clubs and gated communities exist in actual life, exclusive places exist in MMOGs. These exclusive places can be coded in the MMOG design or can be the result of the social dynamics of the virtual society. Virtual environments are deliberately designed to expose and promote politics of place that produce exclusivity. Virtual places in gaming MMOGs can be level- or gear-gated. In other words, players cannot access a certain place if they are below a certain level or if they do not have the right equipment, or both. This access restriction is in some cases coded in the game design but in most cases it is not. One may willingly refrain from venturing in some places for fear of being attacked by higher level avatars or NPCs. Nevertheless, if a player belongs to a powerful in-game social group, she can dwell in such exclusive places under the protection of her powerful friends.

Access to "end-game" exclusive places is the final objective for both achievers and socializers, the major two groups of MMOG players. When too many players have access to these places, the developers start implementing a new "expansion" in which they add new places to the environment in order to keep users playing and preserve the social distinction of expert users.

In Second Life, on the other hand, players provide their own content. They can rent an "island" and build whatever they like on it. They can also restrict access to their island and even disable some of the game features, like the avatars' ability to fly, within their property. These places are gated by the community that created them and who grants access only to players of like sympathies, of a

similar vocation, or otherwise are mutually acceptable. Nevertheless, some places are gated by Linden Labs, Second Life's developer. Linden Labs offer corporations private code-gated places in an otherwise public virtual space. They also gate access to places that host mature content according to age.

The two case studies discussed in this chapter show that virtual places have histories, societies and spaces that can be seen as a double or an extension to actual life. However, the seemingly ludic nature of these places has stirred scholarly criticism. The most important criticism for the purpose of this study is the existential one.


## Existential Criticism

Yet, the distinction between play and actual life is the basis for a recurrent critique of MMOG. For example, Hubert Dreyfus, a prominent Heideggerian philosopher, studied Second Life and published his existential criticism of the virtual environment in the second edition of his book: *On the Internet*.[71] Dreyfus had two major critiques of Second Life. He thought that (1) a virtual life is inauthentic and that (2) virtual environments cannot represent or afford existential practices that give life meaning.

The first criticism advanced by Dreyfus is a reminder of Johan Huizinga's conception of play, which is still heavily cited today. In *Homo Ludens,* originally published in Dutch in 1938,[72] Huizinga argued that play precedes culture and thus transcends both society and history. Moreover, he used the example of young dogs which play just like children to suggest a physiological origin of the "instinct" of play.[73] Huizinga proceeded from this position to argue that play is a significant element of culture. Play is

> a voluntary activity or occupation executed within certain fixed limits of time and place, according to rules freely accepted but absolutely binding, having its aim in itself and accompanied by a feeling of tension, joy and the consciousness that it is "different" from "ordinary life."[74]

Huizinga stressed that play is not ordinary or actual life. It is stepping out of the "real" life into a temporary sphere of activity with a disposition all of its own. "Play becomes the accompaniment, the complement, in fact an integral part of life in general." [75] It is "'played out' within certain limits of time and place." [76] As such, the place of play is portrayed as a secluded and limited place. Much scholarship on play interprets Huizinga's place of play as a "magic circle" that acts as "a shield of sorts, protecting the fantasy world from the outside world."[77]

This conception of the place of play as a fantasy world outside of ordinary life is the basis, as this chapter argues, for Dreyfus' first critique. Dreyfus' attention is focused on the seemingly invulnerability of the avatar. He argues that human beings are inherently vulnerable to disease, misery, ignorance or death. And since they cannot fight against these vulnerabilities, they choose not to think about them at all. According to Dreyfus, this escapism or diversion is found in play in general (e.g.; billiards, tennis, gambling, etc.). Virtual environments, for Dreyfus, offer diversions

on a much grander scale. The rich and safe virtual environment is inauthentic. An authentic life is the one in which one faces her finitude and vulnerability.

> Now, however, the Internet and the virtual worlds it makes possible offer us diversions on a much grander scale. Indeed, thanks to virtual worlds like Second Life, we can forget our finitude and immerse ourselves in a rich, safe metaverse. Thus we now face a clear choice between a captivating life of diversion, which existential philosophers . . . consider empty and inauthentic, and the authentic life they favor in which one is called to face up to the vulnerability of all one cares about and yet, at the same time, find something meaningful to which to dedicate one's life.[78]

Dreyfus' first criticism is, to my mind, problematic. Unlike Huizinga, he assumed that actual and virtual lives are separate, allowing one to escape from one to the other. This distinction is artificial and makes sense only to someone who rarely ventures into these virtual environments. Nick Taylor argues that less attention in MMOG research has been paid to the ways these games are situated in the everyday lives of those who play them. For Taylor, researchers who resort to "a tired and unproductive dichotomy" between the actual and the virtual, "neglect the material and discursive contexts in which games are played."[79] Edward Castronova also dismisses this distinction. He argues that this distinction may have existed for some time but nowadays, virtual worlds are predominantly an "extension of day-to-day existence."[80]

Many examples challenge this distinction and make the aforementioned magic circle significantly porous: A significant number of MMOG users (25.5% of male players and 39.5% of female players) join the environment with a family member.[81] Many of these family members are geographically disconnected and MMOGs are one of the ways in which they can spend time together, remotely. For example, many players of LOTRO are currently serving in the military in remote locations inside and outside the U.S. They use LOTRO to connect not only to their spouses and children, but also to friends and other military friends who once served with them in the same location.[82] Another example is "gold farmers": users whose vocation is to accumulate in-game virtual wealth in a given MMOG and sell it to other players for actual money.[83] Moreover, Second Life has been used for teaching architecture design, planning and history. Where are the boundaries between play and work, or an authentic and an inauthentic life, if students will receive grades based on their actions in the virtual life that have consequences on their future in the actual one?

Dreyfus' second critique is very relevant to the topic at hand, the perception of the virtual environment. Dreyfus, who is famous for his groundbreaking attacks on cognitive sciences and artificial intelligence, argued that virtual environments are unable to represent existential practices.[84]

> For people who experience [a family meal], many elements of the practice such as how and when to share a meal together can vary, but the basic focal practice itself is felt as an imperative, not a matter of choice. One does not simply choose the roles of family members. Nor does one simply choose the conventions of sharing a meal. These are the background on which all manifest options appear. Indeed, to do their work such practices must remain in the background. One reason we cannot program

them is that we are so immersed in them that we cannot stand back and make them totally explicit.[85]

According to Dreyfus, existential practices, like rote skills, bodily know-how and common sense, to name a few, cannot be broken down into a set of theories and rules expressible in code or in a computed virtual environment. In an MMOG, the only justification for attempting to code such existential practices would be to render NPCs more intelligent in the mind of MMOG users. Otherwise, this chapter argues that existential practices imported from real life and new practices that only take place in MMOGs are found in such environments because of their continuity with actual life. In the case of NPCs, users' perception depends largely on the degree in which a user is immersed or "present" in the virtual environment. MMOG users are engaged in a social environment where they interact with the NPCs and other users' avatars. The issue of embodying everyday life practices in a virtual environment becomes very relevant.

## Presence and Co-Presence

The state of mind in which users feel that they are "there" in the virtual environment is conventionally called "presence." Thus, "co-presence" is the feeling of being "there together." As such, presence implies a suspension of disbelief where the user tends to overlook the limitations of the medium, so that these do not interfere with her acceptance of the embedded message. Richard Bartle describes four levels of presence: player, avatar, character and persona.[86] A user is considered a player when she perceives the virtual environment as a computer construction with which she does not identify. She becomes an avatar when she regards the object she controls as her virtual "representative." At this stage, she often refers to her avatar in the third person. A user turns into a character when her avatar becomes her "representation." The avatar, thus, is an extension of the user's self who refers to it in the first person. The last stage, the persona, is when the user perceives the avatar as herself and all distinctions between avatar and user is gone. The user typically at this stage drops his actual identity upon entry into the virtual place and assumes the identity of his avatar.

Lombard and Ditton identify six dimensions of presence: (1) social richness, (2) realism, (3) transportation, (4) immersion, (5) social agency, and (6) medium agency.[87] Social richness is the extent to which a user perceives a virtual place as personally and socially intimate when it is used to interact with other people. Realism is the ways in which a user perceives a virtual place as the "real" thing. Transportation takes three different forms. A user can perceive herself as transported to a virtual place: She is there. She can also perceive virtual objects or the place itself as transported to her: It is here. Finally, she can perceive herself transported to a virtual place that she shares with one or more persons: We are together. Immersion is the extent to which the medium submerges the user's perception. In other words, immersion is the phenomenon in which a user's senses are partially or totally engaged by the medium and disengaged from the actual world. Social agency refers to the degree to which the user responds socially to an avatar as an actual person and not a representation of that person. For example, it may not make sense for a user to consider and respect interpersonal distances (proxemics) between avatars. Yet, most users do.[88]

The last dimension of presence, according to Lombard and Ditton, is the perception of NPCs as social actors despite the fact it makes no sense. For example, users of gaming MMOGs may perceive and react to a monster NPC as a person and not as an artificial intelligence entity.[89] This dimension of presence may wrongfully lead to a conclusion that the perception of NPCs as social actors stands at odds with Dreyfus' skepticism regarding NPCs intelligence. The problem with such an argument is that most NPCs have a very specific role predefined by code with very limited possibilities for interaction with users. For example, a monster NPC is only expected to attack avatars that come within a predefined distance from him. As long as users expect the monster NPC to attack, the suspension of disbelief is sustained. In other words, in MMOGs, NPCs are not expected to interact with avatars in ways in which existential practices become central to the meaning of the interaction.

Perception is central to the previous discussion on presence. The following sections discuss in more details the perception of the virtual environment.

## Perception of the Virtual Environment

Based on the two case studies at hand, this chapter argues that one can think of the perception of virtual place as a field with two distinct poles and an infinite number of possible positions in between. The first pole is reserved for a pool of users who are unfamiliar with the Internet or with electronic games in general. They are usually labeled by more experienced users as "newbs", "noobs" or "newbies", with derogatory connotations. The second pole is for a pool of hardcore power users who are sometimes labeled by the first group (the newbs) as game "junkies." New users often draw the meaning of the place exclusively from their actual life. They react to representations of buildings and avatars as if they are actual life entities. Any object of perception that does not present itself directly to their actual life experience is meaningless and may draw feelings of anxiety or curiosity depending on the user's mood. In all cases, it hardly conveys the message the designer has in mind. On the other hand, for expert users, the elements of the environment have a socio-historical dimension that goes beyond actual life. As a result, they react to the environment in ways that are significantly different than new users.

This study ideally aims at exploring the ways in which a user perceived the environment by observing his behavior upon her first entry into the environment until she becomes an expert. Practically, the study observed different users at different levels of their engagement with the environment. This was usually accompanied by informal and unstructured interviews during game-play.

Typically, before a player's first entry into a virtual environment, she needs to select a name for her avatar. Most environments discourage their users from using their real names for their avatars for fear of hacking and identity theft. In most cases, users prefer anonymity and would choose a name that conveys a certain message about themselves to other users they encounter in the virtual environment. The list of names can include mythical characters, pop culture names, all the way to "ICannotThinkOfAName." Depending on the theme of the MMOG, the way a user approaches an avatar named "BloodyBlades" is different than another avatar named "Freenote."

Users then choose and customize their avatars. The look of avatars has an impact on the interpretation of the environment in many ways. To my knowledge, all virtual environments designed for gaming, social interaction or academic purposes, employ avatars that represent the facial features and body proportions of what is perceived as an ideal man or woman from Northern European descents. The majority of gaming MMOGs are inspired directly by Germanic myths or indirectly through the work of J.R.R. Tolkien.[90] As such, they usually offer users a choice of mythical races. When a user chooses the human race, the default selection is a white man (Figure IV-8). A user can then change skin color and hair style in ways that marginally alter the implied "default" human being.[91] If the user chooses a female avatar, she is usually presented with a female figure with idealized feminine features the likes of which can only be seen among some Hollywood actresses (Figure IV-9).



Figure IV-8: The default avatar in LOTRO is a white male. Moreover, the human race is labeled the race of "man" in adherence to Tolkien's own designation in his novels.

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Figure IV-9: In Second Life, the default avatar is a white female with idealized features. Some of the other avatars have a slightly tanned skin color but facial and bodily features remain the same.

New users usually accept the default look of the avatar for some time. Nevertheless, as users continue to play the game; their avatar becomes the most important expression of their social status in the game. Over time, users gain more knowledge about the environment and accumulate more virtual wealth. They start modifying their avatars and acquiring new and unique items. At first, users focus on the aesthetics of their avatar's look. When users become experts, the emphasis shifts to unique and rare items, regardless of their visual appeal.

After creating and customizing her avatar, a user is allowed to enter the virtual environment for the first time. A name and an avatar allow a user to enter a virtual environment hidden behind a mask. To other avatars, she is anonymous and only her actions can reveal her actual personality. Anonymity thus may seem to be the source of the disinhibition that characterizes virtual environments. In actual life, one is accountable for one's actions, which can in some cases have serious consequences. In a virtual environment, a user soon discovers that she is not alone. Her actions dictate the way in which other avatars interact with her. If she creates enough mayhem, she may end up socially isolated. She can then simply leave the virtual environment or delete her avatar and create a new one with a new name and start anew. However, this is not that simple for expert users. Over time, users become more attached to their avatars and develop social ties that depend on it. Deleting the avatar or withdrawing from the environment becomes an increasingly

difficult option. As such, most expert users can only suffer the consequences of their actions in the same ways they do in actual life. In cases where the user is in the virtual environment mainly to socialize with actual life family and friends, the consequences of misbehaving can easily spill to actual life.

Most new users value the environment's photorealism: the capacity of the 3D graphics engine to produce images that appear as if they were taken by a movie camera. Our perception has long been habituated by mechanical cameras in photography and cinematography to the extent that any picture that does not employ the technical limitations of mechanical cameras looks suspiciously fake. This is a phenomenon well recognized and exploited by game designers. Although the constructed scene is completely synthetic, 3D graphic engines typically simulate mechanical cameras to create the scene and not natural vision or even digital cameras. They use, for example, camera lens effects, oversaturated colors, dramatized music and soundscape, etc.

