



AS THE DIGITAL *TEOCALLI* BURNS:

Mesoamerica as Gamified Space and the Displacement of Sacred Pixels

INTRODUCTION

My Mexica settlers built their first temple after what felt like ages, placing it alongside a line of trees with the intent of making another of the like butting right up against the first. Soon, a line of temple-pyramids became our wall to the north, fending off the aggressive Rus that lived up there, my peoples' current anachronistic opponent in the digital game arena called *Age of Empires II: Definitive Edition* (Ensemble Studios 2019). This strategy, I had learned, slowed an opponent's advances, regardless of the aesthetics that caused the Mexica city to look like the laughable depiction of Tenochtitlan, c. 1520s, crowded with generic temples from Marvel Studio's *Eternals* (*Eternals* 2021; De Beus 2022: 60). Ignoring historical accuracy to avoid a cultural collapse, I had to be quick. There is an art in learning how to ensconce a place with temples, each one a crude replica of a building real Mexica called a *teocalli* in Nahuatl, the language of the "Aztecs."¹ (Fig. 1)

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1. All Nahuatl terms have been sourced via the *Online Nahuatl Dictionary* (2000).



Fig. 1: Burning Aztec “Castle” 2019; Age of Empires II (2013), Ensemble Game Studios (part of Microsoft Games Studios), US; screen capture by author, Creative Commons BY-SA 3.0 via Ageofempires/fandom.com, 2022.

This autoethnographic description of my last encounter with *Age of Empires II* (hereafter “AoE II”) exposes two points. First, I imagine myself a strategic wizard in empire-building games—surely an untenable argument and easily disregarded. Second, the relationship between player, place attachment, game design, and historical accuracy is continually negotiated in games, with game mechanics and aesthetic liberties often taking precedence over accurate depictions of reality. Expediency seems to outmaneuver my attachment to historical places, people, and objects, or at least spurs the question: What meaningful investments might be made in digitized sacred places from Mesoamerica’s past?

As digital environments or settings, historical or historically-adjacent games intervene upon Mesoamerican places, especially religious architecture. Recently, specialists Sybille Lammes and Stephanie de Smale, through a self-reflective study of micro-interactivity between game objects and players in games (e.g. Sid Meier’s *Civilization IV* 2016), demonstrated the small affordances that allowed for “playful geographies” to take hold in the gamer’s mind. By immersing themselves in the games spatial narrative, the scholars identified hybridity in the ways they felt empowered to play with or to counter the play of a dominant narrative “being

neither one or the other and both at the same time” (Lammes and de Smale 2018: 8). To add to the larger discourse, this essay focuses on the meaning of place. According to geographer Tim Cresswell a ‘sense of place’ is a space with invested meaning that engenders socio-psychological attachment or “a way of seeing, knowing, and understanding the world” (Cresswell 2014: 16–17, 46–61; 2009: 8–10). This has been identified in virtual senses of place, digitally-augmented spaces and designed environments for digital play (Proctor 2019).

The purpose of this article is to explore the relationship between digital gamer place-attachment, sacred structures, and history-based play (Plunkett 2011; Tavinor 2011; Diener and Hagen 2020: 1–2). One relevant question at hand is: what are the lessons learned about the sacred place heritage of Mesoamerica when gamers play out conquest scenarios in game spaces? By studying representations and uses for sacred places and things relevant to the history of Mexico, this essay will highlight how games rearticulate the some of the historiographical concepts relating to Robert Ricard’s “Spiritual Conquest” (Ricard 1966; Klor de Alva 1982; Diener and Hagen 2020; Penix-Tadsen 2013; and Mukherjee 2015). I will examine recreations of Mesoamerican art and architecture, narratives and game mechanics—pinpointing inaccuracies—to reveal some of the (inadvertent) lessons players learn about sacred places in play (Mukherjee 2016; Ford 2016). I will expose how these representations and affordances ring hollow or regurgitate colonial violence against places, reifying for the digital conquistador imperial logics on the micro scale. I reveal how Mesoamerican religious places have remained productive backdrops for conquistador gaming experiences.

My research methods include critical visual and material study and experiential encounters with games and game culture. I anchor this in interdisciplinary work on ethnographic primary sources, archaeological evidence, and engagement with spatial theorists on sacred built environments. This results in shedding more light on colonial agendas in new media that ignore Mesoamerican place-identity (Mukherjee 2016: 15). That said, I also highlight ways that digital games can empower historicity and the study of sacred places, objects, and art. It has been posed that wanton

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destruction and cartographical programming results primarily in negative and harmful takeaways; Dom Ford's important critique of the limiting returns in empire-building mechanics comes to mind (Ford 2016). Lammes and de Smale and others have pushed for hope or at least more entanglements between scholars and games for education (Spring 2015; Kapell and Elliott 2013). On the whole, my interdisciplinary critique on Mesoamerican "placeness" in games calls for more academic interventions in game developer-player negative feedback loops with increased analysis and greater Indigenous collaborations (Wood, 2020; LaPensée and Emmons, 2019; and Penix-Tadsen, 2016).²

BACKGROUND ON SOURCES AND STRUCTURES:

The relationship between digital games and Mesoamerican Studies reaches back to the earliest US commercial game platforms sold in the 1980s and continues with recent themed games released on the 500-year anniversary of the fall of Tenochtitlan (1521 CE). Over the decades, players have inhabited first-person and up-close third-person roles such as treasure hunters, explorers, adventure-archaeologists, conquistadors and many others that have played through scenarios that allow the player to raid Mesoamerican temples for pleasure. In other experiences, players might hold a further removed "god's-eye view" to control a community of playable figures, which may have complex socio-political roles utilized by the player. Immersive experiences appear to not differ much between first- versus third-person play, though more studies are needed (Denisova and Cairns 2015). In learning outcomes, third- and god's-eye perspectives may mean more chances to study modelling of playable subjects in motion in space and time (Lee 2008; Frago et al. 2019).

One core focus of this essay is the god's-eye, empire-building experiences found in the *Age of Empires* series, (four iterations to date), which has built up an endearing fanbase over thirty years (Sánchez García 2020: 12–15; Holdenried and Trépanier 2013; Dillon 2008). Games Studies have exposed the problems

2. By definition, "placeness" equates to quality of being a place and includes the phenomenological attachment humans associate to physical, fixed and/or transferable, or imagined location (see "placeness, *n.*" *OED Online* 2023).

with carefree gaming about the past and proposed frameworks to understanding game environments and settings as active agents in immersion (Jenkins and Squire 2002: 65; Wood 2012: 89–93; Kapell and Elliott 2013; Aroni 2018: 13–26; 2022: 55–74). For Aylish Wood, game immersion and modelling have a spatial recursivity because of the reoccurring patterns developing among and interplay between gamer, game machine, developers, and the context of play (Wood 2012: 97–98, 103). The dynamics of social construction in games can be insidious because experiences in virtual military campaigning and colonialism (re)play trauma that never transcends it. The dangers in the modelling learnt means some historical events encountered are experienced as reloadable than the historical dysphoria, or changes, that accompanied and followed real historical violence, following Mattia Thibault’s “semiotics of gaming” (Thibault 2018). He argues that deconstructing places in some games simply allows the player to refresh and replay with little consequence (Thibault 2018: 10–11). In the case of several *Age of Empire* “scenarios,” this means playing out the Spanish conquest against Mesoamerican places with disregard to the dynamic aspects of perseverance of Indigenous peoples and places.

In place-based history studies, the complexities of local interpretations of art and architecture, even under the starkest of conditions of Spanish colonialism, resulted in adaptation and cultural perseverance. From religious place-identity and material culture studies, I draw upon Timothy Carroll’s concept of the “axis of incoherence” as a framing device (Carroll 2017). When we take games more seriously, especially those laced with simulacra of colonial and imperial violence, it is valuable to think of the virtual incoherences and new axial approaches that playable experiences might teach, rather than refreshing an inaccurate “spiritual conquest” narrative. Famously, religious historian Robert Ricard framed the cultural transformation of Mesoamerican religious expression from the top-down, a *tabula-rasa* understanding based in part on the assumed toppling and imposition of churches where temples had been wiped clean (Ricard 1966). For 3D built environments, Carroll’s deconstruction of cultural entanglements in the context of Early Modern Europe helps rethink local interpretations and complexity. Builders tend

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to leave an impression on the architecture and ornamentation they craft, especially in the local context of object construction. A closer ethnographic and positionality study reveals that mutually-misunderstood icons and mixed mediation existed in Mexican case studies (Lockhart 1999: 99; Fitzgerald 2020).

This highlights the importance of context, analogue and digital, and my goal is to further this analysis via gamer constructions inspired by real architecture. In building digital temple-pyramids today, developers and their informed consumers have a significant role in interpreting sacred places. More care in accurate representation, guided by consultantships with source-community descendants, will help to develop needed contextual analysis.

With this framing in mind, I have investigated sacred architectures and art depicted in several titles, including: *Aztec* (1982); *Age of Empires II* (Age of Kings: 1999; The Conquerors: 2000; Gold Edition: 2013; Definitive Edition: 2019); *Age of Empires III* (2005; Definitive Edition: 2020); Amazon Games' *New World* (2021); and *Yaopan: Un Juego de la Conquista* (2021).³ My case study highlights empire-building play in Mesoamerican places with a focus on the second *Age of Empires*. This is informed by the body of archaeological and ethnographic materials relating to the Nahuas of Mexico (Smith 2008; Kelly 2001; for comparison, see Calnek 1988). I reflect upon architecture relating to Postclassic temple-pyramidal structures referred to hereafter using the Nahuatl term *teocalli* ("temple," "divine house," or "church") and/or the term *huey teocalli* ("great divine house"), seen in the remains of the Templo Mayor in Mexico City. This study is not meant to be a holistic study of Mesoamerican architectures and cultural traditions found in games or archaeology. Rather, I examine this critical instance in games to reveal some ways in which a form of Ricard's spiritual conquest thesis is revitalized for violence in the digital age.

3. Game versions/editions are as follows: *Aztec*, Paul Stephenson, Datamost for Apple II, 1982; *AoE II* (1999, 2019); *AoE III: Definitive Edition*, Tantalus Media & Forgotten Empires (based of the original by Ensemble Studios, Microsoft Game Studios for Microsoft Windows, PC 2005), 2020; *New World*, Amazon Games Orange County, Amazon Games for Microsoft Windows, PC, 2021; *Yaopan*, Bromio Studios, iPhone version for iOS 10.0, Bromio Studios (2021).

The first digital intervention into Mesoamerica places was the two-dimensional, side-scrolling “swashbuckler” game *Aztec*, published in 1982 by Datamost. Today’s popular tomb-raiding experiences derive from this concept (see Penix-Tadsen 2013). Upon entering *Aztec*, players encounter ancient architecture by stepping down into a labyrinthine cross-section, a mythical “Pyramid of Quetzalcoatl.” The underground temple’s artwork refashions the famed palatial temple of the same name at the southern reach of Teotihuacan, recognizable by the game’s 8-bit replica of a plumed serpent. The developers only minimally based their study of Mesoamerican pyramidal forms on reality. By the 1980s, archaeologists had located natural caverns that housed offerings placed by humans at the grand “Pyramid of the Moon” at Teotihuacan, but *Aztec*’s catacombs and staircase structures—the hollow interior design—were a invention by Datamost and may have mirrored European catacombs or Egyptian archaeological digs. No subterranean multilevel structures with staircases of the game’s vision had been discovered in the Americas at the time.

