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Article:

Theoretical and Methodological Framework for Studying Video Games and Orientalism

Vít Šisler

Abstract

This article proposes a theoretical and methodological framework for studying orientalism and representation in video games, grounded in information science, communication studies, game studies, and cultural studies. Utilizing the approaches of critical transculturalism, game production studies, and a newly refined concept of gamevironments, the proposed framework understands video games as hybrid cultural artifacts existing within interconnected technical, socio-cultural, political, economic, and religious spheres. It examines games on three levels: as computational systems encompassing procedural, narrative, and audiovisual layers; as designed by authors encoding worldviews and ideas; and as dynamically interpreted by players. Encompassing the contexts influencing design and reception, this framework enables nuanced analysis of how games perpetuate or challenge orientalist discourses. Methodologically, it integrates techniques from across disciplines to study games' components, creators, audiences, and wider environments. Using Arab and Iranian gaming cultures as an example, this article highlights applying the framework to local productions negotiating global media flows and political constraints. Overall, it aims to offer an expansive and multifaceted toolkit for researching orientalism, representation, and identity construction in video games.

Keywords

video games; orientalism; video game analysis; Middle East

Corresponding author's address: Vít Šisler, Charles University, nám. J. Palacha 2, Praha 1, 116 38, Czech Republic. E-mail: vit.sisler@ff.cuni.cz

Introduction

In February 2021, a US video game company Highwire Games announced they were developing *Six Days in Fallujah*, a "tactical shooter" game that "recreates true stories of Marines, Soldiers, and Iraqi civilians" from the Iraq War (Elassar 2021). The video game is set in the Second Battle of Fallujah, one of the deadliest battles of the war, which resulted in over eight hundred civilian casualties (Marqusee 2005). According to the developers, both US soldiers and Iraqi civilians participated in the game's development and it will use gameplay and documentary interviews to portray these events with "authenticity and respect" (Highwire Games 2021).

The announcement of the game's release sparked controversy and drew widespread criticism, particularly by civilian survivors and veterans of the Iraq war. For example, Najla Bassim Abdulelah, who grew up during the war, expressed concerns about taking a real-life event, in which people suffered and died, and turning it into a game. "I am disgusted that this is something that will be producing profit when people like me suffered the consequences of this war and will have to watch people play it for fun," she told CNN (Elassar 2021).

By the same token, the Council on American-Islamic Relations (CAIR), the largest US Muslim civil rights and advocacy organization, criticized the game for "contributing to an ongoing culture of generalized, racist, and dehumanizing portrayals of Arab, Muslim, and Middle Eastern cultures across all entertainment." CAIR also called on major video game companies not to host or digitally distribute the game (Allison 2021).

The game has not been released at the time of writing this article, yet it poignantly illustrates the complex relationship between video games, politics, popular culture, contemporary history, identity, and the entertainment industry. More importantly, it demonstrates how video games dealing with real-world events, places, and people construct virtual representations of the latter that matter, especially to those directly concerned, and shape the perception and evaluation of these events (Pötzsch and Šisler 2019). In

our increasingly interconnected world, virtual representations constructed by video games constitute an important part of the global public sphere (Khamis and Šisler 2010).

The controversy surrounding *Six Days in Fallujah* is not new to the Middle East nor to video games. In 2003, the Lebanese Hezbollah Central Internet Bureau accused American video games of misrepresenting the Middle East and inciting hatred towards Arabs:

> The problem behind these electronic games, especially those designed for computers, is that most of them are foreign made, especially American. Therefore, they bear enormous false understandings and habituate teenagers to violence, hatred and grudges. In addition, some enfolds humiliation to many of our Islamic and Arab countries, where battles are running in these Arab countries, the dead are Arab soldiers, whereas the hero who kills them is—the player himself—an American. (Lebanese Hezbollah Central Internet Bureau, Special Force 2003)

In a response to the alleged misrepresentations, Hezbollah published an action game called *Special Force* (*Al-Qūwwat al-khāsa*) in 2003. This first-person shooter game dealt with a military conflict between Hezbollah and the Israeli Defense Forces and the withdrawal of the Israeli forces from Lebanon in 2000. According to its developers, the game was "based on reality" and should be "educational for future generations" (Special Force 2003). The game was not only a novel media asset in Hezbollah propaganda campaigns, but also served as a recruitment tool for the movement and commemoration of fallen soldiers (Machin and Suleiman 2006). Similar to *Six Days in Fallujah*, *Special Force* was widely criticized in global gaming and mainstream media and sparked debates about the capability of video games to portray history and war accurately, as well as the boundaries between entertainment and propaganda (Wakin 2003).

Despite the examples mentioned above, many believe video games are capable of transmitting complex and emotionally-loaded human

experiences, even those related to displacement, conflict, and war. In November 2017, the Austrian studio Causa Creations released a game called *Path Out*. The developers describe it as an "autobiographical adventure" that allows players to relive the journey of Abdullah Karam, a young Syrian artist who escaped the civil war (Causa Creations 2017). The artist himself participated in the design process and the game recalls his life. It begins with Abdullah's decision to leave Syria when he turned 18, as staying would have resulted in his being conscripted into the war and being forced to fight his own relatives (Cox 2017). Most of the gameplay documents the perilous journey from his hometown Hama to the Turkish border through the war-torn Aleppo province (Causa Creations 2017).

Path Out received critical acclaim and won numerous international awards. Beyond providing a "playable" diary and serious commentary on the drastic events, it also contains humor and sarcasm. As Abdullah Karam says: "The jokes and the humor were important because they reflect the Syrian humor we've developed over decades to escape the dire reality of life and cope with the hardships we face" (Chan 2017). He states that developing the game brought him a sense of catharsis, while critics have called the game "an eye-opening experience" (Evans-Thirlwell 2017; see also BBC 2017).

The three snapshots that open this theoretical article offer a glimpse of the complex topic of video games and representation of the Middle East in particular, and video games and orientalism in general. In these examples, we can see video games being used as a documentary, propaganda, a recruitment tool, and an autobiographical diary, while simultaneously being "entertainment." As Eric Zimmerman (2013) argues in his *Manifesto for a Ludic Century*, the 20th century was the century of information, where the moving image was the dominant cultural form. Personal storytelling, news reporting, epic cultural narratives, or political propaganda—"all were expressed most powerfully through film and video" (2013). According to Zimmerman, the rise of the moving image is tightly bound to the rise of information since "film and video as media represent linear, non-interactive information that is accessed by a viewer" (2013). On the contrary, the 21st century will be defined by games, where game-like experiences replace linear

media:

> Media and culture in the Ludic Century is increasingly systemic, modular, customizable, and participatory. Games embody all of these characteristics in a very direct sense. Increasingly, the ways that people spend their leisure time and consume art, design, and entertainment will be games—or experiences very much like games. (Zimmerman 2013)

Indeed, video games have become massively popular with rapidly increasing economic relevance. The global video game market generated a total revenue of $180.3 billion in 2021, which is more than the film, TV, and digital music industries combined (Wijman 2021). Simultaneously, video games constitute an increasingly important form of cultural production, showing a growing diversity of genres, cultures, and worldviews. Over three billion players globally spend an average of eight hours per week playing games (Limelight 2021). Video games can be found on every continent and appeal to one of the widest demographics imaginable (Wolf 2015, 15). In this context, Reichmuth and Werning (2006, 47) argued that video games exhibit strong popular appeal and economic relevance and have "a profound impact on the collective imaginary although this 'passive' knowledge is seldom accepted as culturally relevant." This deficit of acceptance is partly due to the fact that video games "lack cultural prestige and scientific coverage" (Reichmuth and Werning 2006, 47).

Since 2006, the situation has changed significantly, with the then nascent field of game studies having grown steadily over the last two decades. Initially devoted to exploring the aesthetic, cultural, and communicative aspects of video games (Aarseth 2001), game studies firmly entrenched themselves within media and communication research (Egenfeldt-Nielsen, Smith, and Tosca 2008; Mäyrä 2008; Lankoski and Björk 2015). Today, game studies focus on a broad array of topics, ranging for example from video games' psychological and social aspects (Daniel and Garry 2018; Kowert and Quandt 2015), to game production studies (Sotamaa and Švelch 2021), video game design (Fullerton 2019), feminist and queer studies (Malkowski and

Russworm 2017; Ruberg and Shaw 2017), historical game studies (Lorber and Zimmermann 2020; Chapman 2016), religious game studies (Šisler, Radde-Antweiler, and Zeiler 2018; Campbell and Grieve 2014), or postcolonial game studies (Hammar et al. 2021; Mukherjee 2017). Particularly relevant to this article are the three latter strands of video game research: historical game studies, religious game studies, and postcolonial game studies.

According to Chapman (2016), historical video games constitute "one of the most successful forms" of popular history through which the past is engaged. Many mainstream, successful video games deal with real historical events and places, contributing to the ways history is conveyed, experienced, and understood (McCall 2016). As Rosenstone (2006, 12) notes, albeit in the context of film studies, "for every person who reads a book on a historical topic […] many millions of people are likely to encounter that same past on the screen." This observation applies to historical video games too, given their increasing popularity and reach (Chapman 2016). Although there exists considerable debate about the quality and depth of the representation of history in popular media in general (Erll 2011; Rosenstone 2006), and video games in particular (Hammar 2019), the representation of the past in these games affects a society's historical awareness (Kolek et al. 2021). This is particularly relevant to the topics of orientalism in video games and the representation of the Middle East, whose history and culture is oftentimes schematized in US and European mainstream media and popular culture (Said 1994; Mukherjee 2016).

In a nutshell, Said's (1994) concept of orientalism is a critique of the Western construction of the "Orient" as a place of mystery and exoticism. In his seminal work, Said (1994) explores the discourse and practice of orientalism in literature, academia, and politics, exposing its role in perpetuating colonialism and imperialism. He highlights how the people of the "Orient" were often perceived as irrational and incapable of logic, with the accompanying assumption that the opposite traits were considered Western. Said's work aims to undermine orientalism's influence on how the West perceives and interacts with the East, shedding light on the often unquestioned assumptions about Eastern civilizations and the interconnected system of institutions, policies,

narratives, and ideas that perpetuate the above-mentioned schematizations. The concept of orientalism is used to study video games by analyzing the representation of Asian people or cultures in a negative or inaccurate light, often relying on stereotyping and schematizations (Šisler 2008, 2014a, 2018b; Mukherjee 2016; Hammar 2023). This can lead to the perpetuation of harmful stereotypes and the propagation of an idealized or distorted image of the East within video games, as shown in the examples mentioned above. Oftentimes, the schematizations and stereotyping are connected to the representation of Eastern religions and spiritual beliefs.

Campbell and Grieve (2014, 2) argue that video games are an important site for exploration into the "intersection of religion and contemporary culture that helps us understand what religion is, does, and means in a changing contemporary society." According to them, just like films helped to illuminate and expose the religiosity of the 20th century, video games "now depict the religious within the twenty-first century" (2014). Similarly to real historical narratives and places, many video games use real religions and belief systems in order to construct believable worlds, systems of ethics, or appealing narratives (Šisler, Radde-Antweiler, and Zeiler 2018). Regarding this article, the field of religious game studies is important for investigations on how Islam and Muslims are represented in mainstream Arab and American video games and how we can study religious representations on the level of video games' rule systems.