Over time, users grow less impressed by the sensory appeal of the environment and more interested in its functional and social aspects. Expert users are typically engaged in complicated and computationally demanding tasks. Whether they are collectively constructing a sophisticated building or killing a monster, most expert users deliberately reduce the graphics settings of the virtual environment in order to dedicate more computational resources to the task at hand.

New users generally do not know if they can change the default settings of the interface or the extent of technically allowable changes. Therefore, the default settings of the user interface also predispose the user to see and interact with the environment in certain ways. For example, an interface that, by default, offers users ways to destroy in-game objects (e.g.; LOTRO) has different implications on the way users perceive the environment than an interface that readily allows them to create in-game objects (e.g.; Second Life).

The convention in the design of virtual environments is to call objects that can be modeled, pictured or programmed, such as buildings, artifacts and avatars: "tangibles."[92] The ways users interact with and socially construct these objects are, hence, "intangibles." In virtual environments, designers can only design tangibles. The following sections use Kevin Lynch's five basic elements for the perception of the built environment as a starting point for the study of the tangibles of vitual places. These elements are paths, edges, districts, nodes and landmarks.[93]


## Paths

According to Lynch, users experience the environment while moving through paths, and along these paths other environmental elements are arranged and related.[94] That is also a reasonable claim for new users of a virtual environment. They typically start by exploring the environment by walking along the environment's paths. However, since the size of most commercial virtual environments is significantly large, a trip from one place to another may be prohibitively long on "foot." Users soon discover that they can "teleport" from one place to the other: The environment's interface usually offers users an option to instantly move to different remote locations in the environment.[95] Some commercial MMOGs require that users visit these locations before they are able to teleport. When users become familiar with the environment, they start to value the

functionality of the environment more and to accumulate more teleport points in order to move swiftly across the environment. Thus, another status differentiator in MMOGs is access to more teleport points. Advanced users usually avoid paths for transportation.

## Nodes

A node can be seen as a concentration of activities.[96] In well-designed virtual environments, nodes exist in the form of a concentration of buildings, artifacts, NPCs or interactive objects. This concentration is usually accompanied by a concentration of users who typically interact with other avatars, acquire tasks or trade virtual wealth at these nodes (Figure IV-10).



Figure IV-10: The main plaza of a town called Archet in LOTRO where a user can find a concentration of NPCs offering quests and virtual commodities. Consequently, such nodes attract a concentration of avatars.

MMOG designers make a significant effort to add a singular character to every node. For MMOGs that depend on user-created content, users design and build their own places. The aesthetic appeal of these places and the complexity of the programming required to build them is a status differentiator. In gaming MMOGs, the aesthetics of a place are controlled by designers. The visual appeal as I discussed before is only important for new users. Expert users are typically more invested in the activities and transactions afforded by the place. As I mentioned before, for many reasons, some of these virtual places are exclusives. The exclusivity of these places is the main reason for their appeal regardless of their aesthetic or functionality.

**Domains**

The domains or areas that stretch between nodes are a significant part of the perception of the virtual environment. They typically have a general characteristic and they can sometime represent a barrier.

Before a discussion of domains in virtual environments, some technical aspects that underlie these districts need to be exposed. Most commercial MMOGs are significantly large to the extent that no one server has enough computation power to host the entire environment alone. The solution to this problem is to design the environment as a mosaic of areas that seem continuous to the user while each area is controlled by a separate server.[97] Thus, the implementation of different domains is a deliberate way to conceal underlying technical limitation.

Another major design problem in any virtual environment is the "end of the world." Any virtual environment must have a definite size. What happens if a user decides to move his avatar in one direction until she reaches the edge of the environment? Whatever she may see there may have a major negative effect on her suspension of disbelief. Thus, designers always try to conceal the technical edges of the environment by imposing "natural" edges. As such, before reaching the edge of the environment, the user may find an insurmountable mountain or a mass of water that she cannot cross.

The aforementioned domains are typically designed to have distinctive characteristics. In a gaming MMOG, new users may describe a given domain as "scary" or "dangerous" because of the visual and acoustic dramatization in use there or because it is home for some monster-NPCs that cause her troubles. Other users may perceive the same domain as a place where they can kill monster-NPCs in order to achieve higher levels. Others see the same domain as a place where they can exploit virtual resources.

**Maps**

Lynch discussed mental maps as a way to perceive the built environment. He did not consider actual cartographic maps as one of the elements of perception. Perhaps if he was to re-conduct his study in the age of ubiquitous computing and geographical positioning systems (GPS), he would have added maps. Maps are an essential part of the interface of any virtual environment and their impact on the perception of such an environment cannot be ignored.

A new user usually starts to explore the virtual environment by "walking around." Soon she discovers that the interface typically offers two maps. A small map is always present in the interface showing the location and orientation of her avatar and everything that immediately surrounds it (Figure IV-11). If she needs more information about her extended surroundings, she can activate a large map that shows the whole domain she is currently in or the extent of the whole environment (Figure IV-12). Thus, any time she feels lost, she can check the position and orientation of her avatar on the map and reorient herself. Moreover, she can, if she wants, check the Cartesian coordinates of her location against a certain object on the map in order to measure how close/far she is from it.
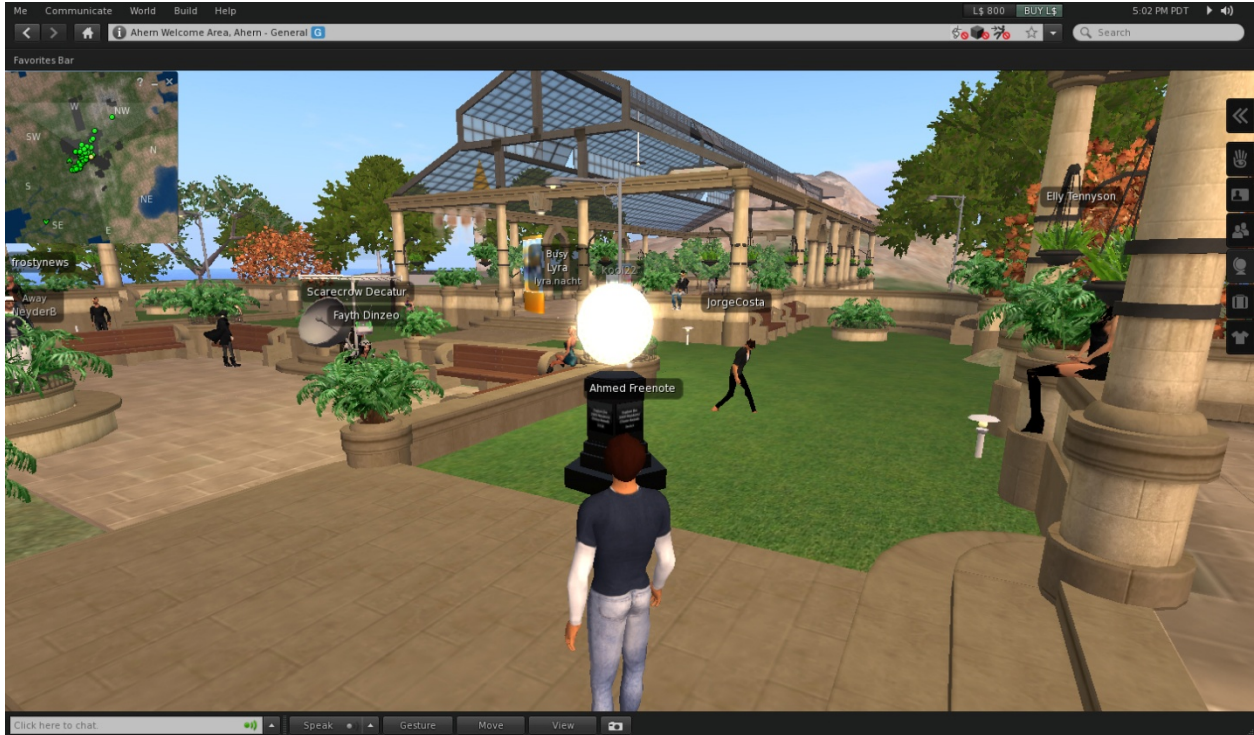
Figure IV-11: In Second Life, a user can continuously check his location against a small map located at the top left corner of the screen.

Thus, if one asks a new user about the way to a given place, especially if the place is nearby and within a "walking distance," she will most likely describe it using paths and landmarks. If the same person asks an advanced user, she will typically offer the coordinate of this place and expect one to use the map to reach your destination.

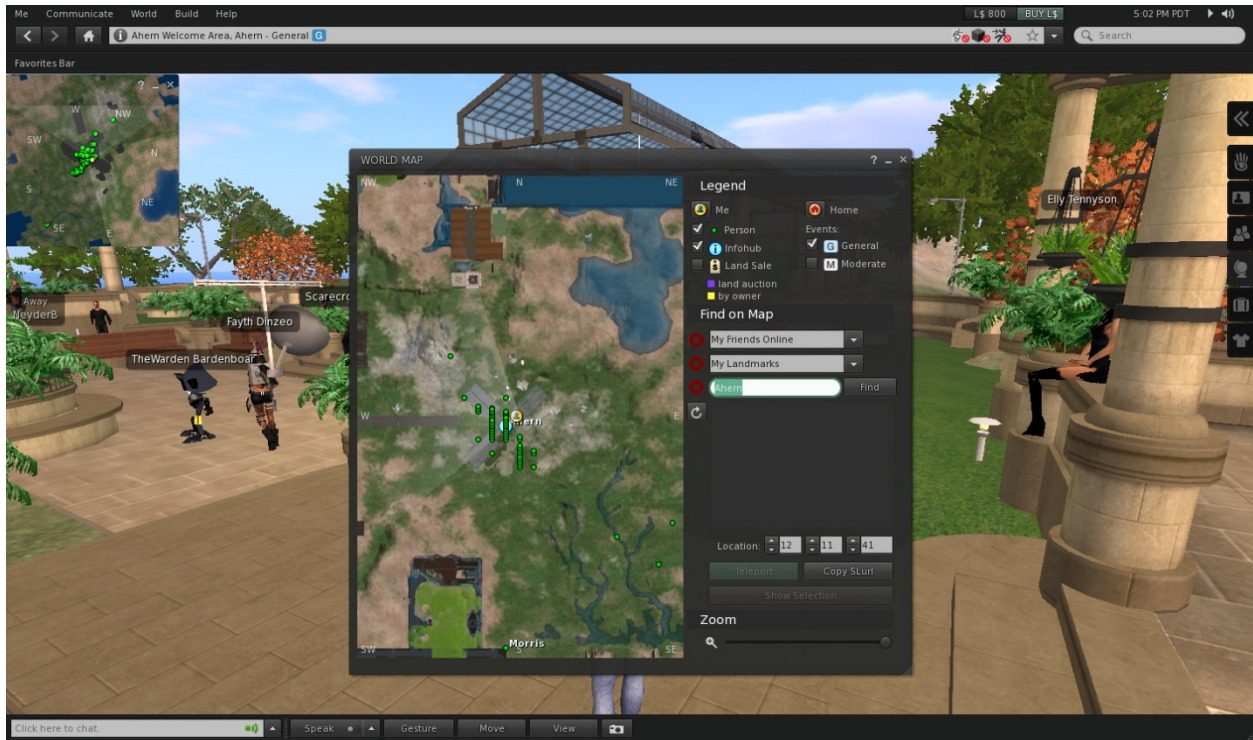Figure IV-12: In Second Life, if a user needs to learn about her extended surroundings, she can activate a large map.

## Conclusion

This chapter explores the complex socio-historical aspects of MMOGs as an example of online multi-user virtual environments. These environments cannot be simply understood as places of play. The dichotomous construct of play and work framed the academic discourse on virtual environments until recently when many scholars started to question its premise. This misleading dichotomy limited the scope of most studies on the subject.

The complexity of virtual environments predisposes expert users of virtual environments to perceive these environments in ways different than new users. New users perceive virtual environments in ways similar to the ways they perceive the actual environment: They assume an isomorphic relationship between virtual representations of a given place and its actuality. They value the formal and multi-sensory aspects of the environment. Expert users, on the other hand, perceive the virtual environment from a structural and functional perspective and pay less attention to its formal and sensory qualities. It is imperative to note that these categories are not fixed, as new users become expert over time. Nevertheless, the current statistics on the use of online games in general and MMOGs in particular suggest that in the near future a significant segment of the U.S. population would be experiencing computed virtual environments in one way or the other. The reverse impact of this phenomenon on how individuals or society perceive the actual built environment is an interesting topic for future research.

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[13] The Entertainment Software Association, "Essential Facts About the Computer and Video Game Industry: 2010 Sales, Demographic and Usage Data," (2010), http://www.theesa.com/facts/pdfs/ESA_Essential_Facts_2010.pdf. The Entertainment Software Association is a coalition of major publishers of video games in the U.S.

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[18] Dmitri Williams, Tracy L. M. Kennedy, and Robert J. Moore, "Behind the Avatar: The Patterns, Practices, and Functions of Role Playing in MMOs," *Games and Culture* 6, no. 2 (2011).

[19] Darren Waters, "What happened to Dungeons and Dragons?," BBC News Online, http://news.bbc.co.uk/2/hi/uk_news/magazine/3655627.stm. Dungeons and Dragons (D&D) was created by Gary Gygax and Dave Arneson and was first published in 1974 by Tactical Studies Rules, Inc. Since 1997, it is published by Wizards of the Coast.

[20] For a good survey of the history of MMOGs as a technology and a business model, see: Bartle, *Designing virtual worlds*.

[21] PLATO stands for Programmed Logic for Automated Teaching Operations. For more information on PLATO, see: http://www.platohistory.org

[22] Bartle, *Designing virtual worlds*.