Inside the temple, *Aztec* players encounter spiders, snakes, jaguars, tentacled alien monsters (extending artistic license into science fiction, apparently), and “Aztec” warriors. The latter are caricatures of Mesoamerican combatants featuring embellished, grotesque, mask-like facial features, little clothing, wild headdresses, and clubs. The Postclassic Mexica-Tenochca (those who are now commonly referred to as “Aztecs”) of Tenochtitlan did claim a heritage connection to the ruins of Teotihuacan, their ‘place’ or ‘way of the divine ones.’ The Mexica had taken objects from the ruins of Teotihuacan in the 1300s, which archaeologist have recovered during excavations at the center of Mexico City. This habit of people to refashion objects from the deeper past within the postclassic is known as archaicizing, the act of attempting to link the Mexica of Tenochtitlan to Teotihuacan culture. But the “Aztecs” had never inhabited the city nor occupied its temples, and the video game developers seemingly sought the cache of “Aztec” notoriety. Regardless, *Aztec*’s players can quickly dispatch the warriors with a variety of tools: machete, pistol, or dynamite. Inventive for its time, the game allowed players to blow apart the game’s walls

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and flooring with that dynamite, too. In this way, the first intervention modelled the domination of both Mesoamerica's people and built forms, actively bombarding architecture by destroying sacred space (Figs. 2-5).

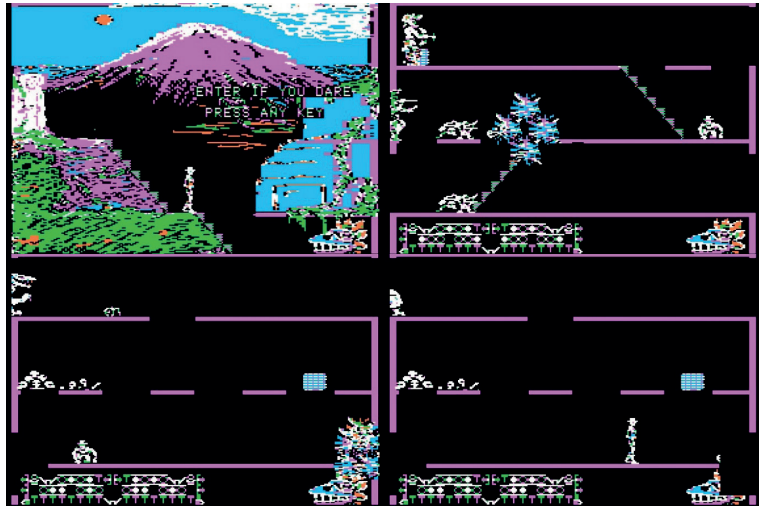


Fig. 2-5: Dynamite in Teotihuacan's catacombs; *Aztec* by Datamost (1982); screen capture by author, January 2023

The tone set by *Aztec* in 1982 regarding Mesoamerican temples (or tombs) continues through the latest iterations of similar gaming experiences. Game Studies literature on studio platformers and action-adventure games such as *Tomb Raider* is one example of the discourse that developed from the understanding of treasure hunting (Penix-Tadsen 2016, 2019; Nae 2022). One significant takeaway from this discourse is that the player embodies and enacts patriarchal colonialism against the environment via its white female protagonist, playable in the Central American-based *Tomb Raider: Shadow of Tomb Raider* (Nae, 2022: 109-111, 115). As playscapes for activities (real or digital), Mesoamerican religious sites have remained a useful backdrop for gaming as conquistadors.

Forty years on, the tones of cultural disregard and objectification seen in *Aztec* recapitulates. Recently, Amazon Games Studio's *New World* offers consumers exquisitely depicted temple spaces and dangerous indigenous people to encounter and destroy. Home to 14.97 million registered and approximately 140,000 concurrent

daily players (ranked fifteenth in MMOs as of February 2023, see *MMO Populations.com*), *New World* is a hi-fidelity, third-person, sword-and-staff experience putting players in the role of explorer and colonizer of a history-adjacent, Early Modern setting. Players are immersed in a 3D environment that musters high quality graphics to render the mythical continent of Aeternum, a fictitious vision of the Americas replete with temple ruins, hordes of enemy native monsters to slaughter, and an exploitable ecology of resources to contest over with their fellow players. In pre-release interviews and current discussion boards, developers were keen to distance the game from comparisons to settler-colonialism (Purchase 2019; Gailoreto 2021; Byrd 2021; Winkie 2021; Campbell 2019; Rowe and Tuck 2017. For typologies of colonialisms, see Ostler and Shoemaker 2019; Shoemaker 2015; Veracini 2010; Wolfe 2006; Klor de Alva 1982).

New World is history-based, currently cobbling together a pastiche of heritage markers and narratives from European conquests in the “New World.” Game play consists of combat between three competing factions, all vying for territory in Aeternum. *New World* players compete for resources and explore while establishing new colonies on the world map. They own property, sustain a presence, and recover prizes in *New World*’s updating landscape. Original temple and ruin structures were commonly based on open interior architectural designs and players primarily plunder goods from inert spaces. Changing rapidly since its release in fall 2021, the map has shifted to open new territories and temple structures to plunder. One Mesoamerican-themed temple may be “Malevolence Tower” located in the game’s Endgrove Region, the seat of the native Angry Earth non-player characters of *New World*, as of this writing. According to discussion boards, the game’s temples and the undead occupants of Aeternum were initially based upon Mesoamerican and Andean heritage sites, but a push for a history-out-of-time pastiche has been the recent drive by developers (Thorne 2021a; 2021b). The latest paths have adopted Greco-Roman and Egyptian architectural designs, cultures that are seemingly “safer” to appropriate in this fashion.

By stark contrast, the 2D side-scrolling *Yaopan* (more than 10,000 downloads to date) is academically-minded regarding setting

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and story, creating a “placeness” dependent upon an Indigenous representation of the past (*Yaopan*, Google Play 2023). Bromio, a Mexican independent design studio, and Universidad Nacional Autónoma de México (UNAM) consultants based the game’s educational narrative and artistic style upon close ethnohistoric readings of Tlaxcala’s primary sources. The Tlaxcala are a storied Nahuatl community, known for opposing the Mexica-Tenochca empire, as well as the vital alliance they made with Spanish invaders. This is indicated in the title, *Yaopan*, which is the Nahuatl word translatable to “place of war,” “in the place of the enemy,” or, according to the design team “the birthplace of warfare” (*Online Nahuatl Dictionary* 2000). They chose this Nahuatl turn of phrase to convey the weighty moment for the Tlaxcalteca, as their choice to lead the Nahuatl-Christian assault into the Valley of Mexico (and beyond), also bolstered the military activities of the Spaniards. In diametric contrast to the immersive graphics of *New World*, Bromio’s game designers used pixel art, with the *teocalli* and the *Huey Teocalli* of Tenochtitlan featured throughout game scenes. The imagery mirrors pictorial renderings in the codices. Unintentionally, *Yaopan*’s pixelated presentation evokes *Aztec*’s from 1982, in that players side-scroll to slay “Aztec” defenders.

Rather than being enticed to raid Mesoamerica for loot or to destroy structures, *Yaopan*’s players first confront European invaders in their own city, with scenes feature a palatial ruler’s building (*tecpan*) and a *huey teocalli* (Figs. 6–8). After an alliance is crafted, the Tlaxcaltec player leads the Spanish conquest to the Mexica city of Tenochtitlan. In this fashion, players take on the role of an Indigenous conquistador, learning of the conflicted past, regional ethnic diversity, and ancestral claims to the countryside—albeit in cutesy, colorful pixels. Developers offer two lesser-known historical figures: Calmecahua, a war leader of Tlaxcala, and Tecuelhuetzin, daughter of the Tlaxcaltec ruler. Both are Nahuas and, in either guise, play progresses through key settings, with players acting out the violence and espionage of the conquest. The player reveals the history of these events from the eyes of the Tlaxcalteca as recorded in their pictorial histories and by the famed mestizo historian Diego Muñoz Camargo.



Figs. 6–8: Tlaxcala's Tecuehuetzin Enters Tenochtitlan; *Yaopan* (2021) by Bromio in consultation with UNAM, Mexico; Screen capture by author, spring 2022.

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Yaopan's story is tightly packed, and gameplay is inflexible, with takeaways focusing on violence and military history. Its teleology limits the chance to show historical contingency and clearly conveys the message that the Tlaxcala felt (and feel) that they were never conquered. Before making the choice to side with the Spaniards and lead the fight to the Valley of Mexico, players witness Spaniards burning of their city. This acknowledges the asymmetrical power relationships that informed the choices and outcomes of the events. *Yaopan's* sense of place is defined by architecture, though the city's historical architecture is muddled by a series of floating platforms (repeated in nearly all the reaches of the game's campaign). Leaping between platforms becomes a tedious gaming mechanic, and developers may have hoped to impart a sense of environmental constraints to players, although it may likely be inadvertent. Regardless, the Mexica's grand *Huey Teocalli*, a two-temple pyramid, looms in several background scenes, and fighting takes place at its base. Generic temples also make up the backdrop but the *Huey Teocalli* is painted with more accurate colors, based on ethnographic and archaeological findings.

Yaopan's developers have anchored the place and architecture in Nahuatl pictorial traditions, inclusive of a heads-up-display consisting of glyphs and icons from the Nahuatl-Mixtec writing

style popular before and after 1519 (Rivera 2021). At best, these minor details help to develop a sense of “authenticity” of place for players in these settings (Relph 2007). At the very least, using traditional symbology based on research seems to strengthen the value of an alternative aesthetic and game philosophy of aesthetics. The game’s style and aesthetics are based on Nahua primary sources, such as the *Fragmento de Lienzo de Tlaxcala* at the Benson Library and archaeological findings (Fig. 9). Bromio’s designers purposefully created distinct settings, according to its developers, to “bring young people, and the general public, closer to this other version of history from Tlaxcala [...] [based on] more than two years [of research that has been] translated, into a video game” (Rivera 2021). When that more authentic *teocalli* structure is set aflame, as is the case in a few stages of the game, the burning temple imagery could even call back to precolonial visual culture that signified conquest in a Nahua-Mixteca style of writing (Anawalt and Berdan, 1992; 1997; Fernández-Armesto 1992). Educators might seek to connect this symbolism with how a burning temple may have resonated with Tlaxcatecs in colonial times, but this is never fully articulated in the game’s script. However, the use of Indigenous sources and academic interventions transforms the presentation of *Yaopan*’s play environment, creating an experience unlike the disconcerting tones of 1980’s *Aztec* or the underwritten colonialism of its contemporary, *Amazon’s New World* (2021).

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Figure 9 : Fragmento Lienzo de Tlaxcala ; Public domain. Benson Latin American Collection, LLILAS Benson Latin American Studies and Collections, The University of Texas at Austin.

Postclassic Nahuas were prolific in constructing *teocalli* architecture (Motolinía 1985: 174; see also Díaz Balsera 2003). These pyramid structures commonly consisted of repeated patterns of upward slanting slopes and horizontal spans (*talud* and *tablero*, in Spanish, respectively). A single staircase or possibly two in parallel extended up to a flat platform, and these pathways were generally framed by sloping balustrades (or *alfardas* in Spanish). Balustrades could be ornamented, often engraved with commemorative details or iconography of zoo- or anthropomorphic beings. Pyramid walls, especially the faces of horizontal spans, also included decorative engravings or murals. One example of a reconstructed *teocalli* is the temple of Santa Cecilia Acatitlan, a historical site and museum today (see *Museo de la Escultura Mexica* 2013; see also García Ocampo Rivera 2016).