Finally, regarding video games and postcolonial studies, we recently saw the emergence of a new debate on this topic, which has, for a long time, been neglected in game studies. As Mukherjee (2017) puts it in his seminal work *Videogames and Postcolonialism: Empire Plays Back*:

> Videogames have been analyzed from many perspectives in Humanities thinking and in recent years, a closer engagement with issues relating to gender, race, and diversity is in evidence. Despite early depictions of colonization in videogames, such as Sid Meier's Colonization (Meier 1994) or Microsoft's Age of Empires (Ensemble Studios 1997), there has been very little scholarship if

> any at all on postcolonial perspectives on gaming in the now almost two decades of game studies research. (Mukherjee 2017, 2)

Although Mukherjee (2017, 9) acknowledges that many of the themes of postcolonialism (such as orientalism, empire, cartography, hybridity, and identity) have been addressed separately, the link between video games and postcolonialism has not been thoroughly examined. He offers a timely and important summary of the fragmented research and pinpoints the theoretical background necessary for any future endeavors in that direction. Regarding this thesis, the field of postcolonial game studies is important for the study of the growing diversity in the global video game industry and the emergence of new regional video game developers.

Although the field of video game studies has expanded significantly, some of the points raised by Reichmuth and Werning in 2006 are still relevant today. Video games tend to be considered less relevant in cultural discourse and thus are less frequently subjected to media critique (Reichmuth and Werning 2006, 47). As Sotamaa and Švelch (2021, 9) note, while the field of game studies has developed quickly in the past two decades, "the study of the video game industry and different modes of video game production have been mostly dismissed by game studies scholars." This is particularly relevant when it comes to video game development, consumption, and circulation outside the traditionally recognized centers of the video game industry and culture.

While video games are a quintessentially global technology—with game consumption, production and related practices taking place in virtually every country in the world today—"they have been received, created and even played differently in different regions, because cultural and national context impact the circulation and meaning of games in myriad ways" (Penix-Tadsen 2019, 6). In other words, the video game ecology is shaped through countless "local situations that collectively enact the global" (Apperley 2010, 18). At the same time, the study of video games has, until recently, predominantly focused on the traditional centers of video game scholarship: the United States, Western Europe, South Korea, and Japan (Penix-Tadsen 2019). The proliferation of video games in other regions and the role they play in the

local culture, economy, and politics have remained understudied (for notable exceptions see Švelch 2018; Penix-Tadsen 2019; Mukherjee 2017). Yet, as Huntemann and Aslinger point out, location impacts video games in several important ways:

> Local, national, regional, transnational, and translocal perspectives can add new levels of complexity to how we assess and experience the formal, textual, and representational content of games; discourses and practices of game development, distribution, policy, ratings, and censorship; historical, geographic, spatial, linguistic, racial, ethnic, and domestic contexts that influence design, hardware and software production; and embodied and networked play practices. (Huntemann and Aslinger 2013, 2)

The Middle East is one of the fastest-growing gaming markets in the world. This growth is driven by the region's young, fast-growing population of active gamers, a high penetration of smartphones and the internet, and an increasing supply of localized content by regional and global game publishers (Sharma 2020). In the Arab world in particular, Saudi Arabia, the United Arab Emirates, and Egypt are among the top game markets, with Saudi Arabia ranked as the 19th-largest gaming market globally in terms of revenue, at around $837 million (Tashkandi 2021). As a result, Arab and Iranian video game development and gaming cultures are shaped simultaneously by global cultural flows and distinct geographical locales.

As the above-mentioned examples illustrate, video games play an increasingly important role in contemporary Arab and Iranian cultures, their economies and politics. They are intertwined with local identity, history and international relations on the levels of production, consumption and regulation. As Cueto (2014) emphasizes, any technology should be understood as "an arena contested by a wide variety of individuals, institutions and actors and through complex local processes of reception, rejection, adaptation and hybridization." The Arab and Iranian game development and gaming cultures constitute a complex, heterogeneous space where a multitude of actors and agendas coexist; ranging from independent artists pursuing their visions to global

companies searching for new markets, state and religious authorities setting political agendas, and local gamers trying to get their hands on the latest products of the entertainment industry. These actors' aims and motivations simultaneously reinforce, overlap, and contradict each other, creating a highly contested media environment, where individual agency and state regulation continue to shape media and communication practices.

This article stems from my previous research on the complex spaces of video game development and gaming cultures in the Arab world and Iran (Šisler et al. 2023; Šisler 2013b; 2014b; 2018b) and on orientalism in video games (Šisler 2008; 2013a; 2014a; 2018a). Yet, in this article I do not summarize the content of my previous research but aim to formulate a theoretical and methodological framework for studying orientalism in video games, using the case study of the Arab world and Iran as an illustrative example of how to analyze the cultural and national contexts that shape the ways in which video games are designed, played, and regulated. Methodologically, the proposed framework stems from information science, communication studies, game studies, and cultural studies. It utilizes the theoretical frameworks of critical transculturalism (Kraidy 2005), game production studies (Sotamaa and Švelch 2021), the artifactual approach to game studies (Sotamaa 2016), and gamevironments (House 2020; Hammar 2020; Radde-Antweiler, Waltemathe, and Zeiler 2014) in order to explore the disjunctive and heterogenous spaces of Arab and Iranian video games. Simultaneously, the proposed theoretical and methodological framework contributes to the nascent field of "cultural ludology," which focuses on the analysis of video games "attending to the myriad ways culture is incorporated into game mechanics, but at the same time recognizes the signifying potential of the cultural environment in which games are created, designed, manufactured, purchased, played and otherwise put to use" (Penix-Tadsen 2016, 3).

The theoretical and methodological framework I propose in this article is formulated after more than a decade of research. It stems from the content analysis of more than one hundred and fifty video games in Arabic, English, and Persian; qualitative in-depth interviews with more than thirty Arab and Iranian video game developers; fieldwork in Syria, Egypt, Lebanon, Qatar,

Iran, and the United Arab Emirates; and a quantitative social network analysis of gaming magazines' and players' groups pages on Facebook. The framework should allow for research that enables us to capture the heterogeneous nature and complexity of different national and regional conditions. Before discussing the proposed framework in detail, I have to make a few comments on the terms "the Middle East" and "the Arab world."

First, I am fully aware of the problematic use of the term "the Middle East" as an umbrella term. The region usually labeled as the Middle East is geographically, historically, culturally, sociopolitically, and economically diverse and multifaceted. The countries of Western Asia and North Africa that are put together on the map as the Middle East neither constitute a continental landmass nor are they sufficiently bound together by any unifying characteristics (Amanat 2011, 2). Yet, as much as the term Middle East denotes a "virtual space," it might be a useful analytical construct for certain aspects of video game studies, particularly as it corresponds with the representational politics of US and European video games. The latter oftentimes conflate ethically and religiously diverse groups of people into a few schematizing images. Therefore, I use the term when speaking about in-game representations and schematizations. At the same time, there are many studies that use the term "the Middle East" while referring to various aspects of Arab and Iranian gaming cultures and game development in particular; or to media landscapes and regulatory frameworks in general (e.g. Sharma 2020; Clément 2019; Cederskoog 2012; Kasmiya 2010; Zakaria, Stanton, and Sarkar-Barney 2003). Simultaneously, many video game developers I interviewed used the term as well. Therefore, I too use the term when quoting authors and sources who themselves use it. Nevertheless, when I refer to my own research, I try to use the terms "the Arab world" and "Iran," clearly indicating where the empirical data and findings of my research originated.

Second, for the purpose of this article, I use the term "Arab world" to refer to countries that are members of the Arab League of Nations and speak Arabic as their official language (Šisler 2011; Abdulla 2007). By no means does this imply that the Arab world is a homogenous bloc. Despite the fact that the majority of Arab countries share the same language, culture, religion,

and history, there are significant variances in political and cultural ideology among Arab audiences (Amin 2007, x). As such, I am aware of the analytical risk of subsuming the diverse national video game industries and markets into one framework. At the same time, the regulatory frameworks and historical and social conditions in many Arab countries manifest significant overlaps (Šisler et al. 2023). Therefore, I use the term "the Arab world" when referring to the broader frame of my research, yet I situate my findings to concrete Arab countries and places whenever possible.

Theoretical Grounding of the Framework

Video games as dynamic systems of information representation: the perspective of information science

The proposed framework is theoretically grounded in information science: a multidisciplinary field of study (Bates 1999) focused, in its broadest sense, on the collection, storage, retrieval and use of information (Saracevic 2009; Anderson 2012; Dillon 2012). In particular, information science is concerned both with "recordable information and knowledge" and the "technologies and related services that facilitate their management and use" (Saracevic 2009, 2570). While exploring the interactions of people with information and its underlying technologies, information science transcends disciplinary boundaries (Dillon 2012). The highly networked and increasingly complex information ecologies emerging in the 21st century simultaneously require and foster creative and critical capacities for engaging with information (Anderson 2012). Information science in the 21st century thus needs to reflect the new ways of working with and using information that will most likely continue to emerge; including dynamic, informal forms of communication such as video games.

Video games have already been researched from various perspectives within information science (Squire 2008; Buchtová 2014; Lee, Clarke, and Kim 2015; Kolek 2020). In their systematic work, Lee, Clarke, and Kim (2015) have identified four areas of research on video games within the domain of information science. The first research area focuses on using and building

collections of games in libraries (e.g. Levine 2006; Nicholson 2008) and the preservation and archiving of games (e.g. McDonough et al. 2010; Winget and Sampson 2011; Lowood et al. 2009). The second research area deals with video game players: their typology, characteristics, motivations, and the effects on their game behaviors and preferences (e.g. Schuurman et al. 2008; Bartle 2004; 2014). The third research area perceives video games as information spaces and explores how various game elements affect the learning experience and how players search for in-game information and share it with other players (e.g. Harviainen and Savolainen 2014; Whippey 2011; Nardi 2008). Finally, the fourth research area deals with information behavior, in particular with information sharing and the effects of demographics and player characteristics on information behavior (e.g. Adams 2005; 2009; Martin 2012 Getomer, Okimoto, and Cleaver 2012). Furthermore, regarding video games and information behavior, Buchtová (2014) explored knowledge acquisition, engagement and the creation of mental models within video game use. Similarly, Kolek (2020) has investigated whether video games are able to affect players' attitudes and information behavior towards depicted historical topics in games over the short and long term.