[23] Steven L. Kent, "Alternate Reality: The history of massively multiplayer online games," (2003), http://archive.gamespy.com/amdmmog/week1/. Lucasfilm is a film production company based in San Francisco and known for producing the Star Wars and Indiana Jones film series. Habitat was produced by the game development unit of Lucasfilm, which is now an independent entity known as LucasArts Entertainment.

[24] The term itself is originally a Hindu term that describes the human form that a deity takes when he or she descends to lower realms of existence in order to achieve a special purpose.

[25] Margaret Morabito, "Enter the on-line world of Lucasfilm," *RUN*, August 1986; Chip Morningstar and F. Randall Farmer, "The Lessons of Lucasfilm's Habitat," in *Cyberspace: first steps*, ed. Michael Benedikt (Cambridge, Mass.: MIT Press, 1991).

[26] Morningstar and Farmer, "The Lessons of Lucasfilm's Habitat," 275.

[27] The now defunct 3DO company was founded in 1991 under the name of San Mateo Software Group (SMSG) and was later named after its flagship game console: 3DO which stood for Audi-o, Vide-o and "3DO." Meridian 59 is now maintained by another company called Near Death Studios.

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[32] http://www.mmocrunch.com/mmorpg-game-list/?game=ultima-online&screenshot=11

[33] Bartle, *Designing virtual worlds*: 35.

[34] Lawrence Lessig, *Code: version 2.0*, 2nd ed. (New York: Basic Books, 2006). 5.

[35] A server is a computational hardware and software system, on which a virtual environment is technically deployed. A server stress test is a test of the stability of a server beyond its normal operational capacity, to its breaking point. A server stress test is typically performed before the release of a new virtual environment or before the addition of major new content to observe the behavior of the environment at breaking point.

[36] In MMOGs, a guild is a group of users that help each other achieving different in-game objectives. Some guilds are based on actual world relationships or objectives but most guilds are formed by in-game friends and revolve around in-game objectives. Guilds can also be called: clans, kinships, tribes, etc., depending on the MMOG theme.

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[39] Jones, "The Pioneers: MUDs, MMORPGs, and Mayhem".

[40] Tom Chick, "MMOs: Building whole societies," (2003), http://archive.gamespy.com/amdmmog/week4/.

[41] http://www.mmocrunch.com/2007/12/04/top-5-most-memorable-events-in-mmorpg-history

[42] http://www.andrea.net/uo/general/screenshots/gfx/misc_fired_01.jpg

[43] Nicholas Yee, "The demographics, motivations, and derived experiences of users of massively multi-user online graphical environments," *Presence: Teleoperators & Virtual Environments* 15, no. 3 (2006).

[44] Ibid.

[45] To name just a few, see: Bartle, *Designing virtual worlds*; Edward Castronova, *Synthetic worlds: the business and culture of online games* (Chicago: University of Chicago Press, 2005); Boellstorff, *Coming of age in second life: an anthropologist explores the virtually human*.

[46] The Entertainment Software Association, "Essential Facts About the Computer and Video Game Industry: 2010 Sales, Demographic and Usage Data". The NIMF report is cited in Bartle, *Designing virtual worlds*. ESA is self-professed as "dedicated

to serving the business and public affairs needs of companies that publish computer and video games." As such, it is expected to deliver statistics that favor its cause. On the other side, NIMF agenda was the opposite of ESA. Until its closure in 2009, it was continuously attacking the game industry and ESA in an effort to regulate the sales of video and computer games to minors. Despite the fact that the two institutions produced similar statistics, they may have been inflating their figures to achieve political goals.

[47] For example, see: Yee, "The demographics, motivations, and derived experiences of users of massively multi-user online graphical environments."; Richard A. Bartle, "Hearts, clubs, diamonds, spades: Players who suit MUDs," *Journal of MUD research* 1, no. 1 (1996); R. V. Kelly, *Massively multiplayer online role-playing games: The people, the addiction and the playing experience* (Jefferson, N.C.: McFarland & Co., 2004); Dreyfus, "Virtual embodiment and myths of meaning in Second Life."

[48] Bartle, *Designing virtual worlds*.

[49] Johan Huizinga, *Homo ludens: a study of the play-element in culture* (Boston: Beacon Press, 1955). 12.

[50] Kathy Lee Peiss, *Cheap amusements: working women and leisure in turn-of-the-century New York* (Philadelphia: Temple University Press, 1986). 4.

[51] Quoted in: Steven L. Kent, "Design: Making an MMOG for the Masses," (2003), http://archive.gamespy.com/amdmmog/week3/.

[52] Jones, "The Pioneers: MUDs, MMORPGs, and Mayhem".

[53] Chick, "MMOs: Building whole societies".

[54] Karl Marx, "The communist manifesto (1848)," in *The communist manifesto*, ed. Frederic L. Bender (New York London: Norton, 1988).

[55] Max Weber, "Class, Status, Party (1924)," in *Social class and stratification: classic statements and theoretical debates*, ed. Rhonda F. Levine (Lanham: Rowman & Littlefield Pub., 2006), 49.

[56] Ibid.

[57] Bourdieu, *Distinction: a social critique of the judgement of taste*: 106.

[58] Ann-Sofie Axelsson, "The digital divide: Status differences in virtual environments," in *The social life of avatars: presence and interaction in shared virtual environments*, ed. Ralph Schroeder (London; New York: Springer, 2002).

[59] Ibid.

[60] Ibid.

[61] Seymour Martin Lipset and Reinhard Bendix, *Social mobility in industrial society* (New Brunswick, N.J.: Transaction Publishers, 1992); W. Lloyd Warner, Marchja Meeker, and Kenneth Eells, "What social class is in America," in *Social class and stratification: classic statements and theoretical debates*, ed. Rhonda F. Levine (2006).

[62] Max Weber, *The Protestant ethic and the spirit of capitalism*, trans. Talcott Parsons (London; New York: Routledge, 1992); Warner, Meeker, and Eells, "What social class is in America."

[63] Warner, Meeker, and Eells, "What social class is in America."

[64] Lipset and Bendix, *Social mobility in industrial society*: xxii.

[65] Paul Dourish, "Re-space-ing place: "place" and "space" ten years on," in *Proceedings of the 2006 20th anniversary conference on Computer supported cooperative work* (Banff, Alberta, Canada: ACM, 2006). Dourish here denounces some of his own ideas published ten years earlier in which he argued that space is a platonic medium on which place is juxtaposed. A process he called the "layer-cake" model. See: Steve Harrison and Paul Dourish, "Re-place-ing space: the roles of place and space in collaborative systems," in *Proceedings of the 1996 ACM conference on Computer supported cooperative work* (Boston, Massachusetts, United States: ACM, 1996).

[66] Harrison and Dourish, "Re-place-ing space: the roles of place and space in collaborative systems."

[67] Ibid.

[68] Ibid.

[69] Interviewed by Dave Kosak in: Dave Kosak, "The branded worlds: When licensed properties and online gaming collide," (2003), http://archive.gamespy.com/amdmmog/week6/.

[70] Pierre Bourdieu, "Sport and social class," *Social Science Information* 17, no. 6 (1978).

[71] Dreyfus, "Virtual embodiment and myths of meaning in Second Life."

[72] The first English translation is published in 1950.

[73] Huizinga, *Homo ludens: a study of the play-element in culture*: 1.

[74] Ibid., 28.

[75] Ibid., 9.

[76] Ibid.

[77] Castronova, *Synthetic worlds: the business and culture of online games*: 147.

[78] Dreyfus, "Virtual embodiment and myths of meaning in Second Life," 97.

[79] Nick Taylor, "Periscopic Play: Re-positioning" the Field" in MMO Research," *Loading...* 2, no. 3 (2008).

[80] Edward Castronova, "The right to play," *New York Law School Law Review* 49, no. 1 (2004).

[81] Yee, "The demographics, motivations, and derived experiences of users of massively multi-user online graphical environments."

[82] This is based on my direct observation in LOTRO and in WoW. The use of MMOG by military families is not well researched. However, some point out that gaming MMOGs have a special appeal to military because of the military nature of the in-game quests and the deep camaraderie in high-level in-game guilds. See: Seth Schiesel, "Social significance in playing online? You betcha!," *The New York Times*, August 6 2005.

[83] David Barboza, "Ogre to Slay? Outsource It to Chinese," *The New York Times*, December 9 2005.

[84] For example, see: Hubert L. Dreyfus and Stuart E. Dreyfus, "Making a mind versus modeling the brain: artificial intelligence back at a branchpoint," *Daedalus* 117, no. 1 (1988); Hubert L. Dreyfus, *What computers still can't do: a critique of artificial reason* (Cambridge, Mass.: MIT Press, 1992).

[85] Dreyfus, "Virtual embodiment and myths of meaning in Second Life," 107.

[86] Bartle, *Designing virtual worlds*: 154-55.

[87] Matthew Lombard and Theresa Ditton, "At the Heart of It All: The Concept of Presence," *Journal of Computer-Mediated Communication* 3, no. 2 (1997).

[88] Ibid.

[89] The question of computer's intelligence and the degree to which it can mimic human intelligence has been the subject of a long debate since 1950 when Alan Turing designed a test of a computer's ability to demonstrated intelligence: Alan Mathison Turing, "Computing machinery and intelligence," *Mind* 59, no. 236 (1950). Probably the most influential respond to the Turing Test is John Searl's Chinese room argument: John Searle, "Minds, brains, and programs," *The Behavioral and brain sciences* 3, no. 3 (1980).

[90] On major influences on virtual environments design, Bartle argues that "the single most important influence is J.R.R Tolkien's The Lord of the Rings Trilogy. It established the genre of high fantasy. Before LOTR, depictions of an imagined world in such depth were practically unknown." Bartle, *Designing virtual worlds*: 61.

[91] For more on the subject, see for example: Tanner Higgin, "Blackless Fantasy: The Disappearance of Race in Massively Multiplayer Online Role-Playing Games," *Games and Culture* 4, no. 1 (2009); David J. Leonard, "Not a Hater, Just Keepin' It Real," *Games and Culture* 1, no. 1 (2006).

[92] This use of the term tangible applies strictly to the design and implementation of virtual environment. Some other disciplines within Computer Science may use the term in other ways. For example, in Human Computer Interface, the term tangible may refer to non-screen-based elements of a computer interface.

[93] Lynch, *The image of the city*.

[94] Ibid., 47.

[95] The way a user can teleport from one location to the other differs according to the theme of the MMOG. She can just disappear from her current location and instantly appear in her destination. She may need to move to a certain point and interact with an NPC or an object (for example a gate) to start the teleport.

[96] Lynch, *The image of the city*: 72; Norberg-Schulz, *Existence, space & architecture*: 39.

[97] The term conventionally used by the MMOG industry and by some expert users for these areas is "shards." This is a legacy from Ultima Online whose developers used the mirror metaphor to explain this technical solution: "It is as if a mirror that reflected the world was shattered into a myriad of tiny pieces, each such a shard reflecting the original world but in slightly different way (Bartle, *Designing virtual worlds*: 95.)."

# Chapter V
# Interpreting Cultural Heritage through Alternative Media

## Introduction

This chapter uses the case study Virtual Sirkap to explore the ways in which a change in the representation medium can impact the interpretation of a historic place.[1] MMOGs (Multiuser Online Games) are a new medium for researching the genesis and evolution of sites of cultural significance. MMOGs are potentially able to model both the tangible and intangible heritage of a place, allowing the user to obtain a more dynamic understanding of the culture. This chapter documents the early stages of a cultural heritage project, Virtual Sirkap, which captures and communicates the interplay of context (geography), content (architecture and artifacts), and temporal activity (rituals and everyday life) in a gaming environment leading to a unique digital archive of the tangible and intangible heritage of the ancient South Asian city of Sirkap.[2] Sirkap is but one element of the vast archaeological complex at Taxila, a complex which was the ancient capital of western Punjab and is now a UNESCO World Heritage site located in Pakistan (Figure V-1).