Mesoamerican peoples show some inclination to architectural study, especially temple forms, which includes the thousands of reduced-sized temple models and mural depictions carved in stone, made of clay, or painted throughout the Classic and Postclassic Periods. For instance, the *Teocalli de Guerra Sagrada* (“sacred warfare”) at the Museo Nacional de Antropología in Mexico City (Fig. 10). The *Teocalli de Guerra Sagrada* consists of a large basalt block that Nahuas carved into the likeness of reduced-scale temple model, cut in the round as well as its base (Caso 1927; Graulich and Olivier 2008; Umberger 2010). Believed to have been carved by the Mexica-Tenochca, the object showcases architectural form and ornamentation and may be the clearest symbol of religious-state propaganda of the Postclassic. It represents a straight-backed pyramid with a single staircase leading up to a temple platform. Based on the latest research, it was likely located south of the *Huey Teocalli* of Tenochtitlan, near the Temple of Tezcatlipoca, which stood in the southwest quadrant of the Mexica’s ceremonial precinct (Umberger 1981: 185, 1984: 78–83, 2010: 2–3; Barnes 2016: 237–239). Representative of aspects of the Mexica state and rule, viewers of this particular temple model were subjected to propaganda, as its iconography narrates Aztec rulers acts of sacrifice and religious traditions across its surfaces (Umberger 2010; Barnes 2016: 239–253). By placing reduced-sized models of religious

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architecture next to *teocalli* and *Huey Teocalli*, physicality of craft and this resulting enjambment, or the use by builders of comparative architectural scales set within a single viewable zone of a place, would help to amplify the artwork's agency and "textility" within this ritual space (Ingold 2010).



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Fig. 10: *Teocalli of Sacred Warfare*; Postclassic (1325-1521); Stone, 920 x 1230 x 1000 cm, Tenochtitlan; Unknown Artist; Instituto Nacional de Antropología e Historia, INAH, Mexico City, Mex.

Popular interpretations in games gravitate towards Mesoamerican temples in both single- or dual-temple topped platform models, but key inspirations include the *Huey Teocalli* of Tenochtitlan (Ciudad de México's *Museo del Templo Mayor* today) and *El Castillo* at Chichen Itza of Postclassic Maya fame. Careless developers tend to impose the latter upon the Nahuas because of the current cultural capital of *El Castillo*, which featured a single stone temple building atop a pyramid with staircases on all four sides. Artwork from Chichen Itza was distinct, but the general patterns

and style mirror the structures of the region and timeframe whence it originated. *El Castillo's* form and style differ dramatically from the center of Tenochtitlan, and the game designers' disregard for these details feeds into the lack of awareness or acceptance of ethnic diversity of Mesoamerican peoples of the past (and present). Notably, the published English translations of the Florentine Codex, inclusive of many of its illuminations by Indigenous authors, have been widely available to enthusiasts of "Aztec" architecture and ritual use of sacred places since at least the 1980s (see Sahagún 1950–1982).

By contrast, the *huey teocalli* structure would have represented a religious and political history distinct and critical to knowing the Mexica-Tenochca (Mundy 2015: 42–61). Pyramids topped with two temples were not an architectural tradition reserved to the Mexica alone, it should be noted (García Ocampo Rivera 2016: 310–325). Other Nahua groups and other ethnic city-states throughout greater Mesoamerica built dual-temple, double-staired pyramids, some long before the Mexica capital had begun to form in 1431 (Umberger and Klien 1993; Smith and Berdan 1992; and Berdan et al. 1996). Well before Ensemble Studios designers for *Age of Empires* had converted art design to code, scholars had been pressing back against the notion of Postclassic architectural exceptionalism of the "Aztecs" (Umberger and Klein 1993). The form's duality appears to have been employed by builders to fuse together at least two grander cosmological narratives (Galindo Trejo 2009). The Texcoca, a longer-lived dynasty of Nahuas dominating the eastern shores of Lake Texcoco, had built their own dual-temple pyramid, as depicted in colonial ethnographies, though seemingly on a less grand scale as the *Huey Teocalli* of Tenochtitlan. When game designers activate the "great temple" model among historical Nahuas, they can impart for gamers some of the shared stylistic features, but care must be taken.

The importance of cultural responsive design in place-based architecture is evidenced with a brief critique of the *Huey Teocalli* model used in *Age of Empires II* (later, I focus on the ethnospatial aspects of the game). *AoE II's* Conquerors Expansion features Montezuma [sic], a narrative campaign comprised of six scenarios set in Mesoamerican places (Reign of Blood, The Triple Alliance,

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Quetzalcoatl, La Noche Triste, The Boiling Lake, and Broken Spears). Designers interject several Maya and other non-Nahua people, linguistic traditions, and material goods during the invasion of the Valley of Mexico for no clear reason. According to a fandom post speaking for Ensemble Studios, “the scenario was designed to showcase the new Mesoamerican civilizations, architecture, unique units, trees, and animals [...] and was not based on any historical military campaign.” It does, however, clearly draw from translated Spanish sources (“Historical Comparison” 2017). Players encounter and attack several Nahua communities, the Tlatelolca, Tepaneca, and Xochimilca. One might assume it was to imply the diversity of Indigenous inhabitants, however, the Tepaneca and Xochimilco groups of Nahua peoples are represented using the general Maya graphics, which confuses matters even more. Wide circulation of popular academic books have attempted to dispel the myth of the blanket term “Indians” countering thoughtless choices (Restall 2004: 44–63; Gibson 1964, 1967).

For the historical Mexica, the duality of their great temple brought together supernatural energies of Huitzilopochtli, the Mexica patron deity with identifiable anthropogenic motivations, and Tlaloc, a primordial deity associated with natural forces old and nearly inhuman. Barbara Mundy, expert on the artwork and urban development of these cultures, compellingly argues that the Templo Mayor structure had an agency in the lives of Nahuas (2015: 31, 60). In function, Huitzilopochtli’s shrine expressed Nahua state aspects of fire, warfare, change, and arrogance—conceived in the Mexica origin stories. Tlaloc’s temple and accompanying reliquary were dedicated to forces of water, fertility, continuity, and humility, linking state and discrete communal needs to older traditions. Mexico’s recent studies have revealed the building’s exterior layer to have been a vibrant carved and painted masterwork, one recursive to the previous layers of exteriors below—thus communing with the past in a unique fashion (López Austin, 2009). As depicted in the Codex Ixtlilxochitl from the mid-sixteenth century, the dual-temple structures left an indelible mark on the psyche of Nahua artists and historians (Fig. 11). The architectural treatment of the painting replicating the religious significance of the two forces at work

in the Nahua cosmos, in this case the *Huey Teocalli* of Texcoco (Codex Ixtlilxochitl c. 1550). In substance, the dual-topped pyramid anchored Mexica and other Nahua communities in new and old architectural traditions and this message is not carried forth in digital arenas. Moreover, denying the presence in Nahua cities related to or antagonistic with the Mexica, as *AoE II* does, codifies the *Huey Teocalli* tradition with one group of Nahuas, blanketing the “Aztecs” with a simplistic art history (Broda 1987).

AoE II game developers and artists appear to have not referenced the latest archaeological surveys and reproductions from museum about the architecture for their *Huey Teocalli* “Wonder,” from the Age of Conquest Expansion (2006) to the present. As an aside, players’ scores are boosted when, after advancing to the proper developmental stage, their civilization can spend resources and time to build a civilization-specific Wonder—each based on famed historic buildings. The *Huey Teocalli* is the Wonder available for the playable Aztec civilization. The designer’s temple models do not appear to have referenced archaeological materials closely, nor do they faithfully reflect Indigenous documentation from that period (Fig. 12).

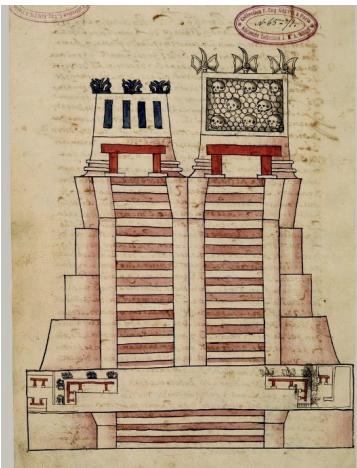


Fig. 11: *The Huey Teocalli of Texcoco* from *Codex Ixtlilxochitl*. 1550, Folio 112v. Bibliothèque nationale de France. Département des Manuscrits. Mexicain 65-71 (<https://gallica.bnf.fr/ark:/12148/btv1b84701752.image>).

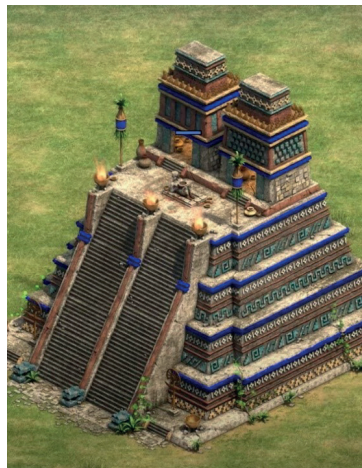
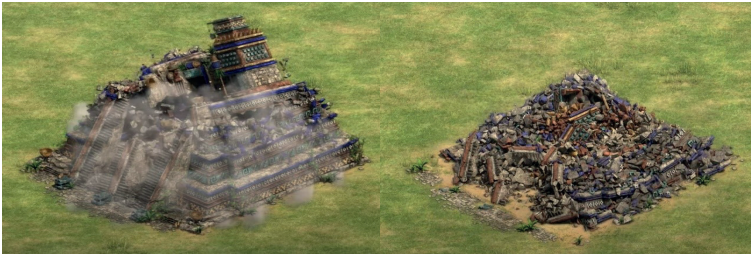


Fig. 12: *The Huey Teocalli Wonder*; *Age of Empires II* Definitive Edition (2019), *Forgotten Empires* (Xbox Game Studios), US; screen capture by author, spring 2022

Beyond the physical remains of the original that were dismantled over years beginning in the early sixteenth century, Nahuatl artists also memorialized the *Huey Teocalli* in early colonial pictorial manuscripts and community records, often including color schema and ornamentation to make it a formidable structure. Post-Conquest accounts, too, reference the military semiotics by noting how Nahuas used the buildings in combat. As described in Book 12 of the Florentine Codex, throughout the Tenochtitlan conflict, battle famously took place on the steps and atop the city's temple pyramids. For instance, when the Spaniards were caught retreating from the city during Noche Triste, July 1520, guards posted atop one *teocalli* alerted the city to their intentions in the middle of a rainstorm (Fitzgerald, 2022). In another episode, Spaniards and Tlaxcaltec invaders broke apart temples from atop at least one *teocalli* to toss its large wooden beams down at Mexica defenders and constructed a catapult atop another during the Siege of Tenochtitlan, 1520–21 (Sahagún 1975: Part 13, 62–65).

Regardless, archaeology in Mexico City has revealed for some time that *Huey Teocalli* were solid, layered structures, with the latest pyramidal exterior built over the top of the previous. The second iteration is on view at the Museo today featuring both temples and an altar devoted to Tlaloc, called a *techcatl* in Nahuatl and otherwise known as a chacmool (López Austin and López Luján 2001; 2009: 440–448). *AoE* designers purposefully and rightfully place a “chacmool” atop their in-game Wonder, but the placement and rendering are inaccurate to the archaeology. The act of destroying the Wonder utilizes a technique repeated throughout animated demolitions. As opponents cut or bombard the digital asset and fires burn across the extent of its surface, *AoE*'s *Huey Teocalli* suddenly collapses in upon itself, crumbling into nothing (Figs. 13–14). Mesoamerican temple-pyramids, in reality, consisted of many solid layers, marvels of engineering, through which their architects tracked generations with each newly-capped exterior. Toppling a temple atop a pyramid was possible, but the buildings were often removed in painstaking handfuls, as described by eye-witness accounts (see several accounts in Motolinía 1905; 1984). The hollow presentation of basic Mesoamerican pyrami-

dal architecture fails history and divests meaning from its most identifiable, authentic Indigenous place (Relph 2007).