While formulating the theoretical framework, in accordance with Buchtová (2014, 8), I perceive video games as "dynamic systems of information representation" that can provide additional representational aspects when compared to other media:

> In particular they [video games] can attribute sound and visual characteristics to specific details, portray interrelations of its subsystems and simulate its behavior in various situations. For this reason they might facilitate understanding of complex data in such information systems. (Buchtová 2014, 8)

Video games are able to represent information in new forms, some of which are unique to that particular media format:

> They can depict spatial information (through game space and spatial relation of different objects), visualize relations of different objects

> (dimensions, interconnections, spatial relations), distinguish objects and categories of objects by assigning specific attributes to them (audio-visual representation, interaction behavior), simulate system behavior (game rules, interaction responses, instant feedback), and control emotions (narration, immersive elements, audiovisual design and representation). (Buchtová 2014, 13)

Beyond their function as a medium representing information, video games provide players with information facilitating, or even enabling, further play (Kolek 2020). From the information science perspective, video games are systems that require players to seek and process information in order to proceed further in a game story or to accomplish a game's objectives. This process is highly related to information literacy, that is, "the intellectual process of recognizing the need for information to solve a problem or issue regardless of the setting" (Martin 2012, 268). Typically, video games introduce their basic mechanics and features to their players, but they do not necessarily explain advanced gameplay strategies. Thus, in order to gain expertise or to master a particular game, "players use and refine their skills in information seeking, processing and acquisition" (Kolek 2020, 18).

The proposed methodological framework expands our knowledge of video games as information spaces and players' information behavior, that is, in the third and fourth areas of research according to Lee, Clarke, and Kim's (2015) classification outlined above. Importantly, video games in the Arab world and Iran, as well as in other areas perceived as "Orient," are not consumed and developed in isolation but result from and feed back into myriads of intercultural exchanges and global cultural flows, opening up possibilities for hybridization and cultural cross-pollination.

Video games as hybrid media texts: the critical transculturalism perspective

The methodological framework's second theoretical anchor lies in the critical transculturalism approach introduced by Kraidy (2005), particularly in his notion of hybrid media texts. Kraidy argues that hybridity is "the cultural logic of globalization" (2005, xii) and proposes critical transculturalism as

a new international communication framework with issues of hybridity at its core. It is a framework that conveys "a synthetic notion of culture and a dynamic understanding of relations between cultures" (2005, vii). As such, critical transculturalism is at once "an engagement with hybridity as a discursive formation, a framework for international communication theory, and an agenda for research" (2005, vii).

As Kraidy argues, hybridity is not a unitary concept but rather "an association of ideas, concepts, and themes that at once reinforce and contradict each other" (2005, vi). Being an "emergent phenomenon that eludes easy classification," hybridity poses a challenge to empirical research on media and to analyses of media texts (2005, viii). As such, it is imperative to situate every analysis of hybridity "in a specific context where the conditions that shape hybridities are addressed" (2005, vi). In other words, the concept of hybridity must be "operationalized" in case studies where structural elements ought to be explained (2005, viii).

Within the proposed framework and in my previous works, I analyze video games in the Arab world and Iran precisely as "hybrid media texts" that result from industry practices such as "coproduction, format adaptation, and localization" (2005, xi). By doing so, I anchor my research in the concrete case studies of translocal video game development and consumption in the Arab world and Iran. As Kraidy (2005, 6) posits, the boundaries between "domestic" and "foreign" cultural influences are not always clearly demarcated. Hybrid media texts reflect the existence of a variety of historical, economic, and cultural forces whose "enmeshments with one another are as manifest at the local, national, and regional levels as they are visible globally" (2005, 6).

In this context, Appadurai (1990) argues that the global cultural economy has to be viewed as a "complex, overlapping, disjunctive order, which cannot any longer be understood in terms of existing center-periphery models" (1990, 296). He proposes a framework for exploring such disjunctures that analyzes the relationship between five dimensions of global cultural flow: ethnoscapes, mediascapes, technoscapes, finanscapes, and ideoscapes. By "ethnoscapes"

Appadurai (1990, 297) means the landscape of persons who constitute the shifting world in which we live, particularly "persons and groups that deal with the realities of having to move," for example, migrant workers, refugees, or immigrants. Second, "technoscapes" denote the global configuration of technology and its moves across previously impervious boundaries. As Appadurai (1990, 297) notes, the odd distribution of technologies, and thus the peculiarities of the technoscape, are increasingly driven "not by any obvious economies of scale, of political control, or of market rationality, but of increasingly complex relationships between money flows, political possibilities and the availability of both low- and highly-skilled labor" (1990, 297). Third, "mediascapes" refer both to the distribution of the electronic capabilities to produce and disseminate information, as well as to the images of the world created by these media. Thus, the mediascapes provide large, complex repertoires of images and narratives to viewers throughout the world. These are spaces where "the world of commodities and the world of 'news' and politics are profoundly mixed" (Appadurai 1990, 299). This observation is particularly relevant to the analysis of video games in the Middle East. As Appadurai notes:

> The lines between the "realistic" and the fictional landscapes they [the audience] see are blurred, so that the further away these audiences are from the direct experiences of metropolitan life, the more likely they are to construct "imagined worlds" which are chimerical, aesthetic, even fantastic objects, particularly if assessed by the criteria of some other perspective, some other "imagined world." (Appadurai 1990, 299)

Similar to other mediascapes, video games tend to be image-centered, narrative-based accounts of strips of reality, which "can and do get disaggregated into complex sets of metaphors by which people live," while simultaneously helping "to constitute narratives of the 'other'" (Appadurai 1990, 299). As I have argued elsewhere (Šisler 2011; 2008), video games constitute such images and narratives that convey possible notions of religious, national, or other identities, as well as enable virtual encounters with simulations of other cultures. Nevertheless, video games' text is never static and its perceptions

differ based on players' concrete situatedness and experience (Sicart 2011; Uricchio 2011) and on player choices within the game world. Here, the Kraidy's (2005) concept of critical transculturalism moves center stage, as it acknowledges the viewer's situatedness and agency. Whereas cultural imperialism (Schiller 1969; Tunstall 1977) focuses on the production and distribution stages of the media communication process and cultural pluralism (Appadurai 1990; Featherstone 1994; King 1991) emphasizes message–text and reception, critical transculturalism takes a more integrative approach that "considers the active links between production, text, and reception in the moment of cultural reproduction" (Kraidy 2005, 149). Building upon the encoding–decoding approach to communication (Hall 1990), Kraidy focuses on power in intercultural relations by integrating both agency and structure in international communication analysis:

> Critical transculturalism takes a synthetic view of culture, unlike cultural imperialism's holistic premise and cultural pluralism's view of culture as a merely pluralistic entity. Whereas in cultural imperialism agency is located in the global structure of capitalism, and in cultural pluralism agency is found in local individuals or communities studied contextually, critical transculturalism considers that social practice, acting translocally and intercontextually, is the site of agency. (Kraidy 2005, 149)

Utilizing the critical transculturalism framework, the proposed framework should enable situate video games in their societal environment in order to "disentangle various links, processes, and effects between communication practices and social, political, and economic forces" (Kraidy 2005, 7). These aspects of video game development are, albeit from a different angle, also the subject of a nascent field: game production studies.

Video games as results of economic, cultural, and political structures: the game production studies perspective

Sotamaa and Švelch (2021, 8) define game production studies as a "critical reflection of video game production" that uncovers "the economic, cultural,

and political structures that influence the final form of games." As both authors argue, the global video game industry has witnessed significant changes over the past decade. Game developers and publishers have moved from producing independent games and material goods to providing constantly updated digital services (Sotamaa and Karppi 2010; Švelch 2019). Simultaneously, digital distribution platforms, accessible development tools, and new audiences spawn "informal game development practices" (Keogh 2019) that turn game production into "a process that is both inherently global and intensely localized" (Sotamaa and Švelch 2021, 8).

As a result, today's video game production modes vary locally and regionally. They are platform-specific, apply several different funding and business models, and involve a variety of different actors (Sotamaa and Švelch 2021, 9). Therefore, game production studies must "consider these tensions and conflicts between individual developers' agency and the social and economic conditions within which this agency is embedded" (Sotamaa and Švelch 2021, 13). Game production studies' specific perspective thus "emphasizes the cultural, economic, political, and social circumstances in which games are created and the production cultures associated with video game development" (Sotamaa and Švelch 2021, 11).

One of the methodological framework's uses was analyzing how local and regional video game production cultures in the Arab world and Iran interact with the global game industry. Games are never created in a vacuum but "they are shaped by networks of human and non-human actors that are dependent on historical and cultural contexts" (Sotamaa and Švelch 2021, 14). Thus, the video game development and gaming cultures in the Arab world and Iran need to be interpreted in connection with situated contexts and larger discussions around the global video game industry. Despite the multifaceted nature of the local gaming scenes in the region, most developers face challenges connected to political instability, economic uncertainty, lack of foreign investment, missing know-how, and fragmented gaming communities. In this respect, the Arab and Iranian video game industries seem to follow several characteristics common to the gamevironments of the global south, including a shared set of historical obstacles and affordances and a dual governmental role of

censorship and support (Penix-Tadsen 2019, 12–13). This approach can be valid for similar research endeavors focusing on different regions.

Video games as material, software, and cultural artifacts: the game studies perspective

The proposed methodological framework's fourth theoretical grounding lies naturally in the field of game studies that I have already briefly discussed above. Video games have specific properties that differentiate them from other media. Among the multiple scholarly approaches on how to conceptually study video games, I would like to bring attention to the Sotamaa's (2016) concept, which describes video games primarily as artifacts. This approach can be roughly characterized in three parts, each highlighting a different key aspect of contemporary video games:

> First, the history of video games highlights the importance of approaching video games as *material artifacts*. Second, studying video games as *software artifacts* sheds light on the very "digitality" of these games and highlights the role of procedural rules in the meaning-making process. Finally, games need to be examined as *cultural artifacts* that carry embedded meanings and ideas and are socially shaped in production and use. (Sotamaa 2016, 3)

By integrating the aforementioned perspectives, Sotamaa (2016, 3) coins the term "artifactual approach" for the study of video games. This approach suits video games' multifaceted character, since they contain audiovisual elements, narratives, game mechanics, rule systems, and para-textual materials: all of which shape the way games are played and their content consumed. In particular, game mechanics and rule systems operated by a computer are specific properties unique to video games. Sicart (2008) defines game mechanics as "methods invoked by agents, designed for interaction with the game state." They can be invoked by any agent, be it a human or a part of the computer system, emphasizing the fact that video games are software whose rule systems are defined by code. Designing specific game mechanics for particular games is a crucial part of the game design and development

process. Similar or identical game mechanics typically define games' genres (Egenfeldt-Nielsen, Smith, and Tosca 2008).

> Game mechanics are often, but not necessarily, designed to overcome challenges, looking for specific transitions of the game state. Designers create the basic mechanics for the player correlating the central challenges of the game with the set of mechanics useful for overcoming them. (Sicart 2008)

Rule systems are another fundamental property of video games. Rather than creating representations per se, software authors such as game designers write code that enforces rules to generate representations (Sotamaa 2016; Bogost 2007). Games are thus typically simulations and–or models of experience and our interaction with them is governed by their rule systems embedded in the code. This has led many authors to take "a procedural approach" to the study of video games, focusing mostly on their rule systems and rule-based representations (Bogost 2007; Frasca 2004). Bogost (2007) claimed that games have a unique property of communicating persuasive messages through rule-based representations and interactions rather than the spoken word, writing, images, or moving pictures. Similarly, Brathwaite and Sharp (2010, 317) proposed that graphics and other representational game elements merely articulate mechanics in specific contexts, but that "they are not the game. The rules are."