This chapter reintroduces the powerful role that the representation we employ play in how we think and, consequently, the effect they have in shaping our interpretations. However, the chapter focuses here on MMOGs, which can have a profound impact on the presentation and interpretation of historical places. Yet, this chapter explicitly argues that this is *not* creating an "authentic and accurate" model of the cultural heritage of Sirkap. Rather, through the canonical interpretation of the archaeological data, this chapter is necessarily creating one instance of the ancient city—an instance that will bear, if the study have been careful in its interpretation, some traces of the intents and purposes of *some* of its original creators. However, the meanings of the city will be also very much be determined by present concerns as well—both those of the modelers, the Virtual Sirkap project team, and the users, the visitors to the site who engage the place.
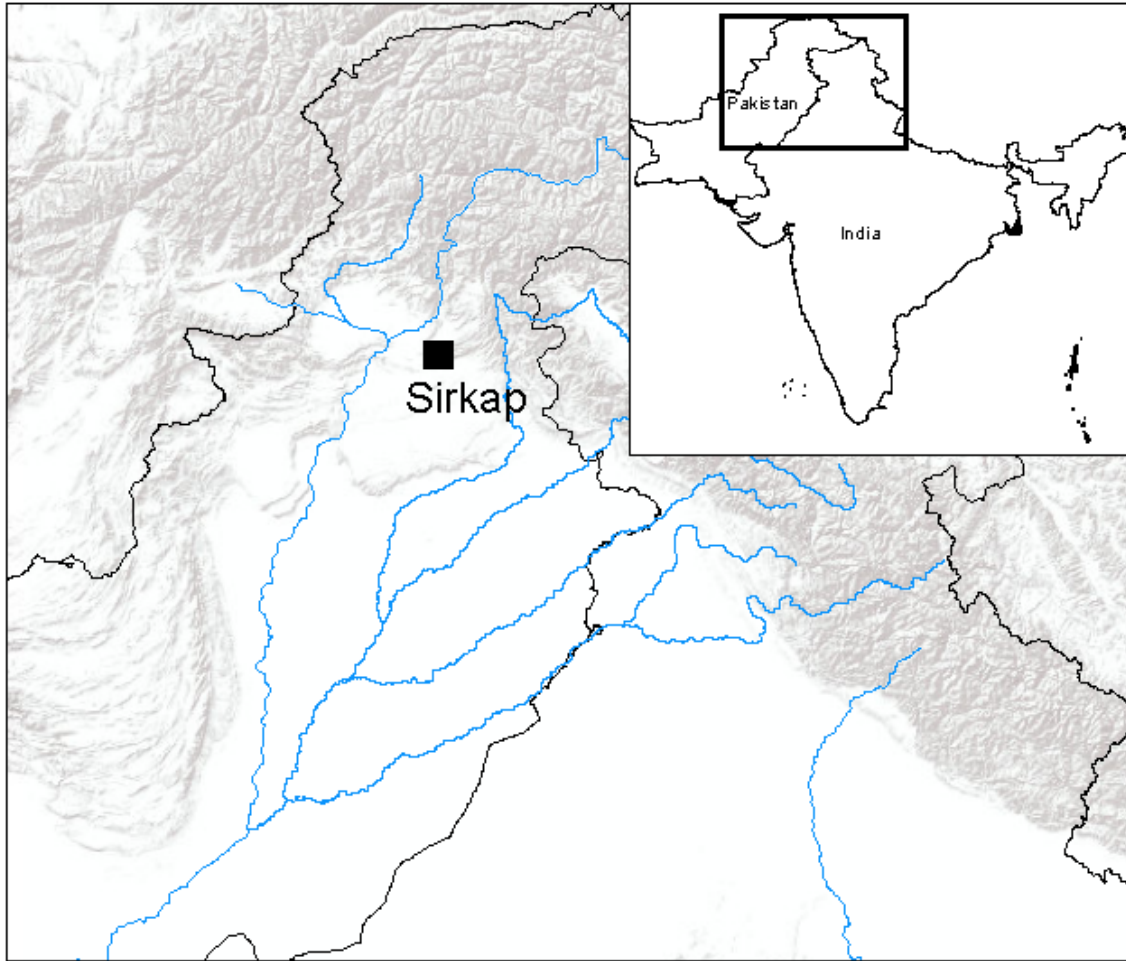
Figure V-1: The Location of Sirkap in the South Asian Subcontinent

The chapter begins with a brief introduction to the ancient South Asian city of Sirkap, and then moves on to the crux of the argument. First, it highlights some of the standard interpretations of Sirkap based on the two-dimensional representations available. It then switches to Virtual Sirkap, a virtual reconstruction of sirkap based on gaming technology.[3] In doing so, the chapter seeks to explore the ways in which a virtual reconstruction of Sirkap produces new insights into the interpretation of the experience of an ancient city.

## Thinking through Media

Most of the time, scholars do not pay close attention to the formative effect of their chosen mode of representation on their arguments. Text is the dominant mode of representation for communicating scholarly ideas and many have erroneously assumed its neutrality. Chapter Three demonstrates that transitions across time and space, from oral discourse to writing, from hand copying manuscripts to the printing press, from pen to typewriter, to name a few, have all been transformative moments in the way we think about, and interpret, the world.

Thus, just as Kittler detailed how new media technologies such as the gramophone, film and typewriter shattered the hegemony of the printed word in the late nineteenth century, in the twenty-first century, computer-generated virtual environments, having made rapid gains in both the personal and professional lives of contemporary citizens of the world, also have made their way into academia.[4] And we can expect that these new media will challenge and change the way we think and argue much like those key transformative moments in the past. The most popular application of computer technology in the Humanities is in the new, unfolding ways that Geographic Information Systems (GIS) is being employed for understanding and representing history beyond textual narratives. The visual presentation of information alongside narrative has long been, of course, an effective mode of argumentation, whether in the form of a map, table, diagram, line drawing, etc., because as Richard White argues, "[r]elationships that jump out when presented in a spatial format such as a map tend to clog narrative, choking its arteries until—even if the narrative does not expire—the reader, overwhelmed by detail, is ready to die of tedium and confusion."[5] However, as David Staley argues,

> … in Western culture at least, images frequently serve a secondary role in the "division of labor" between words and pictures. Words, text, and prose are the main carriers of information; visual display is, by definition, an illustration, something that supports the more important ideas contained in text. That is, the text is the reader's main interface with the data: words, sentences, paragraphs, and prose give form to shapeless information. Information graphics occupy a subordinate position within this textual space.[6]

However, this hierarchy has undergone a significant change, a change that began in in the sciences but also has more recently influenced the humanities as well. He argues that "digital information visualizations," particularly those produced in GIS,

> are different from their paper predecessors, and not simply because they are computer generated. A GIS map or data mining display are not simply attractive visual aids used to illustrate a textual presentation … [they are used] as tools to explore data.[7]

Thus, the technologies provided by GIS give the Humanities' scholar new ways to organize and explore information in both space and time, and Historical GIS is rapidly becoming an important sub-field in the academy.[8]

The use of visual display is particularly prevalent in archaeological work, as archaeological investigation begins with the recording of the spatial arrangement of natural and man-made objects in a particular place. Logically, then, archaeological interpretation makes extensive use of these forms of spatial argumentation to augment the narrative. Archaeology, while it certainly uses scientific techniques in much of its analyses and has particular social scientific methods of its own, falls within the realm of the Humanities as well. For example, Ian Morris argues, hinting toward the often contentious debates over this issue of what exactly is archaeology,

> Archaeology is cultural history or it is nothing … Archaeology is the study of what survives of the material culture of people who lived in the past. Insofar as

archaeology is about people who lived in the past, it is historical; and insofar as it is about material culture, it is cultural. Therefore, archaeology is cultural history … This sounds like common sense, but surprisingly few archaeologists seem to agree.[9]

Digital information visualizations hold even more promise for the Humanities—and in particular for this chapter, in archaeological interpretation—in its three dimensional capabilities. A two-dimensional visualization, whether a traditional map or a new GIS computer information visualization, certainly encourages different thinking about space, but it, too, has limitations. In the interpretation of the spatial meaning of ancient cities, the scholar who engages with an archaeological site map, whether on paper or in GIS, has a privileged point of view, that of the "celestial eye" which, to appropriate the words of Michel de Certeau, "makes the complexity of the city readable, and immobilizes its opaque mobility in a transparent text."[10] Thus, for the scholar, like de Certeau's "voyeur" viewing Manhattan from the 110th floor of the World Trade Center, the archaeological site map allows the whole city to be apprehended in one glance. That is, on the two-dimensional page, spatial everyday practices vanish, and the logic of the map that reveals itself is one that no inhabitant would encounter. While the map-reader experiences the urban fabric from above without limits, the inhabitants' experience of a city is constrained by walls, closed doors, and limited sight-lines. The map-reader is subject to none of these restrictions, but rather she has a totalizing view of the space devoid of its inhabitants. Further, it is not just the physical and visual affordances that de Certeau outlines, but he is interested in how the inhabitants' experience also goes beyond the limits of these physical determinants. Inhabitants may, for example, prevent themselves from taking a path that is generally considered accessible. However, while this project is interested in representing the experience of inhabiting the place from the standpoint of a human being, it is not interested in taking de Certeau's insights too far, and thus it must be clear that trying to recover the everyday practices of the inhabitants of an ancient city is a difficult, if not an impossible, task. However, de Certeau is quite helpful when he points to the inadvertent wisdom of a 1970s poster describing the wonder of visiting the World Trade Center: it reads, "It's hard to be down when you're up" (Figure V-2).[11] In the Virtual Sirkap project, this poster is read idiosyncratically as does de Certeau, and is also read as a challenge. Thus, the project attempts to "be down"; that is, it attempts to represent the vantage point of the walker in the city, rather than the voyeur 'up' above it. The walkers in a city, as de Certeau argues, experience an urban fabric in a particular way, and this is the experience the project seeks, however compromised it might be by the interventions of technology and time.

Figure V-2: Original Title: It's Hard to be Down When You're Up.

## Representing Place: Erasure and Formative Effects

Place is a social, historical, and spatial phenomenon. The meaning of a singular, physical place changes according to the specificities of the society, the time, and the physical attributes in which that space is interpreted. As such, place is not fixed in any of these three dimensions. This kind of place is difficult to recover in the ancient city of Sirkap. With this said, it is important to highlight two important concerns about representing place discussed in Chapter Three: (1) the act of representation tends to signify one interpretation of the place and to erase others, and (2) the act of representation tends to have a formative effect on the signified place.

This project addresses this issue of erasure, or in other words, the impossibility of retrieval, of certain experiences by certain dwellers of Sirkap. In Virtual Sirkap, the user takes on a pedestrian view in both the literal and figurative sense: the user's avatar is literally represented as "on-foot," but the avatar is also quite "pedestrian," that is, commonplace and ordinary. Thus, we represent an experience of the city from the point of view of the commoner. However, the urban form of the city may not have been purposely designed to engage with the commoner, but rather, the urban form may reflect the desire to engage other classes of inhabitants such as a monk or a prince, and as such, perhaps the commoner's perspective is not of primary importance. The project employs Michel de Certeau here to address these concerns. De Certeau argues that all places exist in a dialectical relationship between a representation of place imposed by a dominant structure and an appropriation of the same place by subverted structures.

For the model, what is important here is that places are in themselves representational devices used by dominant structures of power—in such a representation, perhaps the religious elite (the monk) or the state/military apparatus (the prince)—to impose a certain meaning on their dwellers—the pedestrian avatar. Dwellers, on the other hand, usually appropriate their own, different, meanings in their everyday use of these places. As contemporary scholars, we have no access to these meanings in the past. What we can do is to reconstruct the formal space and allow for a pedestrian (on-foot) experience. The project could have created the look of the avatar to match a certain class, but this would have done very little to change the ways in which users perceive the place. It could make conjectures based on historical studies of these classes, but this approach goes beyond the limits of our current study. Thus, what the project does is compare the presentist interpretation derived from its three-dimensional representation with the equally presentist interpretations derived from more traditional media of representation such as two-dimensional maps, photographs, and site plans. The project signals the presentist nature of the model by having the user choose an avatar that reflects our contemporary culture.

The look of avatars, as discussed in Chapter Four, has an impact on the interpretation of the environment, and as such they are one of the most important parts of any model. In fact, the game industry, recognizing how tightly user experience is tied to avatar form, usually employs scores of dedicated experts whose sole task is to model avatars. The project limited the choice of the user's avatar to a gendered modern-day looking representation to serve as a contrast to the NPCs which were modeled to appear as residents of Sirkap in the first century CE (Figure V-3). This, the project hopes, will continuously remind users of the contemporaneity of their experience. But the project encountered steep challenges in modeling the inhabitants of Sirkap. With limited time and finances, the project opted for buying avatar models. While shopping for avatars, we discovered that all commercially available human avatar models represent the facial features and body

proportions of what is perceived as an ideal man or woman of northern European descent.[12] The project task, thus, was to modify these avatars to fit its needs. However, even this was a challenge as the commercially available tools for creating your own avatars only provided scaffolding which replicated the same European-type avatar. Certainly we could change skin, eye, or hair color quite easily, but the body and facial types were distinctively European. Historical accounts point that the residents of Sirkap were the local Indian populace in addition to waves of Greeks, Scythians, and Parthians, and thus we should expect that Sirkap had a racially diverse population. Thus, in the model, it is doubtful that any of Sirkap residents looked like the currently available avatars.



Figure V-3: Avatars used in Virtual Sirkap.

In Virtual Sirkap, then, what is "recreated" privileges the dominant groups' history since most of the past meanings are now lost to us. Moreover, it is not just that only certain meanings survive the ravages of time, but the very act of representation fixes the meaning of place according to its producer's time and worldview.

Further, the medium of representation itself is inherently selective in its signification, and much depends on its technical affordances and the ways in which it is socially perceived. Similarly, the medium of representation that we employed in our project is not neutral. Its technical affordances and the ways in which it is socially constructed and deployed have a formative effect on the ways in which Virtual Sirkap is perceived. The project employs a computer generated virtual environment based on gaming technology. It represents place in three-dimensional perspectival constructions where users are represented as anthropomorphic, usually gendered, three-dimensional computer models called "avatars". Through avatars, users can explore the environment and interact with other users and non-playing characters. The environment allows for a liberal visual, auditory, and kinetic experience of space in actual time.[13] This sets this medium apart from cinematography which affords only a restricted experience in a staged time and space. It also sets it apart from maps for it puts back into the representation the possibility of individually

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and socially inhabiting the place. On the other hand, other than sight, hearing, and kinesthesis, our medium does not afford the other senses. The sense of smell, for example, which is a key sense in market places, is absent from our reconstruction of Sirkap's Main Street.