Figs. 13-14: *AoE II DE Huey Teocalli Mid-Collapse and in Ruins*; *Age of Empires II Definitive Edition* (2019), *Forgotten Empires* (Xbox Game Studios), US; screen capture by author, spring 2022

On a more minute scale, the *Huey Teocalli* Wonder's details miss an opportunity to add deeper meaning for players (Spring 2015: 215-17). This is witnessed in the ornamentation, in that the asset's *techcatl* is backwards, unpainted, and positioned inaccurately before both temples (Figs. 15-16). This indelicate approach actually mocks Nahua architecture—the real “wonder” being the deep religious-spatial history that the Mexica of Tenochtitlan highlighted with the city's construction techniques. A ‘chacmool’ bust is the oldest statuary good recovered from the first layers of Templo Mayor Stage I, placed specifically in line with the first northern temple in contrast to the south building. As one of the oldest physical anchors for the Mexica in the Valley of Mexico to the region's sacred water and rain deity, Tlaloc, positioning the statue in symmetry with their patron deity meant ontologically ‘placing’ themselves. Historically, when placed before the temples of older deities, alongside the Huitzilopochtli's altar and temple, the *techcatl* had a social agency and interactive quality that supported the psychology of the city-state and community sense of attachment.

In a single act of ethnospatial denial or disregard, *AoE II*'s designers take a careless stance to an essential aspect of place-identity for the Mexica of Tenochtitlan. This act tends to frame the digital space within the gaze of European colonialism, wherein sacred architectural traditions of Mesoamerica are easily collapsible and void of substance. In the words of Patrick Wolfe,

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the indication of settler colonialism is that it “destroys to replace” and in elimination theory the continuous game play of replacement and asymmetrical relationships in games indicates this type of gamer society as complicit (Wolfe 2006: 388). Dawn Spring, too, highlights this design implementation flaw, noting that “gameplay takes precedence over [...] historically based mechanics, historical narrative, and historically accurate aesthetics” in most history games (Spring 2015: 215–216). Players, whether building or breaking this specific historic place, would not be encouraged to care or find meaning in its cultural relevance. Visually, game developers and gamers have had museum exhibitions, academic publications in art history and ethnohistory, and textbooks full of Indigenous depictions to inform their understanding of “Aztec” places.

Calling out the problematics of Western tropes, Beth Dillon argued that colonialist visions proliferated gaming experiences (Dillon 2008). Primarily, Dillon targeted the gaming mechanics, arguing that offering the player tools of empires in the guise of indigenous “fire pits” and medicine men to exact conquests ignored historical politics and modes of expansion in the cultural contexts she studied. Then, in 2020, seeking some form of cultural coherence, the *AoE III: Definitive Edition* design team employed Anthony Brave (a member of the Rosebud Sioux) as a Native consultant and writer working on its updates (Age DE Team 2020). Brave’s guidance in *AoE III* led to real changes in code with sacred architecture modified in the process. Beforehand, players constructed “fire pits” to boost their army’s abilities in combat and achieve the next level in a Western-derived technology tree. For Brave, placing Native figures dancing around a fire pit, when compared to European figures, reified the former as “savages.” The reason for rethinking historical accuracy of art and architecture matters when digital place-building matters. Understanding sense of place in the Mesoamerican context could deepen representations of sensitive cultural heritage.

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Fig. 15: *Mexica Altar (techcatl)* in *AoE II; Age of Empires II* (2013), Ensemble Game Studios (part of Microsoft Games Studios), US; screen capture by author, Creative Commons BY-SA 3.0 via Ageofempires/fandom.com, 2022.



Fig. 16: *Actual Huey Teocalli Altar at Templo Mayor*; Simon Burchell, Creative Commons BY-SA 3.0 via Wikimedia Commons, 2007.

Spatial Studies fuel a continuous debate about what ought to constitute a geographical or conceptual “place” (Relph 1976; 2016; and Lefebvre 1991). Defining “place” versus “space” Michel de Certeau proposed that “place” was “the order (of whatever kind) in accord with which elements are distributed in relationships of coexistence. It thus excludes the possibility of two things being in the same location [place][...] it implies an indication of stability” (de Certeau 1984: 117). Space, by contrast, “exists” because of the “vectors of direction, velocities, and time variables” and is made real when things (entities or objects) move within and through that existence, not dependent on dimensions or shape (de Certeau 1984: 117–21). Space is place put into practice and place is space made more stable, coherent, but also negotiated among occupants (Smith 2008: 71–93, 151–174). Bernadette Flynn’s interpretation of his and other relevant theories push spatial analysis into digital realms (Flynn 2004; Golding 2013; Proctor 2019). Flynn linked New Media with these phenomena, demonstrating the very real perception of experiences had in built places, as felt by gamers of the best and most popular titles of the day (*Half-life*, *Myst III*, and *The Sims*). For Flynn, by recognizing the cultural conditioning of colonialist play environments and aesthetics, we can identify how “entrenched in the fabric of computer-based spatial engagement” they might be (Flynn 2004: 57).

Regarding sacred places, Fran Speed’s study of placemaking homes in on the importance of affect tied to the environment. This implores us to reflect on the intuitions and capacities of spaces in the past, present, and future (Speed 2003: 55–65). Speed drew upon a wealth of literature on agency of objects and built forms to argue that ascribing or imbuing a place with sacred constructs augments how one might experience it. In other words, believing a place to be sacred changes our relationship with it. Seeking to break free from Western constructions of space means delving into Indigenous Studies.

Timothy Carroll’s conception of places that contain or afford multiple “axes of coherence,” following Alfred Gell, inspires further reflection on the incoherent, mutually misunderstood place-identity that might come into being and be sustained over time (Carroll 2017).

This challenges de Certeau's strictures on the exclusivity of defined placeness. Carroll explores the dynamic ways that affectual geographies are informed by the presence of a built environment (Carroll 2017: 167). The coexistence of physical, metaphorical, and affectual "cohering factor" of architecture, sacred or profane, can be revealed as multivalent and non-denominational (Carroll 2017: 168–169). This dynamic approach to the material ecology of a given context coupled with the findings of Speed and Flynn beg for more nuanced digital place creations, especially those with a heritage. This nuanced approach to spatial studies can add to and complicate discourse on a zero-sum reading of colonial cartographies and the serious aspects of historical gaming (Mukherjee 2016: 3–7; Penix-Tadsen 2013: 184–185).

To this regard, Nahua specialists have identified connections between metaphysics and public works with long-lasting linkages to living memory in Mexico (Florescano 1994; Megged and Wood, 2012). Nahuas, among their many sophisticated ethnic neighbors, ascribed to forms of spiritual monism, coupling the philosophy of interconnectedness of the cosmos within their ancestral places and the artworks they crafted, and this is lacking in the digital gaming experience (Laack 2020). Building construction sites were selected because of several reasons, only one of which would have been access to building materials and resources for laborers. This includes the use of sacred sightlines aligning constructions with natural features in the landscape (Tichy 1978; Findeiss et al. 1991; Wake 2014: 130–35; Fitzgerald 2020). Published in 1982—the same year Datamost published the video game *Aztec* for public consumption—David Carrasco's *Quetzalcoatl and the Irony of Empire* convincingly argued that Ur-places persisted in the Mesoamerican zeitgeist (see also Carrasco 1991). Builders called back to the past as well as emphasized natural and supernatural features in the landscape when creating cities. Temple-pyramids could be formed in deeply rooted connections to stories about the land, like a topographical memory matrix (García Garagarza 2012: 193–214; for colonial examples, see Haskett 2005).

Nahua landscapes therefore had a form of agency and buildings were charged with ritual currents when aligning places and structures, and this concept went deeper than surface level.

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James Maffie argues that Mesoamericans “fused [time and space] into a single seamless dimension,” creating a metaphysical concept of “time-place” (Maffie 2013: 182n92, 423–430). Recently, Isabel Laack has explored the animate world of Nahua temples and other material culture to show that sacred places—invisible to the naked eye but felt by practiced communities—roiled and vibrated with a dynamic network of imperceptible filaments. She focused on *malinalli* or “twisted grass” as a metaphor for what lay beneath a *teocalli* (Laack 2019). Archaeologist George McCafferty, for one, explored the psycho-social relationship between one of the longest lived temple constructions (the man-made mountain of Cholula) arguing that metaphorical and material relationships colluded to best situate communities in sacred places (McCafferty 2001: 279–316). The notion of supernatural filaments undergirding ancestral ties to land adds nuance to the destruction of pyramids made mountain-like and the media used to construct and ornament architecture (McCafferty 2001). Invested with shared memories and situated along sightlines, the *teocalli* and *Huey Teocalli* were connected to Nahua cosmology. Following acts of iconoclasm, Nahua and Nahua-Christian builders constructing under Spanish colonialism made choices, some guided by so-called friar-architects and others purposefully to reuse local sacred materials, art forms, and alignments with sightlines. This fostered room for incoherence rather than strict dogmatism (Fitzgerald 2020). Mesoamerican sacred places did not turn to dust or evaporate but informed the architecture to come. This aspect of cultural persistence is left out of digital games and art about Mesoamerican heritage and military histories.

AGES OF MAKING, AUGMENTING, AND BREAKING:

As mentioned above, *Age of Empires* is a classic example of an empire-builder or game as an act of colonization and its destructible place assets disassociate players from a meaningful past. Here, I focus on gameplay elements relating to *AoE II*, published in 1999 through the recent updates in 2022's *Definitive Edition*, highlighting the *Conquerors* expansion that introduced American Indigenous campaigns, as well as *AoE III* (2001–2021), but especially since that game's *Chieftains* expansion (2006). For *AoE*

III, 2021 is the game's twentieth anniversary, but also coincides with the five-hundredth anniversary of the fall of Tenochtitlan. This timing seems to have been fashionable, as both *Yaopan* and *New World* were also published on the anniversary. Chockful of new and old civilizations to conquer via imperial methodologies, it seems significant to deconstruct how the games repurpose Mesoamerican sacred places.

Mechanically, players are distanced from the Mesoamerican (and other cultural) landscapes via its basic cartographical design. They play via a third-person perspective, set as heavenly beings gazing down on the game's real-time action. Empire-builders can choose between this Real-Time Strategy (RTS) experience instead of turn-based action (for the latter, series examples include Sid Meier's *Civilization* and *Europa Universalis*). In RTS, actions occur across the game map simultaneously, in "real-time," that differs from a player's ability to freeze time in a turn-based systems. In *AoE*, a running game clock displays the timeline of history, fostering an interest in speed and efficiency—not a player's connection to a digital place—but the story or campaign mode is set to trigger events across the map, and pace is slowed to meet narrative historical markers. The history component varies based on the generation, each featuring a set of "stages" in development to achieve. For instance, *AoE II* frames the ages in four stages occurring over a millennium: Dark Age, Feudal Age, Castle Age, and Imperial Age.