Nevertheless, the argument that it is primarily the system of rules and mechanics that conveys the game's message is highly problematic. As Sicart (2011) puts it, this understanding of games "fosters the idea that to design ethical or political experiences through games is to codify arguments in the game system." In other words, this model takes away the importance of play and players in the configuration of the ludic experience (Sicart 2011). I agree here with Sicart and argue that rule systems-based games enable various explorations of the game world and immersion. However, it is the narrative and visual elements combined with the rules and game mechanics that convey the games' message, enable immersion in the game world, and allow critical engagement with the games' content (Šisler et al. 2022). Therefore, I utilize

the concept of gamevironments, outlined below, which integrates all the layers and elements of video games and cultures surrounding them into one overarching framework.

Video games as gamevironments: integrating the four approaches

The proposed framework's last theoretical grounding, gamevironments, builds upon all of the four above-mentioned perspectives. Gamevironments, introduced by Radde-Antweiler, Waltmathe, and Zeiler (2014), is a theoretical and analytical frame based on an actor-centered approach that integrates the analysis of video games as digital artifacts with the broader cultural and social context in which these games are produced and consumed. It comprises the two following levels:

(1) The technical environment of video games and gamers: This level concerns the game itself. It involves analyzing the game in relation to textual and audiovisual narratives, interactivity options, game mechanics, rule systems, in-game performance, game production and design, and gamer-generated content.

(2) The socio-cultural environments of video games and gaming: As shown above, video gaming is an integral part of today's mediatized world. On the flip side, cultural and other environments influence video games' construction and design as well as the gaming experience. Thus, this level of gamevironments involves the analysis of the social, political, and religious context as well as national regulations and policies related to video game production and consumption. (Radde-Antweiler, Waltmathe, and Zeiler 2014)

As a whole, gamevironments are a theoretical and analytical concept that maintains the cultural, political, religious and social aspects of game content while still taking "the performative aspects and ludic interaction into account" (Radde-Antweiler, Waltemathe and Zeiler 2014, 8). There exist a significant number of other theoretical approaches to studying video games anchored in the field of game studies, such as Fernández-Vara (2019), Lankoski and Björk (2015), Consalvo and Dutton (2006), Salen and Zimmerman (2004),

or Hunicke, LeBlanc, and Zubek (2004). I have chosen the concept of gamevironments specifically because it systematically and in an overarching manner builds upon all the four approaches mentioned above, while simultaneously integrating religion and communication of values into its analytical framework. Within the proposed framework, I amend this approach using other game studies' methodological toolkits where suitable (see below).

It is important to note that the original concept of gamevironments, as conceived by Radde-Antweiler, Waltemathe and Zeiler (2014), disregarded to a large extent the significance of the economy in video game production and consumption. There have been attempts to bridge this gap and analyze the 21st century video game industry through the lens of political economy, aiming at integrating this perspective with the analytical framework of gamevironments (e.g. House 2020; Hammar 2020). Given the economy and global financial flows make up an important part of any analysis of Arab and Iranian gaming cultures and video game development, for the proposed methodological framework I use this newer, refined concept of gamevironments (see Figure 1) to enrich the already mentioned perspectives of information science, critical transculturalism, game production studies, and game studies in order to analyze the heterogenous regional and translocal hybrid mediascapes of video games, linking them to the sites of their consumption and production.

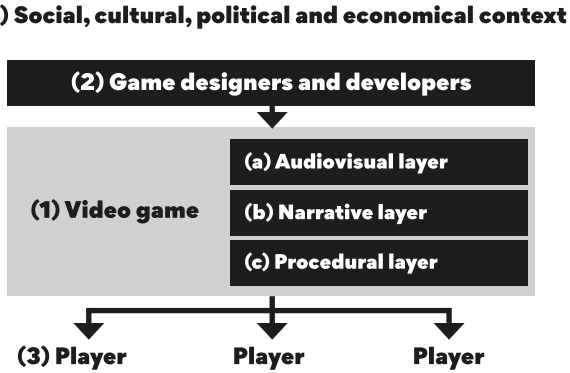

Figure 1. Refined concept of gamevironments encompassing different layers of video game research.

Firstly, within the refined concept of gamevironments, I consider (1) video game as a computational and cultural artifact existing within three intertwined layers:

(a) The audiovisual layer represents the aesthetics of the game, such as graphics, sound, art styles, and atmospheric elements. This allows games to be considered as works of art embodying specific aesthetic values.

(b) The narrative layer incorporates the game's storyline, characters, world-building and overall message. This reflects how games can act as storytelling mediums, mirroring the narratives we encounter in literature or film.

(c) The procedural layer is the rules and mechanics that define the game's functionality and interaction. This reflects how games are systems defined by computational processes and algorithms.

Secondly, I acknowledge (2) the game designers and developers as authors. They are responsible for the creation and implementation of the aforementioned layers. They encode their views, ideas, and messages into the game, influencing the cultural artifact that the game becomes.

Thirdly, I consider (3) the players as the recipients of the game: their interpretations, reactions, and experiences add a dynamic and personal layer to the analysis. Each player may interpret the game differently, with multiple playthroughs providing different insights, narratives, and end results. In other words, this acknowledges that the process of playing a game is an individualized experience, as every player brings their own context, understanding, and approach to the gameplay.

Lastly, I examine (4) the social, cultural, political, and economic contexts in which games are designed, developed, and consumed. This includes aspects such as market trends, cultural appropriateness, societal norms and values, political factors, economic availability, and influences on the game's development and reception.

This refined concept of gamevironments enables us to understand video games as comprehensive, multi-dimensional systems existing in and influenced by diverse spheres of life. The aim is to see the video game not just as a product or an artifact, but as a complex interplay of narratives, aesthetics, rules, designs, interpretations, and societal contexts.

Methodological Grounding of the Framework

The proposed theoretical and methodological framework for studying video games and orientalism connects a number of different possible research endeavors and as such it might employ a robust combination of diverse research methods. These methods are detailed in a number of other works, hence the following text serves primarily as a summative overview, linking the individual methods conceptually together. The structure of the description of methods corresponds to the refined concept of gamevironments as outlined above.

Video game

There exist a number of methodological approaches for how to conduct video game analysis. They all have their pros and cons (Trattner 2018; Lankoski and Björk 2015; Consalvo and Dutton 2006). Yet there is no single method universally accepted in the field of game studies (see Šisler, Radde-Antweiler, Zeiler 2018). The method chosen for any video game content analysis has to be fundamentally guided by the research questions and research aim of the particular project. In most of my research that dealt with video game analysis, I focused on video games' representational layers as outlined by the refined gamevironments concept: the audiovisual, narrative, and procedural layers. The analysis of individual games can be complemented by the textual analysis of accompanying materials, such as booklets, promotional materials, or individual games' websites, in cases where these materials are available and relevant for the research aims.

Audiovisual Layer

Studying the audiovisual layer of video games requires a combination of research methods drawn from game studies, media studies, film studies, and musicology. In shot-by-shot analysis (Ryan and Lenos 2012; Machin and Suleiman 2006), every individual shot is examined and detailed to gain a deeper understanding of the game. This includes the framing, camera movements, setting, lighting, color, positioning of characters or objects, and any other visual elements. Shot-by-shot analysis also covers audio components like dialogue, music, ambient sound, sound effects, and silence. In connection to the narrative layer, a shot-by-shot analysis can be used to understand how storytelling is visually and auditorily conveyed. The method focuses on how the combination of these elements create mood, develop characters, or advance the plot. Aesthetic analysis (Arnheim 1974) can be utilized to explore the visual design of the game, focusing on elements such as color schemes, texture, character and environment design, and cinematography. Finally, sound analysis (Collins 2008) can help us explore the impact of music, sound effects, and voice acting on the gaming experience, while analysis of voice localization (Al-Batineh and Alawneh 2022) can reveal the adaptation strategies of local video game developers.

Narrative Layer

An exploration of the narrative layer of video games can utilize a broad array of qualitative and quantitative research methods. Content analysis (Lankoski and Björk 2015) can be employed to systematically analyze the game's story, dialogue, symbols, and other narrative elements, providing insight into its themes and structures. Discourse analysis (Machin and Suleiman 2006; Trattner 2018; van Dijk 2001; Wodak 2001) can reveal how language is used within the game to produce meaning and create relationships between characters. Semiotic analysis (Pérez-Latorre, Oliva, and Besalú 2017) allows researchers to unravel the systems of signs and symbols that make up a game's narrative and how they contribute to its overall meaning. Finally, ludonarrative studies can explore the interplay between the game's narrative and its mechanics (Bogost 2007; Jenkins 2004).

Procedural Layer

Analyzing the procedural layers of video games, which refers to the rules systems that guide interaction and create gameplay, can be approached from several perspectives. Game code analysis (Mateas 2009) supports understanding how the game's rules are programmed. Although the code might typically not be accessible to the researchers and the analysis requires a technical understanding of software design and programming, it can reveal decisions about game mechanics and possibilities for player action. Gameplay analysis (Aarseth 2003) allows for the study of how rules shape play experiences; this can involve direct observation of players, video capture of gameplay, or autoethnographic methodologies. Experimenting with different gameplay strategies can also yield insights into the game's procedural logics. Finally, comparative analysis (Swalwell 2007) of different versions of a game, or different games within a genre, can help understand the evolution, standardization, or deviation of certain game mechanics.

In my own research, I utilized Petri Net Modelling (Šisler 2018a) for analysis of the procedural layer. In a nutshell, Petri Net Modelling can be used for analyzing and designing discrete event systems. It can be applied to many different areas; including the design and analysis of software applications and video games (Natkin and Vega 2003). In the case of video game rule-system analysis, Petri Net Modelling enables the graphical representation of actions players can take during the game and their possible outcomes using a formally defined structure. From a formal point of view, Petri Net Modelling can be used to model complex game rule-systems in a way that allows for methodological falsification (Šisler 2017).

Game designers and developers

Investigating the role of game designers and developers in the creation process of video games might require an amalgamation of research methods that span from sociology, anthropology, and cultural studies. Ethnographic techniques, such as autoethnography (Abbas 2018; 2019; Dorias 2018; Ismail 2015), participant observation and in-depth interviews (Flick 2006; Hopf 2004), can

be employed to gain insights into developers' practices, motivators, decision-making processes, and challenges during game design and development. Document analysis (O'Donnell 2014) of design documents, scripts, concept arts, storyboards, and development logs can provide a detailed understanding of the game's evolution throughout the development process. Analyses of post-mortems, public presentations, and developer commentary (Newman 2012) can further illuminate the intentions, design philosophies, and larger cultural-industrial contexts that impact game production.