## Cartographic Media and Interpretation:
## Representations of Sirkap circa 100 CE


### The Position of Sirkap within the Archaeological Complex of Taxila

Located in northern Pakistan about twenty-two kilometers to the west of Islamabad and about twenty-five kilometers to the northwest of Rawalpindi, the archaeological complex at Taxila was at one time at the intersection of three great trade routes connecting India, Central Asia, and Western Asia. Its early urban form was developed in the late sixth century BCE, and it flourished from the third century BCE to the seventh century CE. Its decline can be linked to changes in the trade routes and a subsequent population decrease.[14] The site is a vast complex of monasteries, temples, and three separate cities, which taken as a whole covers almost forty-five square kilometers. It was "discovered" by Alexander Cunningham in the late nineteenth century as he travelled throughout India following the pilgrimage routes of the Chinese monks Fa Xian, who also travelled through the Indian subcontinent in the fifth century CE, and Xuan Zang, who did the same in the seventh century CE.[15]

While Cunningham did not engage in full excavations at Taxila, he did carry out some preliminary digs in and around the area.[16] However, it was the twentieth century British archaeologist Sir John Marshall who did the most extensive work there from 1913 to 1934. His finds were steadily published in his yearly *Annual Reports*, and in 1951, Marshall republished his data in a three volume final report now known simply as *Taxila*. Marshall wrote in his introduction, "in such an excavation there comes a time when the entire body of data has to be re-examined and coordinated, and a comprehensive account of the whole put at the service of archaeologists and historians."[17] Although there have been various small archaeological digs in the area since the 1951 publication of *Taxila*, Marshall's work is by far the most comprehensive archaeological record of the site to date.[18]

In *Taxila* Marshall identified—in addition to the myriad of temples, stupas, and monasteries— three separate cities. The earliest, and smallest, was located on Bhir Mound and was founded sometime after the fourth century BCE. In the late Mauryan period and during Indo-Greek rule, that is the early second century BCE, much of the population moved from Bhir Mound to Sirkap. Sirkap flourished from the late second/early first century BCE to the middle of the second century CE under the rule of three successive groups: the Indo-Scythians, Indo-Parthians, and Kushanas. With the arrival of the Kushanas in the late first-century CE, the city's population began to move to Sirsukh which, unfortunately, has yet to be adequately excavated. This period, from the late first century CE to the middle of the second century CE is provisionally called in this chapter the "Transitional Phase," and it is from this period that much of the ruins of the city belong (Table V-1). The long term goal of the Virtual Sirkap project is to build a comprehensive model in both space and time: the hope is not only to model the urban and extra-urban landscape, but also to present these

landscapes through time, that is, to offer snapshots of the whole complex at Taxila at different historical moments. However, this is only a start, and at this point, a small portion of the middle city of Sirkap is modeled, from the northern fortifications to Block D, as it might have stood around 100 CE.

Table V-1: Chronology of Habitation at Sirkap

| Virtual Sirkap Terminology | Rulers | Dates |
|---|---|---|
| Settlement Phase | Mauryans, Indo-Greek, Indo-Scythian, Indo-Parthian and other kings | circa 200 BCE to middle to late 1st c. CE |
| | *upper boundary of Settlement Phase is marked by coins of the Kuṣāṇa king Kujula Kadphises circa 78 CE* | |
| Transitional Phase | Great Kuṣāṇa Kings: Vima Takto, Vima Kadphises, Kaṇiṣka I and Huviṣka | circa middle to late 1st c CE to circa 200 CE |
| High Kuṣāṇa Phase | begins with reign of Vāsudeva I and includes later Kuṣāṇa and Kuṣāṇa-Sassanian rulers | circa 200 CE to 5th c. CE |

## Scholars as Voyeurs: Experiencing the City while 'Being Up'

The primary site plan of the city of Sirkap, Plate 10 entitled "Plan of Sirkap Showing the Second (Parthian) Stratum," is found in volume three of Marshall's *Taxila*. It is the site plan used by almost all subsequent studies of the cultural heritage of the city (Figure V-4). Of course, while it is the primary focus of this chapter, this two-dimensional site plan is not the only media through which a scholar can interpret Sirkap. Photographs—including those taken by Marshall and his excavation team at the time of excavation, those taken by subsequent excavation teams and visitors to the site after Marshall, and aerial images (both the traditional methods of using an airplane and now the much easier method of using Google Earth)—and actually walking through the extant ruins are two other ways of apprehending the site. Virtual Sirkap and photographs are similar in that while both are displayed in two-dimensional platforms, they solicit our life-long experience with three-dimensional objects to reconstruct in our mind the third dimension. Virtual Sirkap differs from photographs, however, as it affords kinesthesis, that is the ability to perceive the environment by experiencing movement through it. Virtual Sirkap differs from walking the extant ruins in two ways: first, the ruins at Sirkap do not preserve the third dimension in any helpful way. That is, what is left of the city is just the footprint, and the visitor's sight-lines are not impeded. Second, the norms of heritage site management work to order the experience for the visitor. As Sudharshan Seneviratne argues:
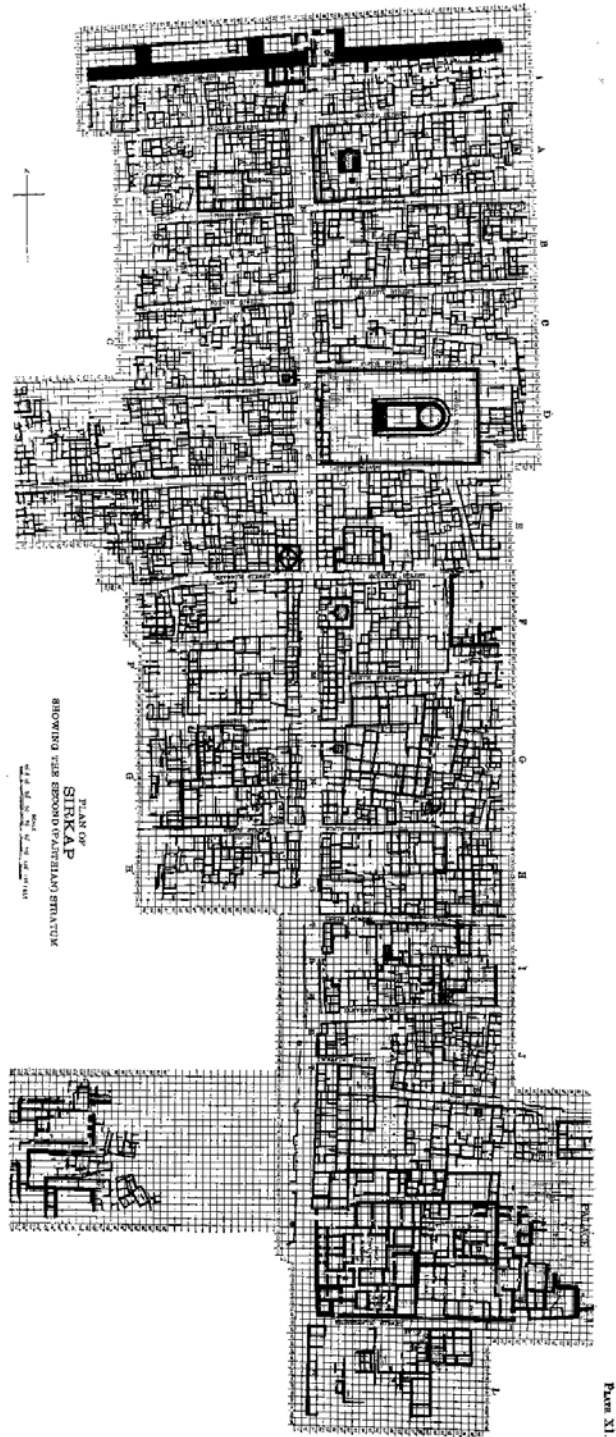
Figure V-4: Marshall's Plate 10 as found in Taxila.

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> … the site management decorum applied at living World Heritage sites becomes an impediment to the free flow of intangible heritage. Neatly demarcated pathways forcefully guiding the movement of pilgrims and visitors, restrictions imposed on certain types of rituals and expressions … and the restriction of entry after visiting hours (when such sites are aesthetically most appealing) tend to dilute the 'living' heritage at heritage sites … [they become] docile and devoid of "life."[19]

So, the media of photographs and the act visiting the extant ruins run up against many of the same issues that adhere to two-dimensional site plans. Again, however, the focus here is the most common way of representing Sirkap, two-dimensional site plans and maps.

A look at Marshall's Plate 10, the two-dimensional site plan of Sirkap, from above—as is the case when viewing it in two dimensions—commands the attention to three features of the plan visually: the Block D Apsidal Temple complex, the northern fortification wall, and Main Street. The reason for this is that our perception proceeds by differentiation and not identification. According to Henry Bergson, what grasp our attention in a phenomenon is what is different and not what is similar.[20] As such, our eye is drawn away from the monotony of the intricate urban fabric of much of the city and towards the large swathes of solid white and black space—the white space created by the outer courtyard of the Block D Apsidal Temple complex and the black space created by the heavy footprint of the fortification wall.[21]

Of these three features, perhaps the most visually captivating is the Block D Apsidal Temple complex. As Ahmed Dani, perhaps the foremost expert on Sirkap after Marshall, wrote, "[t]he temple [in Block D] is the most imposing building in the whole site of Sirkap."[22] This chapter argues that this assessment is not primarily derived from its size, but more so from the simplicity and size of the architectural features as depicted on the two-dimensional page. It certainly is large, the whole complex occupies much of Block D and spills into Block C to the north. The rectangular outer wall is approximately 69.4 meters in length and 45 meters in width, while the temple itself measures 39.9 x 15.5 meters (Figure V-5). However, it is not primarily the size of the structure that draws our eyes to it, as equally large structures can be found in the site plan but do not hold our attention in the same way. For example, the Palace complex in Block K is much larger, measuring approximately 106 meters in length by 97 meters in width. However, the Palace complex is divided into a number of rooms and courts, all of which we can see in our totalizing vision from above, and these divisions lessen its visual impact making it seem smaller than the Block D Apsidal Temple complex. The Block D Apsidal Temple complex, on the other hand, has lots of white space both surrounding and within it, giving it a sense of mass. So, in the midst of the monotony of black lines that characterizes most of Plate 10, our eyes move to this white space, and the Block D Apsidal Temple complex becomes the visual focus of the city.
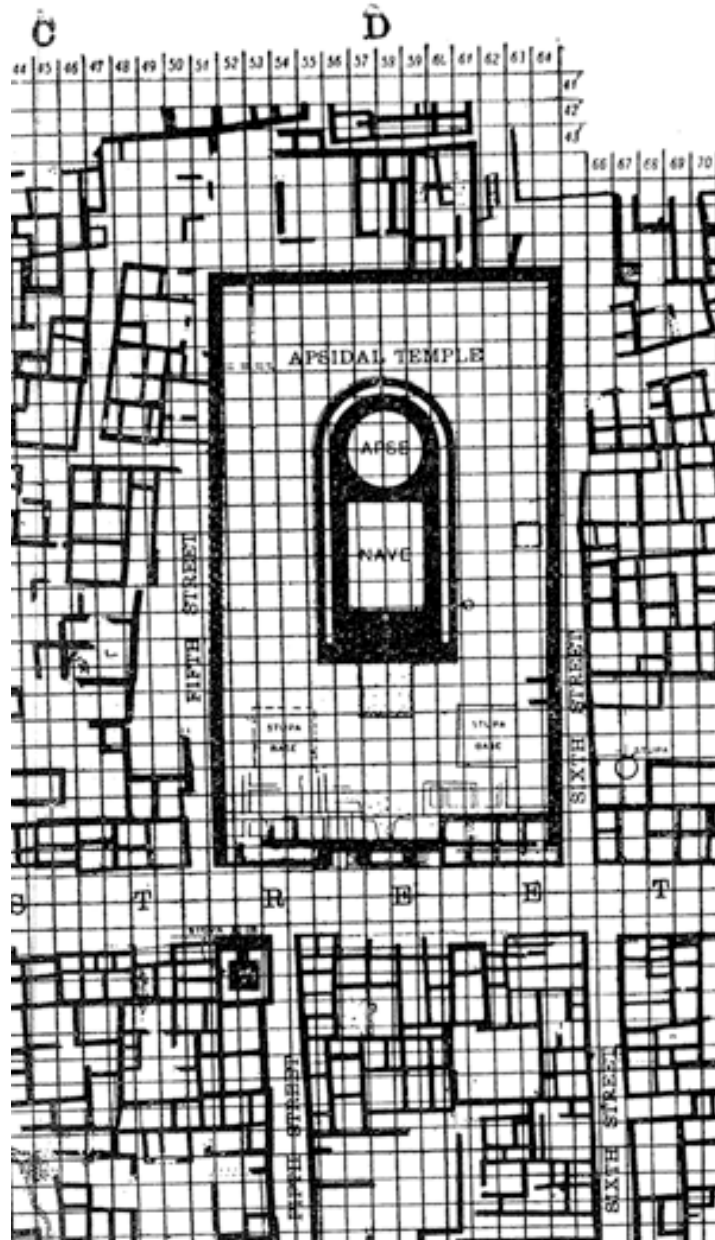
Figure V-5: Block D Apsidal Temple complex as an interpolation onto the
original grid structure. Note how fifth street has been moved to the left to
make room for the outer enclosure wall of the complex.

This differentiation process—or the suggestive signification of this particular representation—is
even stronger in the many reprints of Marshall's Plate 10. The original Plate 10 was published in
*Taxila* as a large, twenty-five inch wide fold-out. However, very few publications allow for such a
large fold-out, and so it is rarely reproduced in full. Rather, the map is divided into parts for ease of
publication. A reproduction strategy that keeps the image most fully intact is to shrink it bit and
then rotate it ninety degrees clockwise so that the north-south orientation is vertical allowing for
the most coverage. Even in this maximal procedure, only eleven inches of the original plate can be

depicted on one page—that is, from the fortifications to Block F (Figure V-6). More often than not, however, only a very small portion of the city is represented—from the fortifications to Block D or E. The result of these reductions is twofold: (1) the larger structures that might compete for our visual attention with the Block D Apsidal Temple complex are not depicted, and (2) often the Block D Apsidal Temple complex is centered on the page.[23] When Marshall's Plate 10 is reduced in size enough to fit entirely on one page, the focusing effect of the empty white space of the Block D Apsidal Temple complex is heightened even more.[24]

Marshall's Plate 10, while the most ubiquitous, is not the only representation of the Sirkap available. Perhaps the most striking full reproduction of Plate 10 was created by the Pakistan Department of Archaeology and is not in a publication at all. Rather, a full reproduction of Marshall's Plate 10 stands at the entrance of the ruins of Sirkap. The site plan is drawn with white lines on a blue background (Figure V-7). In this representation, the Pakistan Department of Archaeology chose to draw the white lines of the Block D Apsidal Temple complex in bold, which further distinguishes it from the rest of the city. Yet another important representation of Sirkap is found in A. Ghosh and Sir Mortimer Wheeler's 1947-48 excavation report (Figure V-8).[25] In this plan, the Block D Apsidal Temple complex's white space jumps out even more. As befits the visual prominence of this structure as represented in the two-dimensional site maps, this complex receives the most attention in discussions of urban form and religion at Sirkap.