The basic mode of play moves from the player establishing a settlement, extracting resources, growing their population, researching technologies, building and expanding territory, and conquering the other civilizations. The game's play environment changes with the scenario, with historical topography and places reflected in the designs. For instance, the first story mode for *AoE II's Conquerors* expansion introduced players to a recognizable aspect of Tenochtitlan, a sparsely occupied group of islands in a lake connected via causeways to the mainland (Fig. 17). Little care was taken to recreate the actual city of the Mexica and neighboring communities of Lake Texcoco, notably, with only two single-topped temples (*AoE II's* Aztec "Castle" structure) to identify the ceremonial center ("Age of Empires 2: Designer Diary," 1998–99).

The sacred geographies of Mesoamerica are only one of many historical settings affected by colonial legacies, with campaigns stretching the globe deserving of scholarly critiques.

As gaming experiences, empire-builders have been challenged by scholars for some time (Carpenter 2021; Ford 2016; Chapman 2013). Notably, *AoE* designers do not intend to make educational games. Nonetheless, digital games can be an educational tool, much like other popular media about the past, and educators can rely on these digital materials to help students and researchers reconcile their innovative interpretations about history. The temporal focus of *AoE II Conquerors* ranges from the Early Middle Age (c. 500 CE) to the Renaissance (c. 1600 CE)—a timeframe of more than 1000 years.

A decade ago, Joshua Holdenried and Nicolas Trépanier aligned representations of the cultural biography of *AoE II*'s Aztecs against Nahua history. They highlighted the crucial learning outcomes of playing empire-builders as "Aztecs" (or Spaniards) is the game's efficient manner of imparting what they call "cultural understandings" of Nahua and Iberian senses of "dominance" in warfare (Holdenried and Trépanier 2013: 108, 116). Their case made coherent with a focus on expansionism and little else, the authors add harmful nuance by tracking their reading of the Aztec "tribe" as warring and single-minded hegemonies, seeking sacrificial victims and little else (Holdenried and Trépanier, 2013). These strawmen are pinned in history gaming as diametrically opposed in war with European others. To "win" in *AoE II Conquerors* is to have a sense of dominance that resonated with historic Aztec empires, according to the authors (Holdenried and Trépanier 2013: 115–116).

AoE III plays through global settler-colonialism from the 1450s through the 1880s CE. Beth Dillon's 2008 article remains essential reading to understand how *The Warchiefs* expansion feeds off the non-Indigenous "drive to conquer space and time in the gameplay" (Dillon 2008: 136). Additionally, alternative communities of open-source game designers (i.e., 0 AD) —based on *AoE* series models —have taken a grassroots approach to furthering serious games of the sort. But empire-building remains intact. Dillon found the packaging of Western aesthetics to be signifiers for a system of signification bent on framing Indigenous peoples as Western

empires (Dillon 2008: 142). *AoE* games are also unique history-based gaming in that endearing and vociferous communities of player-designers access the software itself to develop modifications to replace original game storylines and new artwork.



Fig. 17: *AoE II* Game Map of Tenochtitlan; *Age of Empires II* Definitive Edition (2013), Ensemble Game Studios (part of Microsoft Games Studios), US. Screen capture by Jeanioz, Creative Commons BY-SA 3.0 via Ageofempires/fandom.com, 2018.

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The “chess pieces” are martialled forth at the player’s discretion, utilizing extracted resources (namely: food, wood, and gold) from civilization reserves to call forth new agents (laborers, merchant class, military, religious and political elite units). They then put laborers and remaining resources to work in the construction of buildings and walls; one element of strategy in *AoE* gaming relates to the control of access points to the map’s resources. Crafting buildings and researching new technologies allows the player to advance to the next temporal stage, unlocking new digital assets to put in place. In this regard, the architectural traditions gamers encounter in *AoE* gaming are the significant components to success. Encouraging the study of archaeological and ethnographic materials, essentially touching primary evidence to the gamer’s fingertips, can engender learning and some psychological attachment to virtual past.

Within the game, *AoE II* and *AoE III* players become invested because of the game’s ludic and narrative qualities that are based around buildings. The “Aztec Civilization” remains the most prominently featured Indigenous American group across the two titles.

Mesoamerican and South American groups featured are inextricably entangled in the history of Spanish imperialism and colonialism from the designers' perspective because game play scenarios focus on the encounter as playable history. The Aztecs are known in gamer circles as being an "infantry and monk" civilization type, good for quick attacks early on, meaning players gravitate to this civilization with the intent of playing military units on foot. *AoE III* keeps their "Aztecs" minimalist with little architecture and even less technological complexity. Given that horses were not present in the precolonial Americas, players are denied the ability to construct stables or to train horsemen, although horses were readily desired and soon adopted by Nahuas following their introduction by the Spanish (Rodríguez-Alegría 2010; Valesey 2019). Structurally, the "Aztecs" are stymied, outmaneuvered, and conquerable, a completed conquest that cuts off Nahua identity and places with *AoE II*'s crumbling buildings. In its early years, *AoE III* had a lackluster response from players on online discussion forums because of the limited fort-like buildings that the "Aztecs" could muster.

Regarding digital assets that reflect sacred spaces in the Mesoamerican context, the available artwork and functions of Indigenous art and architectural history confounds player attachment in a meaningful way. Depending on the *AoE* series and updates, players will combine political, economic, religious, and military structures to birth hand-to-hand, ranged, and priestly attacker and defender units. The act of making or razing buildings intervenes on the way players control their sense of place. *AoE* games offer a basic set of structures to all civilizations, fictively setting European wind-powered mills under the purview of Mesoamerican peoples, for instance, and otherwise disregarding historical accuracy. Thus, Nahuas can quickly come to develop multi-storied towers and arched gating that was never in use before colonization and replacing innovative Indigenous structures such as multi-chambered housing, aqueducts, intricately composed walled courtyards, public restrooms, steam baths, zoos, greenspaces, and floating gardens (Wagner et al. 2013). They must not have horses and stables but ocean-bound seacraft with grand sails become a feasibility in *AoE*. These contradictions in how architecture and archaeology are applied in *AoE* games chooses expediency

over meaning. Instead of encouraging players to employ a diversity of empire-building tools (barring horses)—again, crucial to game mechanics and land claims—designers instead focus on Western political and social systems. Finding the opportunities in ascribing bloodthirsty dominance upon strawmen hegemony reifies the dominant paradigm. What might result from *AoE* designers or player-artist experts consulting with descendant community members, ethnographic materials, and meaningful archaeology?

DIALOGIC ICONOCLASMS FOR A DIGITAL-SPIRITUAL AGE:

In 1519, the first true example of Nahua-Spanish sacred architectural iconoclasm occurred in Cholollan, near the site of the Church of Saint Gabriel the Archangel in San Pedro Cholula today (Navarrete 2021). Spaniards described the Chololtec city as the “Rome” or “Mecca” of Mesoamerica because of its multitude of *teocalli* and, by October 2019, the city had become the first target for the new alliance between the Tlaxcalteca and the Spaniards. Game developers do not depict the scene in *Yaopan* (2021).

In a notoriously dastardly tactic, the Tlaxcalteca and Spaniards shocked the city’s rulers and unarmed defenders by launching a surprise attack at the ceremonial center of Cholollan, near the base of the temple for their local deity, the *Teocalli Quetzalcoatl* (McCafferty 2000; Lockhart 1993: 90. See also, Castro Morales and García Moll 1972: 210–211; Peterson and Green 1987: 210–211; and McCafferty, 2000: 353). Known as the 1519 Massacre of Cholula, perhaps three- to six-thousand unarmed Chololtec citizens died in the violence. The Spaniards are said to have entered the courtyard on horseback, using their lances to slaughter “as many as they could[...] it is believed that the friendly Tlaxcalans killed many more.” (Lockhart 1993: 91; Sahagún 1975: Part 13, 29–10).

At the height of the assault, the Chololteca had drawn back to the single-temple *Teocalli Quetzalcoatl* to make their last stand. The invaders set fire to the *teocalli*’s wooden and textile fixtures, flames eating at the sacred matter atop the temple-pyramid, but the structure and its people are believed to have held out for two days more. At the end, the defenders are said to have ripped out the building’s bricks to unleash the sacred forces the community believed were contained inside. The forces consisted of divine

water mixed with the sacrificial blood of ages believed to be trapped inside the *teocalli*, which would gush forth from the temple to thwart the invaders (Díaz del Castillo 2008: 135). According to Muñoz Camargo, the Tlaxcaltec historian, when the temple burned or broke apart instead, it proved the Chololteca had kept “all falsity and lies” and hence “were not able to escape nor find shelter with their angry gods, nor entertain the Spaniards for peace” (Muñoz Camargo 2013: 188–189). According to the Florentine Codex, “the greater part of [Chololteca] died in despair, by killing themselves” by throwing themselves from the top of the temple platform. The building remained present for years beyond the massacre. Its stones were dismantled by locals and used to build the first Christian convents, as was a common practice of the sixteenth century (Gutiérrez 2012).

The harsh memory of the 1519 massacre lives on but recognition usually fails to connect people with historic buildings. During the five-hundred-year celebration of *Todos santos/Día de Muertos* in 2019 that took place near the Ex-Convento de San Gabriel Arcángel Cholula, descendants commemorated the memory of those lost to the “slaughter” and Spanish violence. Services took place in the convent’s courtyard at the historic site of the 1519 massacre and the state of Puebla decreed October 18 as the official day of reflection (Gob. Del Estado de Puebla, 2019). But commemoration stopped at the memory of the lives lost. No official attempt was made by attendees to commemorate the *Teocalli Quetzalcoatl* that once stood at the site or framed the way Chololtecs lived their lives in the “Rome” of Mesoamerica. Stones that had held the sacred heritage of the Indigenous past now support today’s Christian convent and its world-class library. The commemorations did not think to honour the Postclassic *teocalli* that had been burned nor recreate it as a digital place. As an integral component that shaped the past, how might better approaches to Indigenous sacred architecture help to inform the complexities of commemoration?

Digital games based on local historic buildings and the colonial past could help to reimagine memory, teaching us the loss in meaning when digital structures are razed (Sepinwall 2023; personal correspondence). Players could be set in the fulcrum of cultural transformation, playing through the destruction of a *teocalli* and, to make the connection with cultural persistence and survivance, take part in the process of constructing new built forms with pieces from the past. Given a set of Indigenous perspectives from the past, based on Nahuatl primary sources, and living traditions from descendants, players might begin to make deeper philosophical connections. Educators could use this envisioned teaching-via-play approach to confront the traumatic past. The presentation format would encourage digressions into incoherence theory, perseverance studies, and Indigenous philosophies of matter and architecture. In the least, history gaming could be better centered on Nahua voices to diversify gamer experiences for the present. Digital games can take the lead in tackling other elements of Mexico's colonial legacies, too (Wood, 2020). Playing through iconoclasm might help game culture realize some aspects of how ritualized places remain in surprising ways (Aguilar-Moreno 2013; Gutiérrez 2012; Wake 2010, 2014).