The method I often used for the research on video game designers and developers is qualitative in-depth interviews (Flick 2006; Hopf 2004). In line with Aupers, Schaap, and de Wildt (2018, 153), I utilize an in-depth interview as a "semi-structured conversation between the researcher and a particular research subject in which the former taps into the life-world of the latter." The overarching goal is to gain insight into the experiences, motivations and worldviews of the interviewee (Boeije 2010; Kelle 2005). During my research, I conducted interviews with a large number of Arab and Iranian video game developers. The interviewees were selected and contacted differently in different places, based on the local political and social situation. The interviews were conducted in Arabic, English, and Persian. Most of the interviews were recorded, although some interviewees asked me specifically not to record the interview and keep their identity anonymous; in such cases the interview followed the same structure, and I took notes. The interviews were translated into English (if not recorded in English directly), transcribed, and analyzed (Kelle 2005), using the grounded theory approach (Strauss and Corbin 1998, Kelle 2005). The interviews were conducted face-to-face, typically in the developers' game studios. Most of the interviews were further amended by additional online interviews via Skype or email. The final texts were sent to all interviewees for editing and approval.

Players

Investigating video game players requires a focus on the reception, consumption, and influence of games in the lives of players. Surveys (Al-Batineh and Alawneh 2022; Consalvo and Dutton 2006) can be utilized to

gather broad statistical data about play habits, preferred game genres, attitudes towards games and other general trends. Semi-structured interviews (Alfaraj 2019) and in-depth interviews (Aupers, Schaap and de Wildt 2018) provide more detailed and nuanced perspectives on individual players' experiences, motivations, and interpretive practices. Ethnographic techniques (Tawil-Souri 2007; Taylor 2006), such as participant observation and fieldwork in gaming communities and online forums, enable researchers to study social dynamics, group norms, and cultural practices of players within their natural gaming contexts. Players' in-game behavior analysis (Moura, Seif el-Nasr, and Shaw 2011) and analysis of player telemetry and gameplay logs (Drachen et al. 2012) also provide valuable data on player behavior, choices, and performance in the game. Finally, social network analysis (Al-Rawi and Consalvo 2019) offers insight into the nature of the players' groups on social networking sites and the connections they have with other online groups and communities.

Beyond the methods described above, in my research I use a quantitative social network analysis of various gaming sites. This method might be useful for research of user-generated content since it analyzes the similarities, differences, and overlaps between the audiences of various social network gaming pages. In particular, I use a qualitative method, Normalized Social Distance, developed by Šlerka and Schmid (2013) and refined by Šlerka and Šisler (2018). In a nutshell, Normalized Social Distance is a formally defined method for calculating the distance between social groups based on intentional stances expressed through group members' activities on social networking sites — for example likes given by Facebook page users. The resulting number indicates how "far" or "close" the audiences of distinct websites are to one another. Normalized Social Distance is based on McPherson, Smith-Lovin, and Cook's (2001) concept of homophily in social networks and Cilibrasi and Vitányi's (2010) concept of normalized Web distance.

Social, cultural, political, and economical context

The examination of the socio-cultural, political, and economic context of video game production and consumption involves drawing from a vast array of research methods across disciplines. A socio-cultural analysis of games

can encompass ethnographic studies (Taylor 2006), observing the cultural impact of games within specific communities or societies, or analysis of usage of games by state actors (Ibahrine 2015) that reflects cultural systems, values, and identities. Political economy approaches (Dyer-Witheford and de Peuter 2009) can be used to study the industrial dynamics, market trends, labor issues, business strategies, and regulatory frameworks within the game industry. Discourse analysis (Kerr 2006) can be applied to media texts, politician's speeches, and online discussions to study how games and the act of playing are discussed and represented in public debates, potentially uncovering underlying power relations and ideological positions. Finally, historical analysis (Lowood 2009) can help trace the evolution of gaming cultures, technological advancements, industry growth or decline, shifting market demands, and political regulations over time.

In my own research on orientalism and video games, I have conducted fieldwork in Syria, Egypt, Lebanon, Qatar, Iran, and the United Arab Emirates. The aim of the fieldwork was primarily exploratory and fundamental research: acquisition of local video games, magazines, and promotional materials; establishing contacts with local video game developers and producers; recording initial sets of interviews; and mapping the local gaming scenes and familiarizing myself with them. In most cases, I stayed over a longer period of several months at individual places, typically studying the language at local universities or pursuing other research. I also traveled to different places beyond the country's capital and larger cities. In several cases, I conducted more fieldwork visits to the same place over a time span of several years. This "place-based research" (Castillo and Puri 2016) was accompanied by online research, in which I analyzed gaming websites, forums, magazines, player communities, and developers' professional networks using an ethnographic method for the study of gamevironments (Grieve 2018).

Although fieldwork as a research method was established a long time ago in the humanities (particularly in anthropology, cultural studies, and area studies), it is still not commonly acknowledged or discussed in other fields. As Castillo and Puri (2016) put it:

> In our experience, it is quite typical that the methods that humanities-based fieldwork emerges from and forges, the decision points along the way, remain largely invisible or backstage or appear only in brief allusions onstage. Many of our field-based conversations do not show up explicitly in our writing yet nonetheless infuse and transform the entire project. (Castillo and Puri 2016, 12)

This fieldwork fundamentally shaped my research, particularly in its initial phases, and to a large extent set my research agenda. As Pandian (2015, 16) argues, the significance of such fieldwork is the "chance to confront and engage the open-ended unfinished nature of life, to follow things as they happen, to fold the uncertainty and vulnerability of living relations into the very substance of our intellectual work." Fieldwork, in contrast to the researcher secluded in a library, relies on immersion. It requires "the researcher to navigate a cultural space dense with meanings and to register its resistances, debates, and active subjectivities. Such encounters jolt one out of complacency. Interruption is part of the point" (Castillo and Puri 2016, 12).

This "place-based research" (Castillo and Puri 2016) was shaped primarily by the local and temporary political situation and social contacts that I acquired both beforehand and during my stay. In many places, particularly in countries with tight control over their media production and–or in authoritarian regimes, the local developers were concerned about talking to a foreign academic and allowing me to visit their studio. The establishment of trust, oftentimes through a third-party mutual contact, was necessary in such cases. In other instances, local game developers were keen to showcase their work and talk about it. Mostly, after establishing initial contacts and a presence in the local game development scene, new developers and studios were much easier to acquire through a network of already existing contacts. Given the contested nature of game production and consumption in many of the countries mentioned above, I strived to conduct my fieldwork as sensitively as possible: with ethical guidelines and protection of my respondents in mind (Holmes 2016). Every piece of material I published or shared was approved by the respective respondents beforehand and was in line with established research ethical guidelines and regulations.

Concluding Remarks

In this article, I tried to formulate a concise theoretical and methodological framework for studying video games and orientalism. The formulation of the framework was fundamentally shaped by my decades long research on video game development and gaming cultures in Iran and the Arab world. The proposed framework is theoretically grounded in information science, communication studies, game studies, and cultural studies. It utilizes the approaches of critical transculturalism (Kraidy 2005), game production studies (Sotamaa and Švelch 2021), the artifactual approach to game studies (Sotamaa 2016), while linking all these approaches together within a newly refined concept of gamevironments (Radde-Antweiler, Waltmathe, and Zeiler 2014). From the methodological point of view, the proposed framework allows integration of methods for studying video games as computational and cultural artifacts, including audiovisual, narrative, and procedural layers; investigating video game developers and designers; researching players; and analyzing the broader social, cultural, political and economical contexts, in which video games are produced and consumed.

Albeit this article focuses mainly on theoretical and methodological issues of studying video games and orientalism, I have already used the framework for analyzing and discussing racial, ethnical, and religious stereotypes and schematizations and their consequences for identity construction and cultural dialogue in video games. At the same time, there exist a number of scholars dealing with the same topic, hailing from various disciplines and backgrounds.

Pioneering research in the field has focused on analysis of the symbolic and ideological dimensions of in-game representational politics related to the Middle East. In one of the very first research papers on the topic, Marashi (2001) outlined the stereotypical modes of representation of Arabs in combat video games focusing on the Arab–Israeli conflict. Reichmuth and Werning (2006) have described the exploitation of things Oriental, topoi, in selected genres of Western video games. I (Šisler 2008) have conducted an introductory analysis of how mainstream European and American games construct the representation of Arabs or Muslims; particularly in the framework of "digital

Orientalism." Höglund (2008), Kavoori (2008), and Keogh (2012) have discussed in-game representation of the Middle East as found in US action games; namely in relation to "War on Terror" discourse. More recently, Clément (2019) builds on existing research and analyzes new examples of schematization of the Middle East, Arabs, and Muslims in video games, while Alfaraj (2019) investigates how the issue of representation is perceived by Arab gamers.

Taking a different tack, Tawil-Souri (2007) has presented an ethnographic account of how Palestinian children play, comment, and make sense of Arab video games. My own research has analyzed how identity is constructed and communicated to players in Arab (Šisler 2008; 2014b) and Iranian (Šisler 2013a; 2017) games; and how Palestine is envisioned, and its representation constructed, through the procedural rhetoric of Arab and Iranian video games (Šisler 2009). In a different vein, Shaw (2010) has provided an audience reception study aimed at critically evaluating how Arab gamers identify with virtual Arab in-game characters. Ibahrine (2015) analyzes the interplay between video games and their applications by state and non-state actors in the US and the Middle East, focusing on games developed for different objectives such as recruiting, training, mobilizing, and constructing identities and counter-identities. More recently, Clément (2019) presents an exploratory framework for understanding video game practices in the Middle East, discussing, among other, the context of local video game production and audience perception. Finally, Al-Batineh and Alawneh (2022) investigate the current localization practices used in the Arabic video game market and Arab gamers' response to localized video games.

Regarding Middle Eastern gamers and video game audiences, Al-Rawi and Consalvo (2019) examine social media engagement among online gaming communities in the Middle East by investigating the data taken from Twitter and Facebook. From a different viewpoint, Alfaraj (2019) presents a systematic analysis of interview data from Arab-identifying players to learn how they make sense of the current state of lacking Arab representations in video games.

I have opened this article with three snapshots from different video games. These images illustrate the complex, multifaceted topic of emerging gaming cultures and game development in the Arab world and Iran in particular, and orientalism in video games in general. I would like to conclude this introduction symbolically with another game. This game is *Bury me, my Love* which was developed in 2017 by Pixel Hunt, an independent video games studio based in Paris. Similarly to *Path Out*, mentioned above, *Bury me, my Love* is inspired by real events from the Syrian civil war and the subsequent humanitarian and migration crisis. The game tells the story of Syrian refugee Nour and her husband Majd as Nour undertakes a perilous journey to safety. As the authors say:

> The title of the story-driven interactive fiction comes from the Syrian goodbye phrase that roughly means "Take care, and don't even think about dying before I do." This phrase takes on a deeper meaning as players take on the role of Majd, who is forced to stay behind and is only able to communicate with his wife through their smartphones. (ICO 2017)

The gameplay consists merely of reading instant messages and choosing response options. The players' task is to help Nour overcome the hardships she will encounter, and the story has several endings, depending on players' decisions and the unpredictable events of the journey. The game is played in real-time, with messages arriving in intermittent intervals, which further adds to the feeling of realism, immersion, and emotional attachment. The game won several awards and was critically praised; particularly for its emphasis on love and hope "in the face of rising darkness" (Meer 2019). In a way similar to *Path Out*, *Bury me, my Love* humanizes the stories behind the news and creates a space for reflection.