The other two features that visually demand attention in two-dimensional site plans of Sirkap are Main Street, which bisects the city, and the fortifications, which surround it.[26] Again, our attention is directed to elements of the representation that stand out as different and to Main Street (particularly in the full reproduction of the city site plan as in Figure V-4), and to the thick black lines of the fortification's footprint (as seen in both Figure V-4 and Figure V-8). These two features, like the Block D Apsidal Temple complex, have received much attention from scholars who often have noted the odd relationship between them: the northern gate does not open out directly onto Main Street as one would expect, but rather is offset to the east quite a bit. This odd orientation is explained by Marshall (1951, p. 115) as a product of both defensive and sanitary concerns:

> [The offset orientation] would check any sudden rush of assailants and prevent them sweeping through the gateway and up the Main Street … [and] during the rainy season the flood-water pouring down Main Street would extend its force to some extent against the city wall … before entering the capacious underground drain which passes from south to north beneath the gateway.[27]
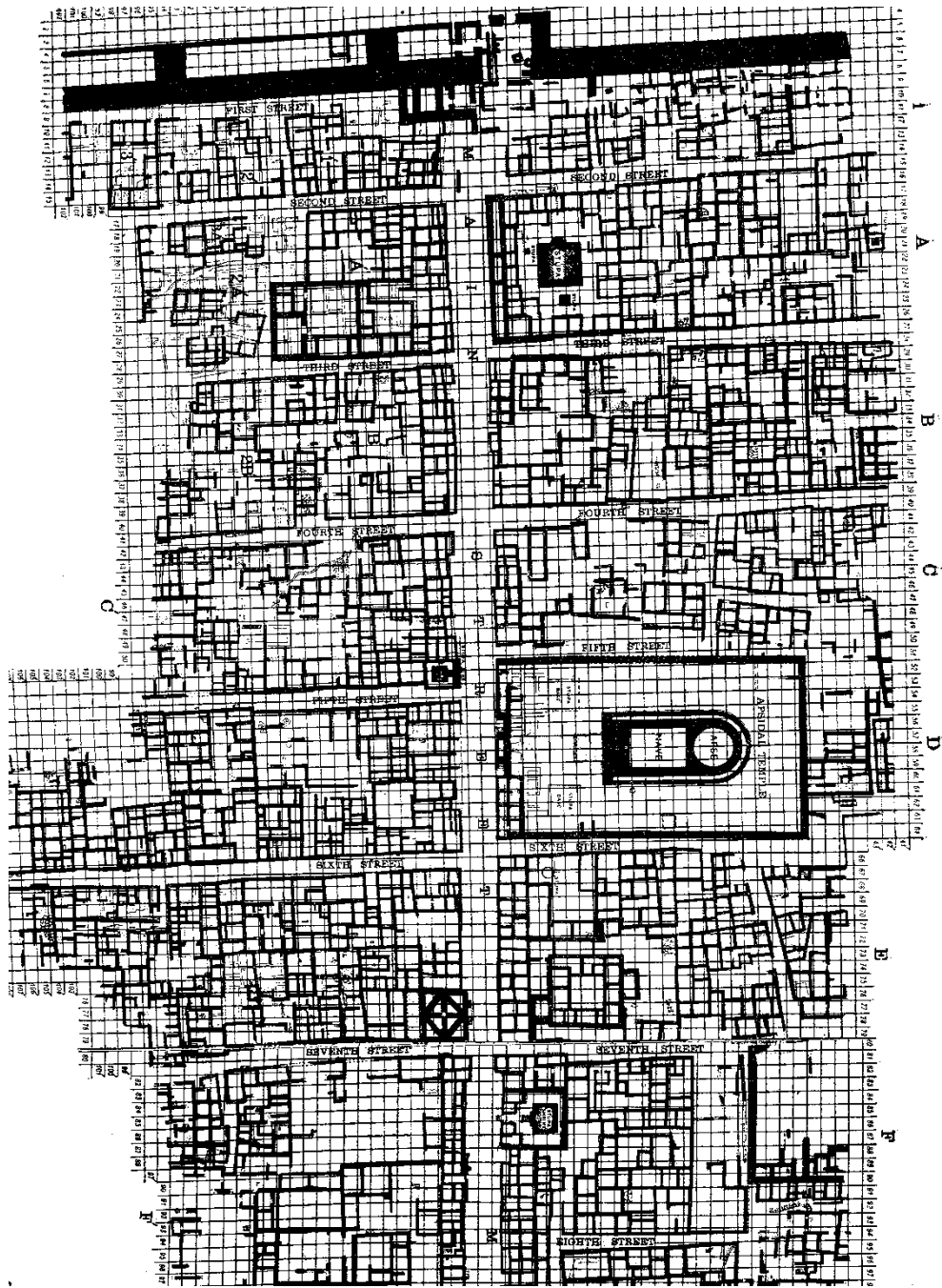
Figure V-6: Marshall's Plate 10, a reproduction from the fortifications
through Block F.

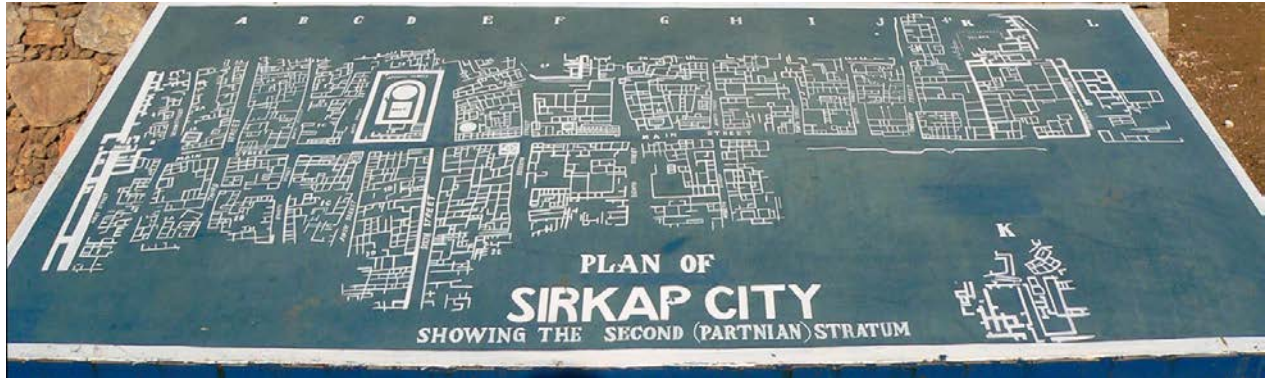Figure V-7: Reproduction of Marshall's Plate 10 by the Pakistani Department of Archaeology and Museums outside the site itself. Photo courtesy of Usman Waqas, http://pbase.com/waqas.
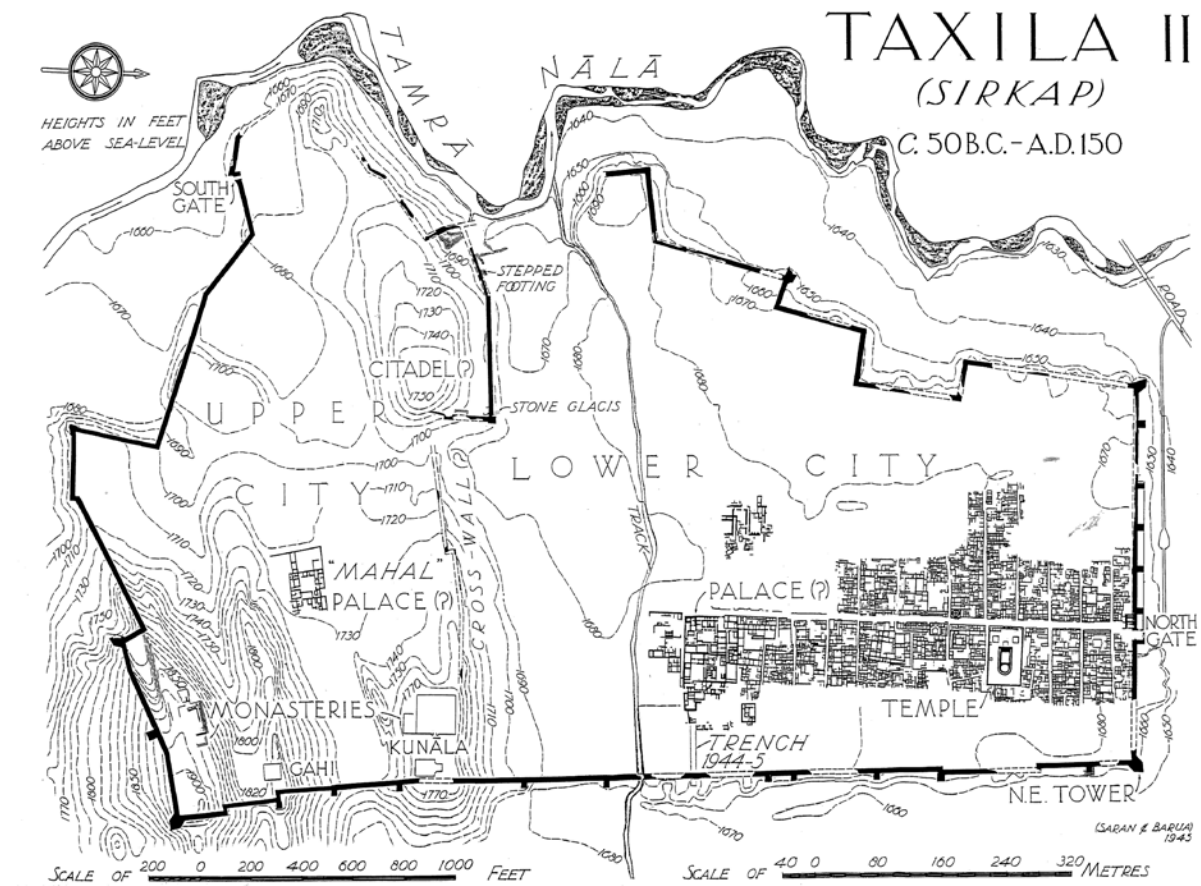


Figure V-8: Sirkap as drawn by Sir Mortimer Wheeler (1944-45)

Both of these explanations are well-founded, but perhaps not exhaustive. That is, this understanding, or better "experience," of the relationship between the fortifications and Main

Street, just as the "experience" of the centrality of the Block D Apsidal Temple complex, is very much the product of the visual medium employed: the two-dimensional site map.

## Walking the City: Experiencing Sirkap in Three-Dimensions

The goal of the Virtual Sirkap project was to create a way in which a user, in the present, can "walk the city" rather than apprehend it from above. While there is still much work to be done—the project team was only able to model a very small portion of Sirkap—the three-dimensional virtual environment affords us that possibility. At the beginning of the project, the expectation was that the interactive nature of the model will be the primary generator for fresh ideas. That is, the study was interested in tracking how users experienced the city when it was populated by non-player characters engaging in actions as simple as walking down the street, selling goods in the market, or offering devotion at a shrine. And while the project team was able to put non-player characters into the model, it was done only at a very basic level. Unfortunately, there are only two types of non-player characters, one male and one female prototype, and the team has yet to model the appropriate physical forms and dress for them. Further, and more importantly, there is very little interactivity with them: visitors can only watch them perform their preset tasks and cannot engage with them. The incomplete nature of the model as the project team envisioned it, however, has turned into a great boon. One of the great surprises in the Virtual Sirkap project was how different the experience of the city was, even without the interactive portion completely finished. That is, the urban layout, when experienced from the ground up as an inhabitant of a three-dimensional world might have encountered it, provided alternative interpretations of the religio-political form of the city. When walking the city in three dimensions, rather than apprehending it in a totalizing vision via the two-dimensional site plan, the visual dominance of the Block D Apsidal Temple complex recedes significantly. One might assume, as this chapter does, that the size of the Block D Apsidal Temple complex would render it visible from quite a distance,[28] however, this is not the case. For example, when standing in the center of Main Street between Block 1 and Block A, the Block D Apsidal Temple complex is barely visible (Figure V-9). In fact, one would already have to know it is there to realize that the small circles just above the far southeastern buildings were the crests of the pillars located in the courtyard of the Block D Apsidal Temple complex. That is, from this vantage point, it is impossible to know that these circles are actually Buddhist chakra wheels mounted on tall pillars. Further, the visitor's interest is drawn to the activity, the movement, on Main Street and not to the constructed form, thus rendering the pillars even more insignificant. As the visitor moves down Main Street, the chakra wheels mounted on the pillars do become more prominent (Figure V-10); however, the roof to the Block D Apsidal Temple does not come into view until she reaches the southern portion of Block C (Figure V-11). It is only then when standing directly in front of the Block D Apsidal Temple complex that the temple roof and a portion of the temple itself, rather than just the pillars, is visible (Figure V-12).

Figure V-9: Avatar standing between Block 1 and Block A looking north.



Figure V-10: Avatar standing at Block B looking north.

Figure V-11: Avatar standing at the southern end of Block C looking north.



Figure V-12: Avatar standing at Block D looking at the Apsidal Temple complex.

The above description of the view of a person walking southward on Main Street is merely a translation of a possible course of action that can be taken in the model. It is much like a city tour

in that the choices are pre-determined for the reader. However, unlike an actual tour, a textual description does not take place in real time. This is an important aspect of walking a city—it takes time to move from one spot to the next. The city cannot be apprehended all at once, but only in small segments. In the Virtual Sirkap model, for a visitor to change her location in the city she must walk to the next point. If she wants to revisit a site, she must walk back. She is located in time and space, and her decisions must take these parameters into account. On the other hand, the location of the traditional scholar engaging a two-dimensional site plan—which is an orthogonal projection that does not signify a standpoint—is, paradoxically, both nowhere and everywhere at the same time. The scholar views the city from above, from an undefined point in space, which no inhabitant of the city could attain. However, from that indeterminate place, that "God's eye view," the scholar, or as de Certeau calls her, the "voyeur-god," is also, at the same time, everywhere. However, in Virtual Sirkap, walking, for example, in a straight line—with no stopping to look at other buildings, with no stopping to look at the markets—from Block 1 to Block D, about 150 meters, takes almost two minutes. This lessens the impact of any particular building, and in particular the Block D Apsidal Temple complex, as much of the time it is not within the visitor's immediate experience.