Throughout this essay I have demonstrated the importance of place-identity against the backdrop of iconoclasm, real and digital. From the earliest encounters in *Aztec* (1982) to Amazon's mythologized online *New World*, the art and cultural heritage of the Americas continues to be consumed by developers and players with selective accuracy of places in mind. Whether violently blowing apart 2D temples or being immersed in their plundering, both versions keep Mesoamerican sacred spaces confined to a single colonial frame of reference. Even still, history-based gaming plays at accuracy to entice gamers, offering authentic Aztec temples to be burnt to nothingness with European colonialism in the *Age of Empires* series. By letting players wipe the digital slate clean, these experiences ignore the more interesting ways that people persisted, persevered, and reconstructed sacred places. In *Age of Empires* circles, this seems more and more likely. As explained above, the AoE series designers can create degrees of better repre-

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sentation, reacting to academic critique and pursuing cultural responsiveness and inclusive design (Dillon 2008, Age DE Team 2020). This is most evident in Anthony Brave's contributions as co-designer and consultant. Notably, gaming spaces such as *Yaopan* (2021) pull the player into a different perspective on Indigenous visions of the so-called Spanish Conquest. More consultantships with Nahua descendant community members will help, as seen in the argument above, but scholars, too, must better engage in design narratology. A crucial component in future commercial-academic enterprises ought to be the integration and amplification of the voices and concerns of descendants of source communities in digital gaming (LaPensée 2016).

The four decades separating *Aztec* (1982) and *New World* (2021) exposes the narrow vision of gamer encounters with sacred places "based" on Mesoamerica's colonial history. Leaps in graphical interfaces, aside, settings are hollow and meant to be plundered. Returning to *Yaopan* (2021)—a scholarly game meant to rethink the past—players play through scenes from the sixteenth-century *Lienzo de Tlaxcala*, owning Indigenous agency and heritage by recreating accurate artwork and stories at times. The player's greatest foe in *Yaopan*, frustratingly, is the precariously placed spikey cacti that crop up throughout the Mesoamerican settings. Playing out the conquest of Mexica places as a Nahua warrior woman or man, players learn about the complexities of relationships between "Indigenous conquistadors" and the Spaniards at the same time they leap pixelated spines and slash into Mexica Eagle Warriors. The more accurately painted *Huey Teocalli* sits quietly in the background, burning at times, but never collapsing. Avoiding cactus pricks, players do not leap too far from the same takeaways of *New World*, *Age of Empires*, and *Aztecs* as they leave Tenochtitlan's dramatic skyline behind and scroll off to digitally conquer elsewhere.

Deeper collaborations with Indigenous heritage groups and scholars can help to decenter the current flows of capital and pedagogy to benefit communities in need or transform the types of experiences in digital gaming. As play focuses on burning down, plundering or collapsing sacred temples, developers and scholars miss the chance to teach the complexities of place-identity, eth-

nogenesis and ways historical communities navigated colonialism by refashioning local history in built environments.



Figs. 18–19: 2D Places for Killing “Aztecs” in Bromio’s *Yaopan* (2021) and Datamost’s *Aztec* (1982); screen captures by author, 2022–2023.

Recently, Dawn Spring alerted scholars to the limiting returns of games designed with narrow questions in mind and expediency in outputs (2015: 217–18). How can we teach more of the living heritage of sacred places when developers ask the same conquest questions of gamers? Furthering Souvik Mukherjee’s point, meaningful engagement helps players “(re)frame” and break the “rules of the colonial game” by centering on alternative art histories and Indigenous architectures of places “always already” significant, just never the crux of the commercial game (Mukherjee 2016: 14). More accurate representations of historical places and people start with Indigenous-first or collaborative programming, exemplified by games such as *Honour Water*, whose Anishinaabe-derived methodology (“the good way of living”) approach illuminates how best to teach Indigenous and other players about precious resources

(LaPensée et al. 2018: 124–27). Additionally, the proof-of-concept game “The Burden on Our Back” (in development), by scholar Joshua Wood, is described as a Nahua-centered experience to conceptualize “space of (re)mediation” for living Nahua communities based on the legacies of colonialism and neo-colonialism (Wood 2020). Teaching with games is vital to an Indigenous sacred future (see curricular interventions of another variety in LaPensée 2019). But it also informs non-Native futures, and industry experts should not shy away from cross-cultural exchanges, nor should Indigenous designers, digital artists, and gamers shy from entanglements in the use of Indigenous heritage objects, structures and sites in gaming (LaPensée 2019: 80). Rather, playing with the places and architecture of the past via reactive and sensitive designs may also help communities reclaim their digital heritage, rather than others extending or exacerbating negative representations of a hollow past.

Abstract: Intricately concocted temples—seemingly historically accurate down to the pixel-flash across the gamer’s screen, as the player-conquistador re-creates the downfall of the so-called “Aztec Empire,” circa 1521, a keyboard at hand instead of a cutlass. Playing the Spanish Conquest has never been easier or more exciting for the victor. Today’s recreational sundering of Indigenous-American sacred spaces and cultural monuments repeats disturbing patterns in colonialism and cultural imperialism from the Early Modern past (Carpenter 2021; Ford 2016; Mukherjee 2017). What are the lessons gamers learn by reducing digitized Mesoamerican temples, such as the grand teocalli of Tenochtitlan, to rubble? This article explores sacred landscapes, archaeology, and art relating to acts of conquest and sixteenth-century Spanish invasion of Mesoamerica. This study of Mesoamerican sacred environments supports my interpretation that careless approaches to early-modern contexts and virtual geographies created by game designers reduce the presence of Mesoamerican place-identity. I highlight empire-building games based on historical events and situate gaming experiences, old and new, as interventions in sacred architecture. The study draws in ethnospatial considerations of settings and ornamentation to furthering the recent Game Studies critiques on cartographies, narratologies, and play mechanics, here focusing on the geo-spiritual components of playing out aspects of Mesoamerica’s encounters with Spanish military and cultural conflict (Lammes et al. 2018). I reveal the importance of place attachment, ethnohistory, and archaeology in making more meaningful experiences and argue that current art history-adjacent gaming agendas create fun and profit at the expense of iconic structures of Mexico’s heritage, such as the Postclassic single- and double-topped teocalli (temple-pyramids). The final thoughts call for increased inter-

ventions from scholars upon developer-player negative feedback loops that repurpose inaccurate mythos from historiography of the “Spiritual Conquest” paradigm.

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WORKS CITED

- Age DE Team, "An Interview with Age of Empires III: DE Consultant, Anthony Brave—Age of Empires," 15 Sept. 2020, <https://www.ageofempires.com/news/interview-anthony-brave/>. Accessed Jan. 2022.
- "Age of Empires Series Wiki." Fandom.com, 2005, https://ageofempires.fandom.com/wiki/Age_of_Empires_Series_Wiki. Accessed Jan. 2022.
- Age of Empires II: Definitive Edition, Forgotten Empires*. Microsoft Windows version, Xbox Game Studios, 2019.
- Age of Empires III: Definitive Edition*, Tantalus Media & Forgotten Empires. 2020.
- "Ages of Empires 2: Designer Diary," Ensemble Studios, 1998–1999 <https://archive.ph/2013.01.03-073907/http://www.firing-squad.com/games/aoe2diary/>
- Aguilar-Moreno, Manuel. "Transculturation in Art: Sculpture in the *Posa* Chapels at the Monastery of Calpan, Mexico." *Colonial Latin American Review*, vol. 22, no. 1, 2013, pp. 39–66.
- Anawalt, Patricia Rieff; and Frances F. Berdan. "The Codex Mendoza." *Scientific American*, vol. 266, no. 6, 1992, pp. 70–79.
- Apperley, Tom. "Counterfactual Communities: Strategy Games, Paratexts and the Player's Experience of History." *Open Library of Humanities*, vol. 4, no. 1, 2018, pp. 1–22.
- Aroni, Gabriele. *The Semiotics of Architecture in Video Games*. Bloomsbury Publishing, 2022.
- Aroni, Gabriele. "The Architecture of Assassin's Creed II's Florence." *Well Played: A Journal on Video Games, Values, and Meaning Connected Learning Summit Special Issue*, edited by Drew Davidson, Carnegie Mellon University ETC Press, 2019, pp. 13–26.
- Aztec*. Apple II version, Paul Stephenson for Datamost, 1982.
- Barnes, William L. "The Teocalli of Sacred Warfare and late imperial calendrical rhetoric in the court of Moteuczoma II." *Res: Anthropology and Aesthetics*, vol. 67, no. 1, 2017, pp. 235–255.
- Berdan, Frances F., et al., editors. *Aztec Imperial Strategies*. Vol. 15. Dumbarton Oaks, 1996.

- Berdan, Frances F. and Patricia Rieff Anawalt. *The Essential Codex Mendoza*. Berkeley: U of California P, 1997.
- Bourdieu, Pierre. *Distinction: A Social Critique of the Judgement of Taste*. Routledge, 1984.
- Broda, Johanna "The Provenience of the Offerings." *The Aztec Templo Mayor*, edited by Elizabeth Hill Boone, Dumbarton Oaks, 1987.
- Byrd, Matthew. "Why New World is the Divisive Game of 2021," *Denof-Geek.com*, 01 October 2021, <https://www.denofgeek.com/games/new-world-controversy-divisive-reviews-reactions-debate/>. Accessed 01 May 2022.
- Calnek, Edward "The Calmecac and Telpochcalli in pre-conquest Tenochtitlan." In *The Work of Bernardino de Sahagun: Pioneer Ethnographer of Sixteenth-Century Aztec Mexico*, edited by Klor de Alva, J. Jorge, H. B. Nicholson, and Eloise Quinones Keber. U of Texas P, 1988, pp. 169-177.
- Campbell, Colin. "Amazon's Questionable MMO Has You Colonize the 'New World'" *Polygon.com* 08 Feb. 2019. <https://www.polygon.com/2019/2/8/18216053/new-world-game-mmo-impressions-preview-colonization-controversy>. Accessed 01 May 2022.
- Carpenter, Marc J. "Replaying Colonialism: Indigenous National Sovereignty and Its Limits in Strategic Videogames," *American Indian Quarterly*, vol. 45, no. 1, 2021, pp. 33-55.
- Carrasco David, ed. *To Change Place: Aztec Ceremonial Landscapes*. UP of Colorado, 1991.
- . *The History of the Conquest of New Spain by Bernal Diaz del Castillo*. U of New Mexico P, 2009.
- Carrasco, David. *Quetzalcoatl and The Irony of Empire: Myths and Prophecies in the Aztec Tradition*. 1982. UP of Colorado, 2000.
- Carroll, Timothy. "Axis of Incoherence: Engagement and Failure Between Two Material Regimes Of Christianity." *The Material Culture of Failure: When Things Do Wrong*, edited by David Jeevendrampillai, et al. Routledge, 2017, pp. 157-176.
- Caso, Alfonso. *El Teocalli de la guerra sagrada (Descripción y estudio del monolito encontrado en los cimientos del Palacio Nacional)*. México: Talleres gráficos de la nación, 1927.