The example of *Bury me, my Love* manifests the potential video games have to foster deeper understanding, connect people and cultures, and help us reflect on the world we live in. Yet, before utilizing this potential, we have to be able to understand what role video games play in different communities around the world; how they are produced and consumed in the age of global

cultural flows; and what images of reality, including schematizations and misrepresentations of other cultures and places, they create, perpetuate, and reproduce. The theoretical and methodological framework proposed in this article is a step enabling deeper and systematic further research in that direction.

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References

Aarseth, Espen. 2001. "Computer Game Studies, Year One." *Game Studies* 1 (1). Accessed [June 20, 2022]. http://gamestudies.org/0101/editorial.html.

Aarseth, Espen. 2003. "Playing Research: Methodological Approaches to Game Analysis." *Proceedings of the Digital Arts and Culture Conference*. Accessed by Web.Archive [June 20, 2022]. https://web.archive.org/web/20100327195209/http://hypertext.rmit.edu.au/dac/papers/Aarseth.pdf.

Abbas, Samer. 2018. *#1ReasonToBe*. Presentation at the Game Developers Conference, San Francisco, CA. Accessed from YouTube [June 25, 2022]. https://www.youtube.com/watch?v=DrVolZL4L1s.

Abbas, Samer. 2019. *Games Market in Saudi & GCC*. Presentation at the Ajlan Group, Riyadh.

Abdulla, Rasha A. 2007. *The Internet in the Arab world: Egypt and beyond*. New York: Peter Lang.

Al-Batineh, Mohammed, and Razan Alawneh. 2022. "Current Trends in Localizing Video Games into Arabic: Localization Levels and Gamers' Preferences." *Perspectives* 30 (2): 323–320. https://doi.org/10.1080/0907676X.2021.1926520.

Al-Rawi, Ahmed, and Mia Consalvo. 2019. "Video Game Engagement on Social Media in the Middle East." In *Video Games and the Global South,* edited by Phillip Penix-Tadsen, 225–244. Pittsburgh, PA: Carnegie Mellon University: ETC Press.

Alfaraj, Bushra. 2019. "Arab Gamers: An Identity Inclusivity Study." In *Video Games and the Global South*, edited by Phillip Penix-Tadsen, 169–182. Pittsburgh, PA: Carnegie Mellon University: ETC Press.

Allison, Ismail. 2021. "CAIR, Veterans For Peace Repeat Call on Xbox, Sony PlayStation, and Valve-Steam to Not Host 'Arab Murder Simulator' Six Days in Fallujah." *Cair* website, October 8. Accessed [June 20, 2022]. https://www.cair.com/press_releases/cair-veterans-for-peace-repeat-call-on-xbox-sony-playstation-and-valve-steam-to-not-host-arab-murder-simulator-six-days-in-fallujah/.

Amanat, Abbas. 2011. "Introduction: Is There a Middle East? Problematizing a Virtual Space." In *Is There a Middle East? The Evolution of a Geopolitical Concept*, edited by Michael E. Bonine, Abbas Amanat, and Michael Ezekiel Gasper. Stanford: Stanford University Press.

Amin, Hussein Y. 2007. "Foreword." In *The Internet in the Arab World: Egypt and Beyond*, by Rasha A. Abdula, ix–xiii. New York: Peter Lang.

Anderson, Theresa Dirndorfer. 2012. "Forewords: Information Science and 21st Century Information Practices: Creatively Engaging with Information." In *Introduction to Information Science*, by David Bawden and Lyn Robinson, xv–xvii. Facet.

Appadurai, Arjun. 1990. "Disjuncture and Difference in the Global Cultural Economy." *Public Culture* 2 (2): 1–24.

Apperley, Thomas. 2010. *Gaming Rhythms: Play and Counterplay from the Situated to the Global*. Institute of Network Cultures.

Arnheim, Rudolf. 1974. *Art and Visual Perception: A Psychology of the Creative Eye*. Berkeley: University of California Press.

Aupers, Stef, Julian Schaap, and Lars de Wildt. 2018. "Qualitative In-Depth Interviews: Studying Religious Meaning-Making in MMOs." In *Methods for Studying Video Games and Religion*, edited by Vít Šisler, Kerstin Radde-Antweiler, and Xenia Zeiler, 153–168. New York, NY: Routledge.

Bartle, Richard. 2004. *Designing Virtual Worlds*. Indianapolis, In: New Riders.

Bartle, Richard. 2014. "Design Principles: Use and Misuse." In *Multiplayer: the Social Aspects of Digital Gaming*, edited by Thorsten Quandt and Sonja Kröger, 10–22. New York, NY: Routledge.

Bates, Marcia J. 1999. "The Invisible Substrate of Information Science." *Journal of the American Society for Information Science* 50 (12): 1043–1050.

BBC. 2017. "I Escaped Syria in an Oil Barrel - and Made a Video Game About It." *BBC – This Game Changed My Life*. Accessed [June 20, 2022]. https://www.bbc.co.uk/programmes/articles/22Ht56CyXW2VD5nfkWKl8Rk/i-escaped-syria-in-an-oil-barrel-and-made-a-video-game-about-it.

Boeije, Hennie R. 2010. *Analysis in Qualitative Research.* London: Sage.

Bogost, Ian. 2007. *Persuasive Games: The Expressive Power of Videogames*. Cambridge: MIT Press.

Brathwaite, Brenda, and John Sharp. 2010. "The Mechanic is the Message: A Postmortem in Process." In *Ethics and Game design: Teaching Values through Play*, edited by Karen Schrier and David Gibson, 311–329. Hershey, NY: Information Science Reference.

Buchtová, Michaela. 2014. *Information Behavior and Learning in the Context of New Media: Digital Games and Simulations as Complex Systems for Information Representation.* PhD Diss., Charles University.

Campbell, Heidi, and Gregory Price Grieve. 2014. *Playing with Religion in Digital Games.* Indiana University Press.

Castillo, Debra A., and Shalini Puri. 2016. "Introduction: Conjectures on Undisciplined Research." In *Theorizing Fieldwork in the Humanities : Methods, Reflections, and Approaches to the Global South*, edited by Shalini Puri and Debra A. Castillo, 1–26. Accessed [June 20, 2022]. https://searchworks.stanford.edu/view/13355918.

Causa Creations. 2017. *Path Out* website. Accessed [June 20, 2022]. https://www.path-out.net/.

Cederskoog, Karin. 2012. "Insights Learned from Indie Game Developers in Latin America and the Middle East." *Game Developer* website. Accessed [June 20, 2022]. https://www.gamedeveloper.com/business/insights-learned-from-indie-game-developers-in-latin-america-the-middle-east.

Chan, Stephanie. 2017. "Path Out Uses Real-Life Commentary to Tell a Tale of Escaping Syria." *Venture Beat*, November 7. Accessed [June 20, 2022]. https://venturebeat.com/2017/11/07/path-out-uses-real-life-commentary-to-tell-a-tale-of-escaping-syria.

Chapman, Adam. 2016. *Digital Games as History: How Videogames Represent the Past and Offer Access to Historical Practice*. London: Routledge.

Cilibrasi, Rudi L., and Paul M. B. Vitányi. 2010. "Normalized Web Distance and Word Similarity." In *Handbook of Natural Language Processing,* edited by Nitin Indurkhya and Fred J. Damerau. Boca Raton: CRC Press.

Clément, Pierre-Alain. 2019. "Not Waiting for Other Players Anymore: Gaming in the Middle East between Assignation, Resistance and Normalization." In *Video Games and the Global South*, edited by Phillip Penix-Tadsen, 115–128. Pittsburgh, PA: Carnegie Mellon University: ETC Press.

Collins, Karen. 2008. *Game Sound: An Introduction to the History, Theory, and Practice of Video Game Music and Sound Design*. The MIT Press.

Consalvo, Mia, and Dutton, Nathan. 2006. "Game analysis: Developing a methodological toolkit for the qualitative study of games." *Game Studies* 6 (1). Accessed [December 13, 2023]. https://gamestudies.org/0601/articles/consalvo_dutton.

Cueto, Marcos. 2014. "Foreword." In *Beyond Imported Magic: Essays on Science, Technology and Society in Latin America*, edited by Eden Medina and Ivan da Costa Marques, vii. MIT Press.

Daniel, Muriel, and Crawford Garry. 2018. *Video Games As Culture: Considering the Role and Importance of Video Games in Contemporary Society*. London: Routledge.

Dillon, Andrew. 2012. "The Emerging Discipline of Information." In *Introduction to Information Science*, by David Bawden and Lyn Robinson, xvii–xix. Facet.

Dorias, Osama. 2018. "A How-To Guide for Muslim Representation in Video Games." *YouTube* video, *GDC* channel, 38:34, September 18. Accessed [December 15, 2023]. https://www.youtube.com/watch?v=p4MHV15n-Lw.

Drachen, Anders, Rafet Sifa, Christian Bauckhage, and Christian Thurau. 2012. "Guns, Swords and Data: Clustering of player behavior in computer games in the wild." *IEEE Computational Intelligence in Games Conference.* doi:10.1109/CIG.2012.6374152.

Dyer-Witheford, Nick, and Greig de Peuter. 2009. *Games of Empire: Global capitalism and video games*. University of Minnesota Press.

Egenfeldt-Nielsen, Simon, Jonas Heide Smith, and Susana Pajares Tosca. 2008. *Understanding Video Games*. New York: Routledge.

Elassar, Alaa. 2021."Iraq's Bloodiest Battle Will Be a Video Game: 'Six Days in Fallujah' Is an Arab Murder Simulator, Critics Say. Developers Argue It Teaches History." *CNN*, October 9. Accessed [June 20, 2022]. https://edition.cnn.com/2021/10/09/us/six-days-in-fallujah-iraq-video-game/index.html.

Erll, Astrid. 2011. *Memory in Culture*. Basingstoke: Palgrave Macmillan.

Evans-Thirlwell, Edwin. 2017. "How a Syrian Refugee's Story Became a JRPG 'Humour Is Always Part of Disaster.'" *Eurogamer*, August 4. Accessed [June 20, 2022]. https://www.eurogamer.net/articles/path-out-syrian-war-refugee-rpg.

Featherstone, Mike, ed. 1994. *Global Culture: Nationalism, Globalization, and Modernity*. London: SAGE Publications.

Fernández-Vara, Clara. 2019. *Introduction to Game Analysis*. New York, NY: Routledge.

Flick, Uwe. 2006. *An Introduction to Qualitative Research*. London: Sage.