Now that the Block D Apsidal Temple complex is not assumed to be the dominant structure in the city, other structures begin to come into focus and demand our attention. For example, for any visitor entering the city through the northern gate (which is only *one* of a *number* of ways to move within the city) the visually dominant structure is not the Block D Apsidal Temple complex, but the Block A stupa court. Not only is the top of the stupa in Block A visible from the moment the visitor enters the city,[29] but she is further drawn towards this structure as the entrance to this stupa court opens out to Second Street and not out to Main Street as expected. The intentionality of this north-facing orientation is further confirmed by the fact that the stupa itself faces north towards Second Street and the northern gate. The visitor, upon entering the city then, naturally walks straight from the northern gate to a sort of walkway leading to the entrance of the stupa court (Figure V-13).[30] Thus, in addition to the previous arguments of sanitation and defense, one can add a third argument for the function of the odd orientation of the northern gate and Main Street: the three-dimensional experience informs us that the Block A stupa court held a privileged place in the religio-political geography of the city.[31] New arrivals would most likely make initial offerings here, and the structure would showcase the power of the rulers.[32] This is not to discount Marshall's arguments; structures can have multiple purposes, and it is quite possible that the "odd" orientation of the northern gate served to facilitate waste management, bolster a defensive posture, *and* afford an initial contact point for visitors to the city.
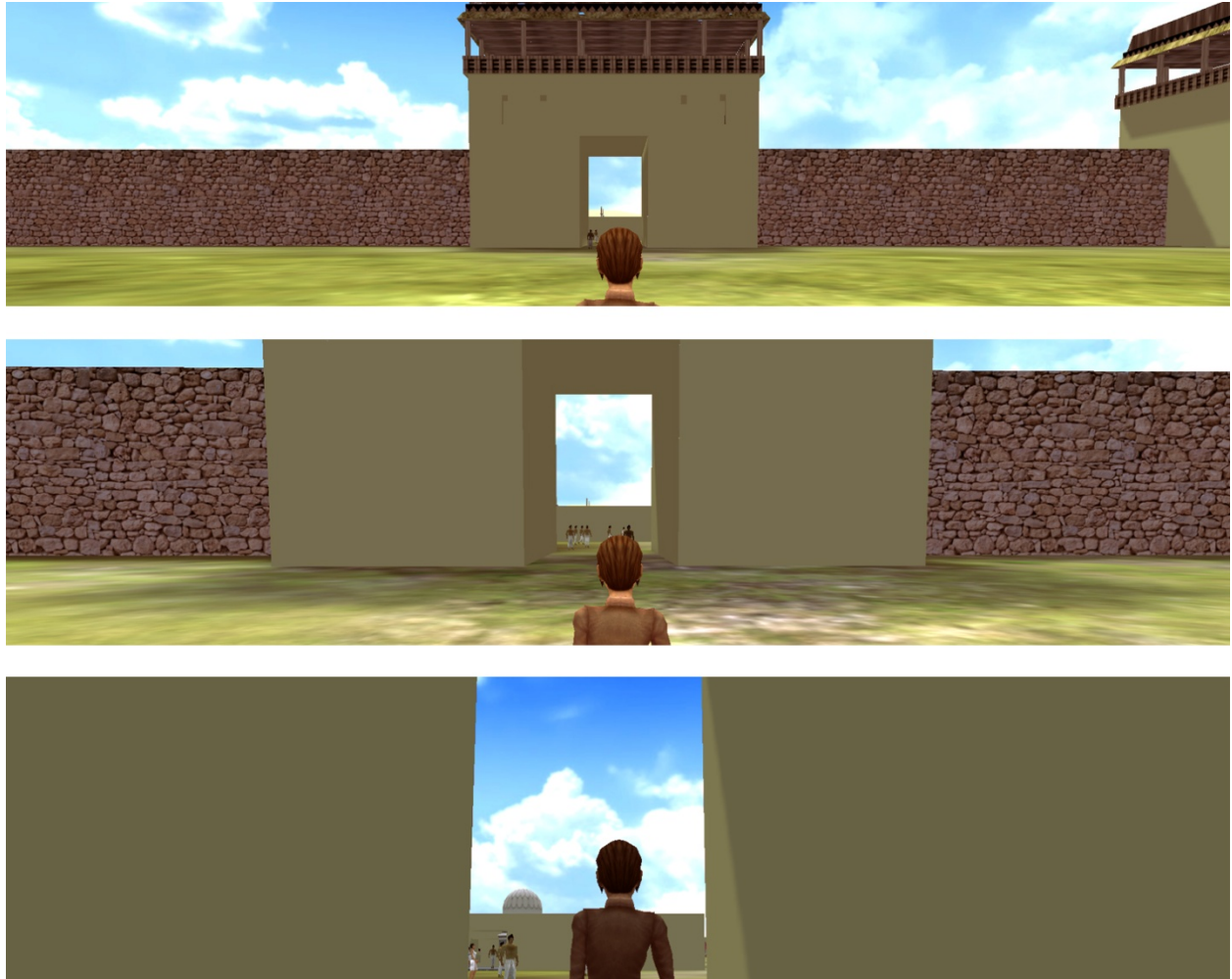
Figure V-13: Entering the city through the northern gateway, the Block A
stūpa is the most prominent feature.

Thus, the virtual reconstruction offers hints of the importance of the socio-religious ideologies embedded within the urban form of Sirkap. However, the instantiation of political ideology in Sirkap's urban form finds its most profound visual imprint in the ever-present fortification walls. The fortifications do not just dominate the landscape when a visitor approaches the city from outside the walls (Figure V-13), but they dominate the interior of the city as well. It is not just that they are *visible* from many parts of the model, but it is that they are *visually imposing from almost every vantage point*. No matter where the visitor walks in the city, the fortifications loom in the background. Here, the state apparatus, represented by defensive walls and the soldiers placed within them, is decidedly present. In the Block A stupa court, the fortifications tower over the interior, and the visitor could not but be aware of the presence of the military above her (Figure V-14)—compare this to the photograph taken by Marshall from the same vantage point where there is no indication that the fortification walls and northern gate dominate (Figure V-15); on Main Street, whenever facing north, the fortifications are the backdrop (Figure V-16); moving 150 meters southward down Main Street, all the way to the Block D Apsidal Temple complex, the guard towers are a visible and distinct presence (Figure V-17); and in the various alleys and

interior courtyards, the fortifications are present (Figure V-18and Figure V-19). This "experience" of the ubiquity of the fortifications is only possible in a virtual reconstruction of the place.



Figure V-14: Avatar in the Block A Stūpa Court facing northwest.
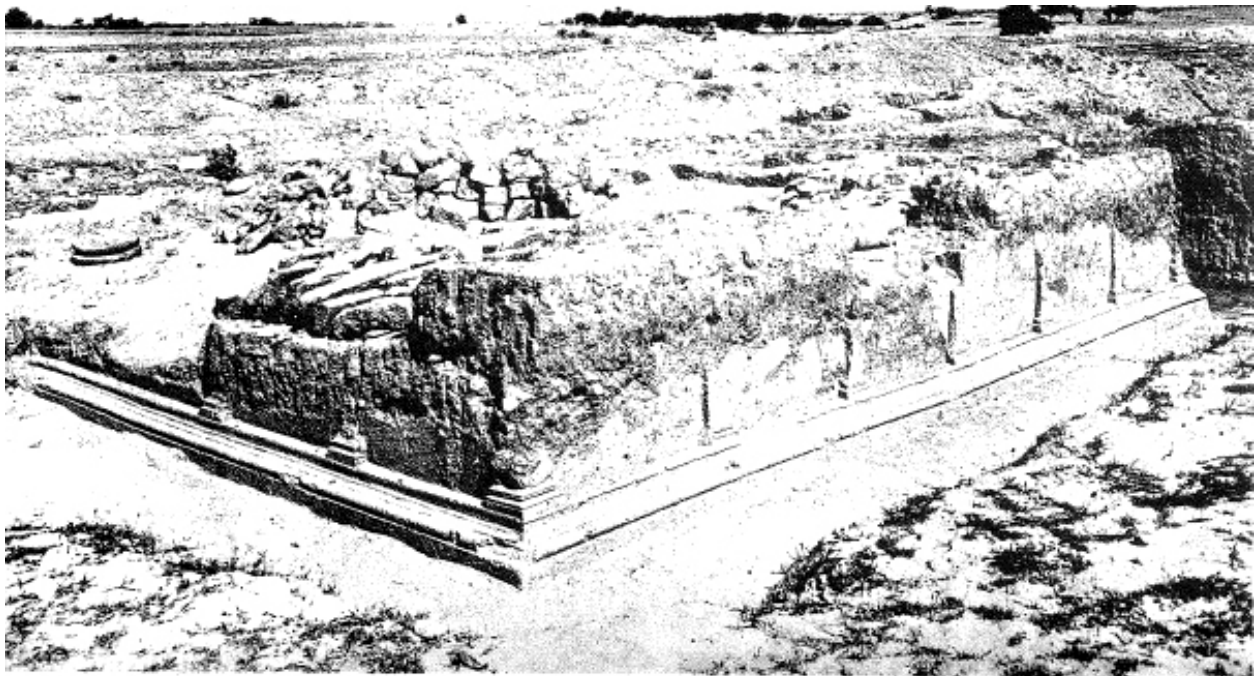


Figure V-15: Photograph from Marshall's Taxila, Plate 23a, Block A stupa court looking northwest.

Figure V-16: Avatar at southern end of Block A facing north.



Figure V-17: Avatar at southern end of Block D facing north.

Figure V-18: Avatar in small courtyard at eastern end of Block B.



Figure V-19: Avatar in alley in Block A'.

## Conclusion

Through the use of a virtual reconstruction using gaming technology, this chapter has explored a multiplicity of meanings embedded within a small portion of the urban fabric of the ancient settlement of Sirkap. It contrasted these meanings with those derived from the more traditional medium of the two-dimensional site plan and concluded that traditional interpretations often overvalued the socio-religious impact of the Block D Apsidal Temple complex, leaving the powerful visual statements made by the Block A Stupa Court, the northern gate, and the fortifications under-interpreted. However, it is imperative to note that this does not mean that the Block D Apsidal Temple complex was not an important socio-religious site, in fact, at certain times, for certain inhabitants, and in certain "walkings" of the city it surely was the dominant structure. However, it is also important to recognize that in some "walkings" of the city, for example the one outlined above where the visitor enters from the northern gates and walks southward down Main Street, the Block D Apsidal Temple complex recedes from view, and other structures emerge. Further, the meanings identified in this chapter can only be provisional, as there is a need to model so much more of the site. How would having a complete model of the excavated portion of Sirkap, not just the northern blocks, affect the experience of the city? How would entering from one of the other two gates affect the experience? And even beyond the urban fabric, how would modeling the extra-urban monasteries, stupas and temples affect the experience of the walled city? For example, surely the massive Dharmarajika Stupa complex, located less than a kilometer and half to the southeast of the eastern gate at Sirkap, had a powerful effect on the city itself.

Lastly, how will improving the visual believability and interactional capabilities of the non-player characters populating the city change the experience? Throughout this chapter, the presentist nature of the Virtual Sirkap experience is stressed, and increasing the verisimilitude and perceptual realism of the experience will only add to the complexity of this problem. As the creators of the virtual city, the project team is constantly reminded that it is not representing actual events. However, the hope is, ultimately, the city will be visited by many people who are interested in the cultural heritage of ancient India. Since Virtual Sirkap employs gaming technology, these users will most likely interact with the environment in ways similar to the ways they interact with video games in general: they will explore it playfully and uncritically. The more visually believable the environment becomes, the more users will understand it as objective history. That is, just as, because of the ways photographs are socially constructed, photorealism, or perceptual realism, suggests actual events,[33] so too will our model suggest actual history. In fact, Kevin Schut argues that "the creation of a tangible historical space is in some sense a much more convincing case of historical objectivity than any picture might be."[34] If this is true, it is incumbent upon the creators of Virtual Sirkap to find ways in which to encourage the users to engage the game critically.

All of these issues can be explored as the Virtual Sirkap model continues to grow, and their theoretical value can be enhanced through other models of heritage sites. However, what is clear is this: the interpretation of heritage places depends on the affordances of the representational medium through which these places are perceived and the ways in which such a medium is socially deployed and interpreted. This means that the models we create are profoundly presentist—that is, they reflect many of our concerns in the present, rather than giving us objective knowledge about the past. However, with careful modeling, perhaps one can capture *some* of the meanings

embedded by *some* of its past inhabitants and find ways to convey these meanings to visitors to the city.

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[1] I owe most of the archaeological work in this chapter to Professor Daniel Michon, at Claremont McKenna College, with whom I worked on the development of Virtual Sirkap and produced a paper that was recently accepted at the International Journal of Heritage Studies (IJHS). The modeling and development team for Sirkap included beside myself, Yongwook Jeong, SeungWan Hong, Ginette Wessel and Pinar Aybar.

[2] The construction of Virtual Sirkap was funded through the National Endowment for the Humanities Digital Humanities Start-Up Grant program.

[3] The model is available for download at http://www.virtualsirkap.com.

[4] See the special issue of *Visual Resources* published in 2009 dedicated to this subject, and in particular, see: Gill, "Digitizing the past: Charting new courses in the modeling of virtual landscapes."

[5] Richard White, "Forward," in *Placing history: how maps, spatial data, and GIS are changing historical scholarship*, ed. Anne Kelly Knowles and Amy Hillier (Redlands, Calif.: ESRI Press, 2008), x.