- Cassone, V. I. and M. Thibault. "The HGR Framework A Semi-otic Approach to the Representation of History in Digital Games" in *Gamevironments, Special Issue "Gameenvironments of the Past"* vol. 05, 2016, pp. 156-204.
- Castro Morales, Efraín; and Roberto García Moll "Un entierro colectivo en la ciudad de Cholula, Puebla" *Religión en Mesoamérica*, XII Mesa Redonda, 1972, pp. 382-383.
- Chapman, Adam "Is Sid Meier's *Civilization* History?" *Rethinking History*, vol. 17, 2013, pp. 312-32.
- . *Digital Games as History: How Videogames Represent the Past and Offer Access to Historical Practice*. Routledge, 2016.
- Cresswell, Tim. "Place." *International Encyclopedia of Human Geography* vol. 8, 2009, pp. 169-177.
- Cresswell, Tim. *Place: An Introduction*. John Wiley & Sons, 2014.
- De Beus, Emma. "Marvel Presents a Global Utopia and Confronts Nationalism: Eternals as a New Mythology Forged from Western Roots." *Humanities*, vol. 11, no. 3, 2022, pp. 1-9.
- De Certeau, Michel *The Practice of Everyday Life*, translated by Steven Rendall. U of California P, 1984.
- Denisova, Alena; and Paul Cairns. "First person vs. third person perspective in digital games: do player preferences affect immersion?" in *Proceedings of the 33rd annual ACM conference on human factors in computing systems*, 2015, pp. 145-148.
- Díaz Balsera, Viviana. "Erasing the pyramid under the cross: Motolinía's History of the Indians of New Spain and the construction of the Nahua Christian Subject," *Journal of Spanish Cultural Studies*, vol. 4, no. 1, 2003, pp. 111-122.
- Diener, A. and J. Hagen. "Geographies of Place Attachment: A Place-Based Model of Materiality, Performance, and Narration." *Geographical Review* vol. 112, no. 1, 2020, pp. 171-186. <https://doi.org/10.1080/00167428.2020.1839899>
- Dillon, Beth A. "Signifying the West: Colonialist Design in *Age of Empires III: The WarChiefs*." *Eludamos: Journal for Computer Game Culture*, vol. 2, no. 1, 2008, pp. 129-144.
- Dow, Douglas N. "Historical Veneers: Anachronism, Simulation, and Art History in *Assassin's Creed II*." In *Playing with the Past: Digital*

Games and the Simulation of History, edited by M. W. Kapell and A. B. R. Elliot, Bloomsbury, 2013, pp. 215–231.

Eternals. Directed by Chloé Zhao, Marvel Studios, 2021.

Europa Universalis IV. Paradox Development Studio. Paradox Interactive. Microsoft. Windows, 2013.

Fernández-Armesto, Felipe. "'Aztec' Auguries and Memories of the Conquest of Mexico." *Renaissance Studies*, vol. 6, no. 3–4, 1992, pp. 287–305.

Findeiss, Konrad Tyrakowski, et al. "Autoctonas Redes Regulares de Asentamientos Prehispánicos en el Altiplano Mexicano. Una investigación De La Cosmovision De Los Antiguos Pobladores Entre Tlaxcala Y Puebla." *Historia y sociedad en Tlaxcala: Memorias del 4o. y 5o. Simposios Internacionales de Investigaciones Socio-Históricas sobre Tlaxcala; Octubre de 1988, Octubre de 1989*. México: Universidad Iberoamericana, 1989, pp. 31–43.

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Fitzgerald, Joshua. "Visualizing Martial Mothers, Eagle-Women, and Water Warriors in the Florentine Codex." *Getty Research Journal* 16, no. 1 2022: pp. 41–66.

----- . "Mistaken Places: Mesoamerican Meaning in the Sixteenth-Century Catholic Courtyards of Mexico." In *Place Meaning and Attachment: Authenticity, Heritage and Preservation*. Routledge, 2020, pp. 80–91.

Florescano, Enrique. *Memory, Myth, and Time: From the Aztecs to Independence*. U of Texas P, 1994.

Flynn, Bernadette. "Games as Inhabited Spaces." *Media International Australia, Incorporating Culture and Policy*, vol. 110, 2004, pp. 52–61.

Ford, Dom "'eXplore, eXpand, eXploit, eXterminate': Affective Writing of Postcolonial History and Education in Civilization V," *Game Studies*, vol. 16, no. 2, 2016.

Fragoso, Suely; Fabiana Freitas; and Mariana Amaro. "Beyond God's Eye: on the Reliability of Gameworld Images" in *Proceedings of DiGRA 2019 Conference*, 2019.

Gailloreto, Coleman. "How Amazon's New World MMO Can Avoid Narratively Erasing Native Culture." *Screenrant.com*. <https://>

screenrant.com/amazon-new-world-mmo-native-culture-erasure-bad/. Accessed 01 May 2022.

Galindo Trejo, Jesus “Mesoamerican Cosmology: Recent Finds,” *Cosmology Across Cultures*, 2009.

García Garagarza, León. “The 1539 Trial of Don Carlos Ometochtli and the Scramble for Mount Tlaloc.” *Mesoamerican Memory: Enduring Systems of Remembrance*, edited by Amos Megged and Stephanie Wood. U of Oklahoma P, 2012, pp. 193–214.

García Ocampo Rivera, Antonieta María. *Towards an Understanding of Aztec Architecture and Urban Planning*. 2016. University of British Columbia, PhD dissertation.

Gibson, Charles. *Tlaxcala in the Sixteenth Century*. Stanford UP, 1967.

----- . *The Aztecs Under Spanish Rule: A History of the Indians of the Valley Of Mexico, 1519–1810*. Stanford UP, 1964.

Gobierno del Estado de Puebla Secretaría de Gobernación Orden Jurídico Poblano. *Decreto del H. Congreso del Estado, por el que declara el día 18 de octubre de cada año como “Día Estatal de la Conmemoración de la Matanza de Cholula del año 1519.”* State of Puebla, Mexico. 29 Nov. 2019.

Golding, Daniel. “Putting the Player Back in Their Place: Spatial Analysis from Below.” *Journal of Gaming & Virtual Worlds*, vol. 5, no.2, 2013.

Graulich, Michel, and Guilhem Olivier. “*Nuevas consideraciones en torno al Teocalli de la Guerra Sagrada.*” *Símbolos de poder en Mesoamérica*, UNAM, 2008, pp. 163–174.

Gutiérrez, Veronica. “Converting a Sacred City: Franciscan Re-Imagining of Sixteenth-Century San Pedro Cholula,” a dissertation submitted in completion of PhD, Department of History, University of California Los Angeles, 2012.

Haskett, Robert. *Visions of Paradise: Primordial Titles and Mesoamerican History in Cuernavaca*. U of Oklahoma P, 2005.

Himmerich y Valencia, Robert. *The Encomenderos of New Spain, 1521–1555*. U of Texas P, 1996.

“Historical Comparison.” *Ageofempires.Fandom.com* web forum, 2017, https://ageofempires.fandom.com/wiki/Reign_of_Blood. Accessed 01 Jan. 2022.

Holdenried, Joshua D.; and Nicolas Trépanier. "Dominance and the Aztec Empire: Representations in *Age of Empires II* and *Medieval II: Total War*," in *Playing with the Past: Digital Games and the Simulation of History*, edited by Kapell and Elliot, 2013, pp. 107–119.

Honour Water. Mac version for macOS 11.0, Pinnguaq Technology, 2016.

Ingold, Tim. "The Textility of Making." *Cambridge Journal of Economics*, vol. 34, no. 1, 2010, pp. 91–102.

Kapell, Matthew and Andrew B.R. Elliott, eds. *Playing with the Past: Digital Games and the Simulation of History*. Bloomsbury, 2013.

Kelly, Joyce. *An Archaeological Guide to Central and Southern Mexico*. U of Oklahoma P, 2001.

Klor de Alva, J. Jorge. "Spiritual Conflict and Accommodation in New Spain: Toward a Typology of Aztec Responses to Christianity." *The Inca and Aztec States, 1400–1800: Anthropology and History*, edited by George Allen Collier, et al., Academic Press, 1982, pp. 345–366.

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Knudsen, Connor. "How Many People play New World? Player count & population tracker (2022)." *Dexerto.com*. <https://www.dexerto.com/new-world/how-many-people-play-new-world-player-count-tracker-2022-1680902/>. Accessed 01 May 2022.

Laack, Isabel. "The New Animism and Its Challenges to The Study of Religion." *Method & Theory in The Study of Religion*, vol. 32, no. 2, 2020, pp. 115–147.

----- . *Aztec Religion and Art of Writing: Investigating Embodied Meaning, Indigenous Semiotics, and the Nahuatl Sense of Reality*. Brill, 2019.

Lammes, Sybille. "Postcolonial playgrounds: Games and postcolonial culture." *Eludamos: Journal for Computer Game Culture*, vol. 4, 2010, pp. 1–6.

Lammes, Sybille; and Stephanie de Smale. "Hybridity, Reflexivity and Mapping: A Collaborative Ethnography of Postcolonial Gameplay." *Open Library of Humanities*, vol. 4, no. 1, 2018, pp. 1–31. <https://doi.org/10.16995/olh.290>

LaPensée, Elizabeth. "Games as Enduring Presence." *Indigenous Art: New Media and the Digital*, special issue of *PUBLIC*, vol. 54, 2016, pp. 178–186.

-----, "‘When Rivers Were Trails’: Cultural Expression in an Indigenous Video Game." *International Journal of Heritage Studies*, vol. 27, no. 3, 2021, pp. 281–295.

LaPensée, Elizabeth A., Outi Laiti, and Maize Longboat. "Towards Sovereign Games." *Games and Culture*, vol. 17, no. 3, 2022, pp. 328–343.

LaPensée, Elizabeth, and Nicholas Emmons. "Indigenizing Education with the Game ‘When Rivers Were Trails.’" *Amerikastudien/ American Studies*, vol. 64, no. 1, 2019, pp. 75–93.

LaPensée, Elizabeth, Sharon M. Day, and Lyz Jaakola. "Honour Water: Gameplay as a Pathway to Anishinaabeg Water Teachings." *Decolonization: Indigeneity, Education & Society*, vol. 7, no. 1, 2018, pp. 115–130.

Lee, Jongsoo. *The Allure of Nezahualcoyotl: Pre-Hispanic History, Religion, and Nahuatl Poetics*. U of New Mexico P, 2008.

Lefebvre, Henri. *The Production of Space*. Blackwell, 1991.

Lockhart, James. *Of Things of the Indies: Essays Old and New in Early Latin American History*. Stanford UP, 1999.

Lockhart, James; and Bernardino De Sahagún. *We People Here: Nahuatl Accounts of the Conquest of Mexico*. Vol. 1. U of California P, 1993.

López Austin, Alfredo and Leonardo López Luján. "El Chacmool Mexico," *Caravelle*, no. 76–77, 2001, pp. 59–84.

-----, *Monte Sagrado-Templo Mayor*. México, Instituto Nacional de Antropología e Historia/Universidad Nacional Autónoma de México, Instituto de Investigaciones Antropológicas, 2009.

Maffie, James. *Aztec Philosophy: Understanding a World in Motion*. UP of Colorado, 2013.

McCafferty, Geoffrey "The Cholula Massacre: Factional Histories and Archaeology of the Spanish Conquest." *The Entangled Past: Integrating History and Archaeology*, edited by Matthew Boyd, et al., Proceedings of the 30th Annual Chacmool Conference, U of Calgary, 2000, pp. 347–359.

-----, "Mountain of Heaven, Mountain of Earth: The Great Pyramid of Cholula as Sacred Landscape" in *Landscape and power in ancient Mesoamerica*. Routledge, 2001, pp. 279–316.

Mochocki, Michał. "Heritage Sites and Video Games: Questions of Authenticity and Immersion." *Games and Culture*, vol. 16, no. 8, 2021, pp. 951–977.

Motolinía (Toribio de Benavente), *Historia de los indios de la Nueva España*, edited by Georges Baudot. Madrid: Castalia, 1985.

----- . *Memoriales de Fray Toribio de Motolinia: manuscrito de la colección del señor don Joaquín García Icazbalceta*. Vol. 1. En casa del editor, 1903.

Mukherjee, Souvik. "The Playing Fields of Empire: Empire and Spatiality in Video Games," *Journal of Gaming & Virtual Worlds*, vol. 7, no. 3, 2015, pp. 299–315.

----- . "Playing Subaltern: Video Games and Postcolonialism." *Games and Culture*, 9, 2016.

----- . *Videogames and Postcolonialism: Empire Plays Back*. Palgrave Macmillan, 2017.