Frasca, Gonzalo. 2004. "Videogames of the Oppressed: Critical Thinking, Education, Tolerance, and Other Trivial Issues." In *First Person: New Media as Story, Performance, and Game,* edited by Noah Wardrip-Fruin and Pat Harrigan, 85–94. Cambridge: MIT Press.

Fullerton, Tracy. 2019. *Game Design Workshop: A Playcentric Approach to Creating Innovative Games*. A K Peters/CRC Press.

Getomer, James, Michael Okimoto, and Jennifer Cleaver. 2012. *Understanding the Modern Gamer*. Mountain View, CA: Google Inc. Accessed [June 20, 2022]. https://ssl.gstatic.com/think/docs/understanding-the-modern-gamer_research-studies.pdf.

Grieve, Gregory Price. 2018. "An Ethnographic Method for the Study of Religion in Video Game Environments." In *Methods for Studying Video Games and Religion*, edited by Vít Šisler, Kerstin Radde-Antweiler, and Xenia Zeiler, 51–64. New York, NY: Routledge.

Hall, Stuart. 1990. "Encoding/Decoding." In *Studying Culture: An Introductory Reader,* edited by Ann Gray and Jim McGuigan, 90–103. London: Arnold.

Hammar, Emil L. 2019. *Producing and Playing Hegemonic Pasts: Historical Digital Games as Memory-Making Media*. PhD diss., Tromsø: UiT – The Arctic University of Norway.

Hammar, Emil. L. 2020. "Imperialism and Fascism Intertwined. A Materialist Analysis of the Games Industry and Reactionary Gamers." *Gamevironments* 13, 317–357. Accessed [June 20, 2022]. https://journals.suub.uni-bremen.de/index.php/gamevironments/article/view/138.

Hammar, Emil L. 2023. "(J)RPGs, Orientalism, and the Usefulness of Theory." *Centre of Excellence in Game Culture Studies*, May 17. Accessed [December 15, 2023]. https://coe-gamecult.org/2023/05/17/emil-lundedal-hammar-jrpgs-orientalism-and-the-usefulness-of-theory.

Hammar, Emil L., Lars de Wildt, Souvik Mukherjee, and Caroline Pelletier. 2021. "Politics of Production: Videogames 10 years after Games of Empire." *Games and Culture* 16 (3): 287–293. Accessed [June 20, 2022]. https://journals.sagepub.com/doi/full/10.1177/1555412020954996.

Harviainen, J. Tuomas, and Reijo Savolainen. 2014. "Information as Capability for Action and Capital in Synthetic Worlds." *Information Research* 19 (4). Accessed [June 20, 2022]. http://www.informationr.net/ir/19-4/isic/isic12.html#.VUekhsItHIU.

Highwire Games. 2021. *Six Days* website. Accessed [June 20, 2022]. https://www.sixdays.com/.

Höglund, Johan. 2008. "Electronic Empire: Orientalism Revisited in the Military Shooter." *Game Studies* 8 (1). Accessed [February 23, 2012]. http://gamestudies.org/0801/articles/hoeglund.

Holmes, Prue. 2016. "Navigating languages and interculturality in the research process: The ethics and positionality of the researcher and the researched." In *The Critical Turn in Language and Intercultural Communication Pedagogy: Theory, Research and Practice*, edited by Maria Dasli, and Adriana Raquel Díaz, 91–108. New York: Taylor and Francis.

Hopf, Christel. 2004. "Qualitative Interviews: An Overview." In *A Companion to Qualitative Research*, edited by Uwe Flick, Ernst von Kardorff, and Ines Steinke. London: Sage.

House, Ryan. 2020. "Likers Get Liked. Platform Capitalism and the Precariat in Death Stranding." *Gamevironments* 13, 290–316. Accessed [June 20, 2022]. https://journals.suub.uni-bremen.de/index.php/gamevironments/article/view/110.

Hunicke, Robin, Marc LeBlanc, and Robert Zubek. 2004. "MDA: A Formal Approach to Game Design and Game Research." In *Proceedings of the AAAI-04 Workshop on Challenges in Game AI* 4 (1). San Jose.

Huntemann, Nina B., and Ben Aslinger. 2013. *Gaming Globally: Production, Play and Place.* New York: Palgrave Macmillan.

ICO. 2017. "Bury Me, My Love." Accessed [June 20, 2022]. https://www.icomedia.eu/bury-me-my-love/.

Ibahrine, Mohammed. 2015. "Video Games as Civilizational Configurations: US-Arab Encounters." In *Islamism and Cultural Expression in the Arab World*, edited by Abir Hamdar and Lindsey Moore, 206–221. Routledge.

Ismail, Rami. 2015. "Six Stages of Game Dev Community Development." *Game Developer* website, May 4. Accessed [June 25, 2022]. https://www.gamedeveloper.com/business/six-stages-of-game-dev-community-development.

Jenkins, Henry. 2004. "Game Design as Narrative Architecture." In *First Person: New Media as Story, Performance, and Game*, edited by Noah Wardrip-Fruin and Pat Harrigan, 118–130. Cambridge: The MIT Press.

Kasmiya, Radwan. 2010. "Videogames Vanguard in the Middle East (Part 1– Syria)." *Games Latest*. Accessed [February 23, 2012]. http://web.archive.org/web/20100418081453/http://gameslatest.com/2010/04/09/videogames-vanguard-in-the-middle-east-part-1-%E2%80%93-syria/.

Kavoori, Anandam. 2008. "Gaming, Terrorism and the Right to Communicate." *Global Media Journal* 7 (13). Accessed [February 23, 2012]. http://lass.calumet.purdue.edu/cca/gmj/fa08/gmj-fa08-kavoori.htm.

Kelle, Udo. 2005. "'Emergence' vs. 'Forcing' of Empirical Data? A Crucial Problem of 'Grounded Theory' Reconsidered." *Forum: Qualitative Social Research* 6 (2): 1–22.

Keogh, Brendan. 2012. *Killing Is Harmless*. Stolen Projects.

Keogh, Brendan. 2019. "From Aggressively Formalised to Intensely in/Formalised: Accounting for a Wider Range of Videogame Development Practices." *Creative Industries Journal* 12 (1): 14–33. https://doi.org/10.1080/17510694.2018.1532760.

Kerr, Aphra. 2006. "The Business of Making Games." In *Understanding Digital Games,* edited by Jason Rutter and Jo Bryce, 36–57. London: SAGE Publications.

Khamis, Sahar, and Vit Šisler. 2010. "The New Arab Cyberscape: Redefining Boundaries and Reconstructing Public Spheres." In *Communication Yearbook 34*, edited by Charles T. Salmon, 277–315. New York: Routledge.

King, Anthony D., ed. 1991. *Culture, Globalization, and the World-System*. Binghamton: State University of New York at Binghamton.

Kolek, Lukáš. 2020. *Empirical Research on the Representation of Historical Information in the Medium of Computer Games, Their User Reception, and Intrapersonal Learning Outcomes*. PhD diss., Charles University.

Kolek, Lukáš, Vít Šisler, Patrícia Martinková, Cyril Brom. 2021. "Can Video Games Change Attitudes Towards History? Results from a Laboratory Experiment Measuring Short- and Long-Term Effects." *Journal of Computer Assisted Learning* 37 (5): 1348–1369.

Kowert, Rachel, and Thorsten Quandt. 2015. *The Video Game Debate: Unravelling the Physical, Social, and Psychological Effects of Video Games*. Routledge.

Kraidy, Marwan. 2005. *Hybridity, or the Cultural Logic of Globalization*. Philadelphia: Temple University Press.

Lankoski, Petri, and Staffan Björk. 2015. *Game Research Methods*. ETC Press.

Lee, Jin Ha, Rachel Ivy Clarke, and Yea-Seul Kim. 2015. "Video Game Information Needs and Game Organization: Differences by Sex and Age." *Information Research* 20 (3).

Levine, Jenny. 2006. "Gaming and Libraries: Intersection of Services." *Library Technology Reports* 42 (7): 5–80.

Limelight. 2021. "State of Online Gaming 2021." Accessed by Web.Archive [June 20, 2022]. https://web.archive.org/web/20220201122251/https://www.limelight.com/lp/state-of-online-gaming-2021/.

Lorber, Martin, and Felix Zimmermann (eds.). 2020. *History in Games Contingencies of an Authentic Past*. Bielefeld: Transcript Verlag.

Lowood, Henry. 2009. "Video Games in Computer Space: The complex history of Pong." *IEEE Annals of the History of Computing* 31 (3): 5–19. doi: 10.1109/MAHC.2009.53.

Machin, David, and Usama Suleiman. 2006. "Arab and American Computer War Games: The Influence of a Global Technology on Discourse." *Critical Discourse Studies* 3 (1): 1–22.

Lowood, Henry, Devin Monnens, Zach Vowell, Judd Ethan Ruggill, Ken S. McAllister, and Andrew Armstrong. 2009. "Before It's Too Late: a Digital Game Preservation White Paper." *American Journal of Play* 2 (2): 139–166.

Malkowski, Jennifer, and TreaAndrea Russworm, (eds.). 2017. *Gaming Representation: Race, Gender, and Sexuality in Video Games*. Indianapolis: Indiana University Press.

Marashi, Ibrahim. 2001. "The Depiction of Arabs in Combat Video Games." Paper presented at the Beirut Institute of Media Arts, Lebanese American University, November 5–9.

Marqusee, Mike. 2005. "A Name That Lives in Infamy." *The Guardian*, November 10. Accessed [June 20, 2022]. https://www.theguardian.com/world/2005/nov/10/usa.iraq.

Martin, Crystle. 2012. "Video Games, Identity, and the Constellation of Information." *Bulletin of Science, Technology and Society* 32 (5): 384–392. Accessed [June 20, 2022]. http://bst.sagepub.com/content/32/5/384.full.pdf+html.

Mateas, Michael. 2009. "Procedural Literacy: Educating the New Media Practitioner." *On the Horizon* 13 (2).

Mäyrä, Frans. 2008. *An Introduction to Game Studies: Games in Culture*. London: SAGE Publications.

McCall, Jeremiah. 2016. "Teaching History With Digital Historical Games." *Simulation and Gaming* 47 (4): 517–542.

McDonough, Jerome P., Robert Olendorf, Matthew Kirschenbaum, Kari Kraus, Doug Reside, Rachel Donahue, Andrew Phelps, Christopher Egert, Henry Lowood, and Susan Rojo. 2010. *Preserving Virtual Worlds Final Report*. IDEALS Illinois. Accessed [June 20, 2022]. https://www.ideals.illinois.edu/handle/2142/17097.

McPherson, Miller, Lynn Smith-Lovin, and James M. Cook. 2001. "Birds of a Feather: Homophily in Social Networks." *Annual Review of Sociology* 27: 415–444.

Meer, Alec. 2019. "Wot I Think: Bury Me, My Love." *Rock, Paper, Shotgun* website, January 15. Accessed [June 20, 2022]. https://www.rockpapershotgun.com/bury-me-me-love-review-pc.