[6] David J. Staley, "Finding narratives of time and space," in *Understanding place: GIS and mapping across the curriculum*, ed. Diana Stuart Sinton and Jennifer J. Lund (Redlands, Calif.: ESRI Press, 2007), 37., using insights from: W. J. T. Mitchell, "The photographic essay: four case studies," in *Picture theory: essays on verbal and visual representation* (Chicago: University of Chicago Press, 1994)..

[7] Staley, "Finding narratives of time and space," 37.

[8] See: Anne Kelly Knowles, "GIS and history," in *Placing history: how maps, spatial data, and GIS are changing historical scholarship*, ed. Anne Kelly Knowles and Amy Hillier (Redlands, Calif.: ESRI Press, 2008).

[9] Ian Morris, *Archaeology as cultural history: words and things in Iron Age Greece*, Social archaeology (Malden, Mass.: Blackwell, 2000). 3.

[10] de Certeau, *The practice of everyday life*: 92.

[11] Cited in ibid. from a poster de Certeau saw while at the World Trade Center. The full poster reads, "It's hard to be down when you're up – Observation Deck at the World Trade Center."

[12] On the question of avatars and race in online games, see for example: Higgin, "Blackless Fantasy: The Disappearance of Race in Massively Multiplayer Online Role-Playing Games."; Leonard, "Not a Hater, Just Keepin' It Real."

[13] Kinesthesis is perception through movement, and since the user has an awareness of the avatar's moving body's position in relationship to an object of perception, it is a form of kinesthesis. However, like in all kinesthetic activities, the extent of the user's ability to liberally explore the environment is limited by certain factors. In a virtual environment, the constraints depend on the programming code that controls and regulates movement. For example, in our project, the code does not allow avatars to fly or users to explore the environment using a flying camera. This is a restricted experience when compared to an environment like Second Life (www.secondlife.com) which allows its users both abilities.

[14] A.H. Dani, *The historic city of Taxila* (Tokyo: Centre for East Asian Cultural Studies, 1986).

[15] U. Singh, *The discovery of ancient India: early archaeologists and the beginnings of archaeology* (Delhi: Permanent Black, 2004).

[16] The archaeological data from Taxila published by Alexander Cunningham can be found scattered throughout his annual reports to the Archaeological Survey of India. See, in particular volumes I (1871), II (1872), V (1875), and XIV (1882), all now reprinted by the Archaeological Survey of India.

[17] J. Marshall, *Taxila: An illustrated account of archaeological excavations carried out at Taxila under the orders of the Government of India between the years 1913 and 1934* (Cambridge: Cambridge University Press, 1951). xvii.

[18] A good summary of many of these excavations can be found in: Dani, *The historic city of Taxila*.

[19] Sudharshan Seneviratne, "Situating World Heritage Sites in a Multicultural Society: The Ideology of Presentation at the Sacred City of Anuradhapura, Sri Lanka," in *Archaeology and the postcolonial critique*, ed. Matthew Liebmann and Uzma Z Rizvi (Lanham, MD: AltaMira Press, 2008), 190.

[20] Bergson, *An introduction to metaphysics*: 57.

[21] These "modern" ideas of what makes for a well-designed, beautiful city are deeply rooted in the aesthetic assumptions derived from the western classical tradition. In fact, in the World Heritage Committee's official justification for the inclusion of Taxila on the World Heritage List, it is Taxila's link to urban development further to the west that is highlighted. In the final decision document (ICOMOS 1980), the World Heritage Committee briefly notes the presence of "a number of Buddhist monasteries of various periods and . . . Moslem mosques and madrasahs of the medieval period," (ICOMOS 1980, p. 1) contained within the vast complex that is Taxila, but it quickly moves on to describe Taxila's "universally meaningful" settlement sites. According to the World Heritage Committee, the first settlement site, Bhir Mound, owes its urban design to the "Achaemenians." The second site, Sirkap, derives its importance from its similarity to "the Hellenistic grid system and show[s] the strong western classical influence on local culture" (ICOMOS 1980, p. 1). In addition, the third site, Sirsukh, "attests to the early influence of Central Asian architectural forms on those of the sub-continent" (ICOMOS 1980, p. 2). Thus, the "universally meaningful" heritage of Taxila is all connected to civilizations to the west of the subcontinent. Further, this judgment concerning the value of Taxila using almost exclusively "western" criteria is not limited to assessments of its urban form. After recognizing Taxila as a unique exemplar of western urban development—and by omission not recognizing Taxila for its South Asian urban heritage—the World Heritage Committee turns to criterion 6 in which a World Heritage Site is "directly or tangibly associated with events or with ideas of beliefs of outstanding universal significance" (UNESCO 1980, p. 5). The event of "outstanding universal significance" associated with Taxila has nothing to do with Indian history—and Taxila is associated with many events of great significance to Indian history—but rather it is Bhir Mound's purported association with the "triumphant entry of Alexander the Great into Taxila" (ICOMOS, p. 2) that qualifies it for inclusion.

[22] Dani, *The historic city of Taxila*: 100.

[23] Two examples of this kind of reproduction are in K.A. Behrendt, *The Buddhist architecture of Gandhāra*, vol. 17 (Leiden: Brill Academic Pub, 2004). Fig. 10; Dani, *The historic city of Taxila*: Fig. 26.

[24] See Marshall (1936), a volume that was published long before his integrative excavation report in 1951, and another full reproduction of Plate 10 in Rachel Mairs, "The 'Greek grid-plan' at Sirkap (Taxila) and the question of Greek influence in the North West" (paper presented at the Migration, Trade and Peoples: European Association of South Asian Archaeologists, Proceedings of the Eighteenth Congress, London, 2005), Fig. 2.

[25] A. Ghosh, "Taxila (Sirkap), 1944-45," *Ancient India* 4(1948): 84. This plate is reproduced in a number of important publications, including: Dani, *The historic city of Taxila*; F. R. Allchin, "The Mauryan state and empire," in *The archaeology of early historic South Asia: the emergence of cities and states*, ed. F.R. Allchin and G. Erdosy (Cambridge Univ Pr, 1995).

[26] While Dani concludes that "the general view of the Saka-Parthian city, as drawn by Marshall, can hardly be improved" (Dani, *The historic city of Taxila*: 140-41.), he also suggests that "main street (sic) dominates the entire city plan" (ibid., 92.).

[27] Marshall, *Taxila: An illustrated account of archaeological excavations carried out at Taxila under the orders of the Government of India between the years 1913 and 1934*: 115. All later studies of Sirkap agree with this analysis, for example, see: D.K. Chakrabarti and M. Rakshit, *The archaeology of ancient Indian cities* (New Delhi: Oxford University Press, 1995). 179; Dani, *The historic city of Taxila*: 92.

[28] We constructed the height of the outer enclosure wall to rise five meters from the ground level of Main Street; the heights of the other buildings are about three meters. A significant difference between Marshall's discussion of the temple complex and our model pertains to the two "stupa bases" outside the main temple. Domenico Faccenna has made a very convincing argument that these types of bases were for pillars, not stupas, and we have chosen to follow Faccenna (Domenico Faccenna, "Columns at Dharmarajika (Taxila)," *East and West* 57, no. 1-4 (2007).). The pillars we constructed are also five meters high, but the whole Block D Apsidal Temple complex was constructed on a raised, two meter high platform, so the pillars, in effect, rise seven meters above the street level. Cresting the pillars is a circular disk, the Buddhist chakra wheel. Further, we were quite conservative in our construction of the structures fronting Main Street. For example, while Marshall suggests that many of them supported a second story, we only constructed single story buildings as we saw no significant evidence for two stories. However, if we followed Marshall and did build another story on some of these buildings, this would further obstruct the view of the Apsidal Temples complex in Block D. Of course, many decisions were made in how to reconstruct the city, and a complete discussion of such decisions can be found at the project website, www.virtualsirkap.com.

[29] The Block A stupa court complex contained a central stupa which sat on a square plinth, three smaller, votive stupas, and a few small rooms. According to Marshall's excavation report, the houses in Block 1 belong to very late stratum II only, that is, the very end of the Settlement Phase and into the Transitional Phase. Without these poorly built houses, the entry to the city would lead the visitor directly to the Block A stupa complex.

[30] On Marshall's site plan, we can trace a direct line from there is a direct line from the entrance to the city (square 2-68') to some rubble (square 15-68') that indicates some kind of walkway leading to the entrance of the stupa court from Second Street (square 15-65').

[31] We have yet to model the diachronic changes in the urban fabric of the city. This is something we would like to do in the future.

[32] Support for the conclusion that this stupa shrine was a locus of royal patronage comes from its similarity to two other stupas in urban Sirkap, those in Block F and Block G—two stupas which received direct royal patronage and served as tools to express the power of the rulers. We, obviously, have not yet modeled these stupas.

[33] Tagg, *The burden of representation: essays on photographies and histories*.

[34] Kevin Schut, "Strategic Simulations and Our Past," *Games and Culture* 2, no. 3 (2007): 229.

# Chapter VI
# Discussion and Conclusion

This dissertation addressed two main research questions. First, how is a virtual place spatially perceived and interpreted? Second, how a virtual reconstruction of a historic place affects the ways in which such a place is interpreted and perceived?

In order to address the first question, this study engaged the concept of place. Place is a complex concept that can only be defined discursively. It can be defined as space plus meaning. It can also be defined as an existential ground for everyday practices. In both cases, place affords a multiplicity of meanings that juxtapose but do not negate each other. These meanings are socially, historically and spatially specific. As such, place is heterogeneous, it almost always results in dialectics of domination and appropriation. Nevertheless, place is also imbued with a virtual multiplicity. In order to perceive place, I need to recall my personal history and subjective feelings which all belong to the virtual. Thus, this dissertation argues that the distinction between actual and virtual places is, at least theoretically, frail.

Outside theory, the virtual is stereotyped as a system of representations that aims at deceiving the eye into an illusory or imagined reality. Such conception of the virtual brings to the forefront the question of representing place. Representations typically signify one meaning and ignore the others of what is otherwise a heterogonous place. Moreover, they tend to have a formative effect on such signified meaning.

The study examines two case studies of massively multiuser online games (MMOGs) as exploratory cases for understanding the ways in which virtual places are perceived. This dissertation argues that a virtual place is equally real as an actual place. It opens up new meanings and new potentials for understanding and interpreting places. The perception of a place constructed within this medium is determined by the technical affordances of the medium and its user population their social and historic association with the medium. This study shows that new users of MMOGs tend to perceive the environment in ways similar to actual life. They stress the sensory appeal of the environment and its visual fidelity to the actual place. Experienced users, on the other hand, tend to focus on the structural and functional aspects of the medium and pay little attention to its visual fidelity. Through time and practice, they develop their own interpretations of the virtual place that make little sense to new users.

This heterogeneity of virtual place creates dialectics of domination and appropriation in parallel to actual life. Users who are aware of the social history of the medium and who have better command of the technical aspects of the medium are typically in a better position to dominate the virtual place than new users. In Second Life, an MMOG dedicated exclusively for socialization, user can

create their own content including their own places on their own land. The practice of designing and building in Second Life is similar in many ways to actual architectural practices where the mastery of technical processes and the production of complex forms are highly prized.

This dissertation used Virtual Sirkap, a virtual reconstruction of the ancient settlement of Sirkap, in modern-day Pakistan, as a case study in order to answer the second research question. In what ways can a virtual reconstruction of a historic place affect the interpretation of a historic place? The study explored the affordances of maps, the primary medium for the conventional representation of Sirkap and the canonical interpretation of the Block D Apsidal Temple complex derived from such maps. Virtual Sirkap allows users a phenomenological exploration of the historic place and its built environment in ways not afforded by text or maps. The study concluded that traditional interpretations often overvalued the socio-religious impact of the Block D Apsidal Temple complex, leaving the powerful visual statements made by the Block A Stupa Court, the northern gate, and the fortifications under-interpreted. As such, this dissertation argues that the use of an alternative medium for the representation of place may entail a change in the interpretation of such a place.

Nevertheless, a virtual reconstruction of a place is mainly an eidetic interpretation of the experience of this place from the contemporary perspective of its developers. This interpretation must always be seen as such, one interpretation among many shaped by its developers' current social and historical dispositions. It is not a reconstruction of the experience of the actual place dwellers. This is especially important because, unlike textual interpretations, virtual reconstructions of places are typically seen as games. Users tend to be uncritical and playful when experiencing such environments. Users tend to identify with their avatars and the difference between an avatar and the person it represents, or a virtual place and the actual place it represents tends to vanish.

The findings of this study can help designers of virtual places understand the long term implications of their designs. Currently, there is a notable emphasis on the visual appeal and geometrical complexity of the (re)construction and little regard to the functional and social aspect of the place. New users appreciate these aspects of design, but this appeal tends to vanish as users get familiar with the place. Ironically, this phenomenon exists in similar ways in actual architectural practice. Frank Gehry's Ray and Maria Stata Center at Massachusetts Institute of Technology (MIT) is perhaps the most recent example. Gehry's design received numerous praises upon its construction in 2004 for its formal aesthetics. By 2007, MIT filed a lawsuit against Gehry for the many flaws in construction and mechanical systems. Some also complained that the building is insensitive to the everyday use of its dwellers.[1]

A future area of research is a study of the ways in which gaming technology in general, and MMOGs in particular, influence the perception of actual places. Many scholars have studied the impact of text-based communication technology on space, perhaps the most celebrated example is Manuel Castells' "spaces of flows."[2] The impact of gaming technology that employs spatial constructions on the perception of actual place did not receive similar attention.

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[1] See for example: Spencer Reiss, "Frank Gehry's Geek Palace," *Wired*, May 2004; Robin Pogrebin and Katie Zezima, "M.I.T. Sues Frank Gehry, Citing Flaws in Center He Designed," *The New York Times* 2007.

[2] Castells, *The rise of the network society*.

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