Mundy, Barbara E. *The Death of Aztec Tenochtitlan, the Life of Mexico City*. U of Texas P, 2015.

Muñoz Camargo, Diego. *Historia de Tlaxcala*, 1592, Ms. 210 de la Biblioteca Nacional de París. Luis Reyes García and Javier Lira Toledo, eds. Universidad Autónoma de Tlaxcala, 2013, pp. 188–189.

Museo de la Escultura Mexica, Eusebio Dávalos Hurtado (INAH), located at Callejón del Tepozteco, s/n, Pueblo de Santa Cecilia Acatitlán, 54130, Tlalnepantla, Tlalnepantla de Baz, México.

Nae, Andrei. "From Male to Colonial Gaze: The Intersection of Patriarchy and Colonial Discourse in the Rebooted Tomb Raider Video Game Series." *Video Games and Spatiality in American Studies*. Vol. 5, edited by Dietmar Meinel, Walter de Gruyter, 2022, pp.101–116.

Navarrete, Federico "Cholula: terrorismo y castigo." *Noticonquista*. <http://www.noticonquista.unam.mx/amoxtli/1766/1764>. Accessed 07 April 2022.

New World. Microsoft Windows PC version, Amazon Games Orange County, 2021.

New World Forums, Amazon Games Studio, 2022, <https://forums.new-world.com/>

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"New World Player Counter," *MMO Populations.com*. <https://mmo-population.com/r/newworldgame#:~:text=We%20estimate%20the%20daily%20player,total%20player%20base%20of%2014%2C974%2C034>. Accessed 01 May 2023.

Online Nahuatl Dictionary, edited by Stephanie Wood. Wired Humanities Projects, College of Education, U of Oregon, 2000, <https://nahuatl.wired-humanities.org/>. Accessed 01 May 2022.

Ostler, Jeffrey; and Nancy Shoemaker. "Settler colonialism in Early American History: Introduction." *The William and Mary Quarterly*, vol. 76, no. 3, 2019, pp. 361-368.

Penix-Tadsen, Phillip. "Latin American Ludology: Why We Should Take Video Games Seriously (and When We Shouldn't)." *Latin American Research Review*, vol. 48, no. 1, 2013, pp. 174-190.

Penix-Tadsen, Phillip. *Cultural Code: Video Games and Latin America*. MIT Press, 2016.

Peterson, David A. and Z. D. Green, "The Spanish arrival and the massacre at Cholula." *Notas Mesoamericanas*, vol. 10, 1987, pp. 203-220.

"placeness, *n.*" *OED Online*, Oxford UP, 2023, www.oed.com/view/Entry/144881. Accessed 8 May 2022.

Plunkett, Daniel "On Place Attachments in Virtual Worlds." *World Leisure Journal*, vol.53, no. 3, 2011, pp. 168-178.

Proctor, Devin "Wandering in the City: Time, Memory, and Experience in Digital Game Space." *M/C Journal*, vol. 22, no. 4, 2019. <https://doi.org/10.5204/mcj.1549>

Purchase, Robert. "We talk to Amazon about its New World MMO and the problematic associations." *Eurogamer.com*, 13 Dec. 2019, <https://www.eurogamer.net/we-talk-to-amazon-about-its-new-world-mmo-and-problematic-associations>. Accessed 01 May 2022.

Relph, Edward. "Paradox of Place," in *Place and Placelessness Revisited*, edited by Robert Freestone and Edgar Liu. Routledge, 2016.

----- . "Spirit of Place and Sense of Place in Virtual Realities." *Techné: Research in Philosophy and Technology*, vol. 10, no.3, 2007, pp. 17-25.

----- . *Place and Placelessness*. Pion, 1976.

- Restall, Matthew. *Seven Myths of the Spanish Conquest*. Oxford UP, 2004.
- Ricard, Robert. *The Spiritual Conquest of Mexico: An Essay on the Apostolate and Evangelizing Methods of the Mendicant Orders in New Spain: 1523–1572*, translated by Lesley Byrd Simpson. 1933. U of California P, 1966.
- Rivera, Karen. “#Liminal: «Yaopan», un videojuego inspirado en la Conquista.” *Noticias Canal 22.com*, 13 Aug. 2021, <https://noticias.canal22.org.mx/2021/08/13/liminal-yaopan-un-videojuego-inspirado-en-la-conquista/>. Accessed 01 May 2022.
- Rodríguez-Alegría, Enrique. “Incumbents and Challengers: Indigenous Politics and the Adoption of Spanish Material Culture in Colonial Xaltocan, Mexico.” *Historical Archaeology* vol. 44, 2010, pp. 51–71.
- Rowe, Aimee and Eve Tuck. “Settler Colonialism and Cultural Studies: Ongoing Settlement, Cultural Production, and Resistance.” *Cultural Studies Critical Methodologies*, vol. 17, no. 1, 2017, pp. 3–13. <https://doi.org/10.1177/1532708616653693>
- Sahagún, Bernardino de. *Florentine Codex: General History of the Things of New Spain*. Monographs of the School of American Research 14, Parts 1–13, edited and translated by Charles E. Dibble and Arthur J. O. Anderson. Santa Fe: School of American Research. 1950–1982.
- Sánchez García, Manuel. “Historic Spaces and Architectures in Video-games.” *Culture: History Digital Journal*, vol. 9, no. 1, 2020, pp. 1–3.
- Sepinwall, Alyssa Goldstein. “‘What Else Have These People Hidden Away in Here?’ Unsilencing Slavery in the Archives in Historiated Games’ *Blackhaven*.” in 136th Annual Meeting (January 5–8, 2023). Unpublished paper. American Historical Association, 2023.
- Sid Meier's Civilization IV*. Microsoft Windows. Firaxis Games. 2K Games, 2005.
- Shadow of the Tomb Raider*. Eidos-Montréal. Square Enix Europe. Sony PlayStation 4, 2018.

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- Shaw, Adrienne. "The Tyranny of Realism: Historical accuracy and politics of representation in Assassin's Creed III." *Loading[...]* vol. 9, no. 14, 2015.
- Shoemaker, Nancy "A Typology of Colonialism." *Perspectives on History*, 01 Oct. 2015, <https://www.historians.org/research-and-publications/perspectives-on-history/october-2015/a-typology-of-colonialism>. Accessed 01 May 2022.
- Smith, Michael E. *Aztec City-State Capitals*. UP of Florida, 2008.
- Smith, Michael E.; and Frances F. Berdan. "Archaeology and the Aztec empire." *World Archaeology*, vol. 23, no. 3, 1992, pp. 353-367.
- Speed, Fran "The Sacred Environment," *Constructing Place: Mind and Matter*, edited by Sarah Menin. Routledge, 2003, pp. 55-65.
- Spring, Dawn "Gaming History: Computer and Video Games as Historical Scholarship." *Rethinking History*, vol. 19, no. 2, 2015, pp. 207-221.
- Squire, Kurt and Henry Jenkins. "The Art of Contested Spaces." *Game On*, edited by Lucian King and Conrad Bain, Barbican, 2002, pp. 97-102.
- Steam Statistics, <https://steamplayercount.com/app/1063730>. Accessed November 30, 2022.
- Tavinor, Grant "Response to Plunkett: On Place Attachment in Virtual Worlds," *World Leisure Journal*, vol. 53, no. 3, 2011, pp. 179-185.
- Thibault, Mattia. "A Semiotic Exploration of Catastrophes in Game Worlds." *Linguistic Frontiers*, vol. 2, no. 1, 2019, pp. 10-15.
- Thomas H. Apperley, "Toward a Critical Approach to Video Game Genres." *Simulation and Gaming* vol. 37, 2006, pp. 6-23.
- Thorne, Brad. "Behind the scenes on Amazon's New World," *Creative Bloq*, 26 August 2021, <https://www.creativebloq.com/features/amazon-new-world-art>. Accessed 01 May 2022.
- ". "Amazon's New World: All you need to know about the MMORPG," *Creative Bloq*, 23 August 2021, <https://www.creativebloq.com/features/amazon-new-world>. Accessed 01 May 2022.
- Tichy, Franz. "El calendario solar como principio de ordenación del espacio para poblaciones y lugares sagrados." In *Simposio de la*

Fundación Alemana para la Investigación Científica, Comunicaciones, vol. 15, 1978, pp. 153–164. *Tomb Raider III: Adventures of Laura Croft*. Sony PlayStation version, Eidos Interactive, 1998.

Townsend, Richard F., and Anthony F. Aveni. *The Ancient Americas: Art from Sacred Landscapes*. Art Institute of Chicago, 1992.

Tuan, Yi-Fu “Space and Place: Humanistic Perspective.” *Philosophy in Geography*, edited by Stephen Gale and Gunnar Olsson, 1979, pp. 387–427.

Umberger, Emily. *Aztec Sculptures, Hieroglyphs, and History*. 1981. Columbia University, PhD dissertation.

----- “El Trono de Moctezuma.” *Estudios de Cultura Náhuatl*, vol. 17, 1984, pp. 63–87.

Umberger, Emily and Cecelia F. Klein. “Aztec Art and Imperial Expansion.” *Latin American Horizons*, edited by Don S. Rice, Dumbarton Oaks, 1993, pp. 295–336.

Valesey, Chris. “Managing the Herd: Nahuas, Animals, and Colonialism in Sixteenth-Century New Spain.” 2019. The Pennsylvania State University, PhD dissertation.

Veracini, Lorenzo. *Settler Colonialism: A Theoretical Overview*. Palgrave Macmillan, 2010.

Wagner, Logan, et al. *Ancient Origins of the Mexican Plaza: from Primordial Sea to Public Space*, U of Texas P, 2013.

Wainwright, A. Martin *Virtual History: How Videogames Portray the Past*, Routledge, 2019.

Wake, Eleanor *Framing the Sacred: The Indian Churches of Early Colonial Mexico*. U of Oklahoma P, 2010.

----- “The Dawn Places: Celestially Defined Land Maps, Títulos Primordiales, and Indigenous Statements of Territorial Possession in Early Colonial Mexico.” *Indigenous Intellectuals: Knowledge, Power, and Colonial Culture in Mexico and the Andes*, edited by Gabriela Ramos and Yanna Yannakakis, Duke UP, 2014, pp. 202–236.

Winkie, Luke. “New World: Amazon’s foray into video games is an enjoyable anachronism.” *TheGuardian.com*. Accessed 01 May 2022.

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<https://www.theguardian.com/games/2021/oct/29/new-world-review-amazon-video-games>

Withers, Charles WJ. "Place and the 'Spatial Turn' in Geography and in History." *Journal of the History of Ideas*, vol. 70, no. 4, 2009, pp. 637-658.

Wolfe, Patrick. "Settler Colonialism and the Elimination of the Native." *Journal of Genocide Research*, vol. 8, no. 4, 2006, pp. 387-409.

Wood, Aylish. "Recursive Space: Play and Creating Space." *Games and Culture*, vol. 7, no. 1, 2012, pp. 87-105.

Wood, Joshua. "The Burden On Our Back: Conveying Nahua Survivance through Games," *First Person Scholar.Com*, 15 July 2020, <http://www.firstpersonscholar.com/the-burden-on-our-back>. Accessed 01 May 2022.

Yaopan: Un Juego de Conquista. iPhone versión for iOS 10.0, Bromio Studios, 2021.

"*Yaopan. Un juego de la Conquis*." Google Play App Store (in Spanish), 2023, https://play.google.com/store/apps/details?id=com.Bromio.Yaopan&hl=en_GB&gl=US. Accessed 01 May 2023.