Moura, Dinara, Magy Seif el-Nasr, and Christopher D. Shaw 2011. "Visualizing and understanding players' behavior in video games: discovering patterns and supporting aggregation and comparison." In *ACM SIGGRAPH 2011 Game Papers (SIGGRAPH '11)*. New York: Association for Computing Machinery, Article 2, 1–6. https://doi.org/10.1145/2037692.2037695.

Mukherjee, Souvik. 2016. “Playing Subaltern: Video Games and Postcolonialism.” *Games and Culture* 13 (5): 504–520.

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

Nardi, Bonnie. 2008. “Mixed Realities: Information Spaces Then and Now.” *Information Research* 13 (4): paper 354. Accessed [June 20, 2022]. http://www.informationr.net/ir/13-4/paper354.html.

Natkin, Stéphane, and Liliana Vega. 2003. “Petri Net Modeling for the Analysis of the Ordering of Actions in Computer Games.” In *Proceedings of Game-ON*, 82–92. London: EUROSIS.

Newman, James. 2012. *Best Before: Videogames, Supersession and Obsolescence*. Routledge.

Nicholson, Scott. 2008. “Finish Your Games So You Can Start Your Schoolwork: a Look at Gaming in School Libraries.” *Library Media Connection* 26 (5): 52–55.

O’Donnell, Casey. 2014. *Developer’s Dilemma: The Secret World of Videogame Creators*. The MIT Press.

Pandian, Anand. 2015. *Reel World: An Anthropology of Creation*. Duke University Press. https://doi.org/10.2307/j.ctv125jg0b.

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

Penix-Tadsen, Phillip. 2019. “Introduction: Video Games and the Global South.” In *Video Games and the Global South*, edited by Phillip Penix-Tadsen, 1–32. Pittsburgh, PA: Carnegie Mellon University: ETC Press.

Pérez-Latorre, Óliver, Mercè Oliva, and Reinald Besalú. 2017. "Videogame analysis: a social-semiotic approach." *Social Semiotics* 27 (5): 586–603.

Pötzsch, Holger, and Vít Šisler. 2019. "Playing Cultural Memory: Framing History in Call of Duty: Black Ops and Czechoslovakia 38-89: Assassination." *Games and Culture* 14 (1): 3–25.

Radde-Antweiler, Kerstin, Michael Waltemathe, and Xenia Zeiler. 2014. "Video Gaming, Let's Plays, and Religion: The Relevance of Researching Gamevironments." *gamevironments* 1: 1–36.

Reichmuth, Philipp, and Stefan Werning. 2006. "Pixel Pashas, Digital Djinns." *ISIM Review* 18, 46–47. Leiden: ISIM.

Rosenstone, Robert A. 2006. *History on Film/Film on History*. Harlow: Pearson Education Limited.

Ruberg, Bonnie, and Adrienne Shaw, (eds). 2017. *Queer Game Studies*. Minneapolis: University of Minnesota Press.

Ryan, Michael, and Melissa Lenos. 2012. *An Introduction to Film Analysis: Technique and Meaning in Narrative Film*. London: Continuum.

Said, Edward. 1994. *Culture and Imperialism*. New York: Knopf.

Salen, Katie, and Eric Zimmerman. 2004. *Rules of Play: Game Design Fundamentals*, Cambridge: MIT Press.

Saracevic, Tefko. 2009. "Information Science." In *Encyclopedia of Library and Information Sciences (3rd ed.),* edited by Marcia J. Bates, 2570–2585. New York: Taylor and Francis.

Schiller, Herbert I. 1969. *Mass Communication and American Empire*. New York: A. M. Kelley.

Schuurman, Dimitri, Katrien De Moor, Lieven De Marez, and Jan Van Looy. 2008. "Fanboys, Competers, Escapists and Time-Killers: a Typology Based on Gamers' Motivations for Playing Video Games." In *Proceedings of the 3rd International Conference on Digital Interactive Media in Entertainment and Arts, Athens, Greece*, 46–50. New York, NY: ACM.

Sharma, Alkesh. 2020. "Middle East Among the Fastest Growing Gaming Markets in the World." *The National News - Business* website, November 2. Accessed [June 25, 2022]. https://www.thenationalnews.com/business/technology/middle-east-among-the-fastest-growing-gaming-markets-in-the-world-1.1103958.

Shaw, Adrienne. 2010. *Identity, Identification, and Media Representation in Video Game Play: An Audience Reception Study*. PhD diss., University of Pennsylvania.

Sicart, Miguel. 2008. "Defining Game Mechanics." *Game Studies* 8 (2). Accessed [June 20, 2022]. http://gamestudies.org/0802/articles/sicart?viewType=Print&viewClass=Print.

Sicart, Miguel. 2011. "Against Procedurality." *Game Studies* 11 (3). Accessed [December 15, 2023]. https://gamestudies.org/1103/articles/sicart_ap

Šisler, Vít. 2008. "Digital Arabs: Representation in Video Games." *European Journal of Cultural Studies* 11 (2): 203–220.

Šisler, Vít. 2009. "Video Games, Video Clips, and Islam: New Media and the Communication of Values." In *Muslim Societies in the Age of Mass Consumption*, edited by Johanna Pink, 231–258. Newcastle: Cambridge Scholars Publishing.

Šisler, Vít. 2011. *The Internet, New Media, and Islam: Production of Islamic Knowledge and Construction of Muslim Identity in the Digital Age*. PhD diss, Charles University.

Šisler, Vít. 2013a. "Digital Heroes: Identity Construction in Iranian Video Games." In *Cultural Revolution in Iran: Contemporary Popular Culture in the Islamic Republic*, edited by Annabelle Sreberny and Massoumeh Torfeh, 171–191. I.B. Tauris.

Šisler, Vít. 2013b. "Videogame Development in the Middle East: Iran, the Arab World and Beyond." In *Gaming Globally: Production, Play and Place*, edited by Nina B. Huntemann and Ben Aslinger, 251–272. Palgrave Macmillan.

Šisler, Vít. 2014a. "From Kuma\War to Quraish: Representation of Islam in Arab and American Video Games." In *Playing with Religion in Digital Games*, edited by Heidi Campbell and Gregory Price Grieve, 109–133. Indiana University Press.

Šisler, Vít. 2014b. "Preaching Islam to the Video Game Generation: New Media Literacies and Religious Edutainment in the Arab World." In *Media Evolution on the Eve of the Arab Spring*, edited by Leila Hudson, Adel Iskandar, and Mimi Kirk, 103–125. New York: Palgrave Macmillan.

Šisler, Vít. 2017. "Procedural Religion: Methodological Reflections on Studying Religion in Video Games." *New Media and Society* 19 (1): 126–141.

Šisler, Vít. 2018a. "Petri Net Modeling: Analyzing Rule-Based Representations of Religion in Video Games." In *Methods for Studying Video Games and Religion*, edited by Vít Šisler, Kerstin Radde-Antweiler, and Xenia Zeiler, 133–151. New York, NY: Routledge.

Šisler, Vít. 2018b. "Virtual Worlds, Digital Dreams: Imaginary Spaces of Middle Eastern Video Games." In *Digital Middle East: State and Society in the Information Age*, edited by Mohamed Zayani, 59–83. London: Hurst.

Šisler, Vít, Holger Pötzsch, Tereza Hannemann, Jaroslav Cuhra, and Jaroslav Pinkas. 2022. "History, Heritage, and Memory in Video Games: Approaching the Past in Svoboda 1945: Liberation and Train

to Sachsenhausen." *Games and Culture* 17 (6): 901–914. https://doi.org/10.1177/15554120221115402.

Šisler, Vít, Kerstin Radde-Antweiler, and Xenia Zeiler (eds.). 2018. *Methods for Studying Video Games and Religion*. New York, NY: Routledge.

Šisler, Vít, Lars de Wildt, and Samer Abbas. 2023. "Breaking Barriers: The Emergence of Video Game Culture and Industry in the Arab World." In *Handbook of Media and Culture in the Middle East*, edited by Joe F. Khalil, Gholam Khiabany, Tourya Guaaybess, and Bilge Yesil. Hoboken, NJ: Wiley.

Šlerka, Josef, and Jan Schmid. 2013. "Jak se fanoušci politických stran liší—politické strany na Facebooku (2) [How Fans of Political Parties Differ from Each Other—Political Parties on Facebook (2)]." *DataBoutique*, September 23. Accessed [June 20, 2022]. http://databoutique.cz/post/62064377499.

Šlerka, Josef, and Vít Šisler. 2018. "Normalized Social Distance: Quantitative Analysis of Religion-Centered Gaming Pages on Social Networks." In *Methods for Studying Video Games and Religion*, edited by Vít Šisler, Kerstin Radde-Antweiler, and Xenia Zeiler. 171–187. New York, NY: Routledge.

Sotamaa, Olli. 2016. "Artifact." In *The Routledge Companion to Video Game Studies,* edited by Mark J. P. Wolf and Bernard Perron, 3–9. New York, NY: Routledge.

Sotamaa, Olli, and Jan Švelch. 2021. "Introduction: Why Game Production Matters?" In *Game Production Studies,* edited by Olli Sotamaa and Jan Švelch, 7–25. Amsterdam: Amsterdam University Press.

Sotamaa, Olli, and Tero Karppi. 2010. "Games as Services: Final Report." *TRIM Research Reports*. Tampere: University of Tampere.

Special Force. 2003. Accessed by Web.Archive [June 20, 2022]. https://web.archive.org/web/20050105091655/http://www.specialforce.net/english/indexeng.htm.

Squire, Kurt. 2008. "Video Games Literacy: a Literacy of Expertise." In *Handbook of Research on New Media Literacies*, 639–676. New York: MacMillan.

Strauss, Anselm, and Juliet Corbin. 1998. *Basics of Qualitative Research: Techniques and procedures for developing grounded theory*. London: Sage.

Švelch, Jan. 2019. "Resisting the Perpetual Update: Struggles against Protocological Power in Video Games." *New Media and Society* 21 (7): 1594–1612. https://doi. org/10.1177/1461444819828987.

Švelch, Jaroslav. 2018. *Gaming the Iron Curtain: How Teenagers and Amateurs in Communist Czechoslovakia Claimed the Medium of Computer Games*. MIT Press.

Swalwell, Melanie. 2007. "The Remembering and the Forgetting of Early Digital Games: From Novelty to Detritus and Back Again." *Journal of Visual Culture* 6 (2).

Tashkandi, Hala. 2021. "Arab Game Developers Seek Greater Inclusion in Video Game Industry." *Arab News*, January 1. Accessed [June 25, 2022]. https://arab.news/5krzd.

Tawil-Souri, Helga. 2007. "The Political Battlefield of Pro-Arab Video Games on Palestinian Screens." *Comparative Studies of South Asia, Africa and the Middle East* 27 (3): 536–551.

Taylor, T. L. 2006. *Play Between Worlds: Exploring Online Game Culture*. The MIT Press.

Trattner, Kathrin. 2018. "Critical Discourse Analysis: Studying Religion and Hegemony in Video Games." In *Methods for Studying Video Games and Religion*, edited by Vít Šisler, Kerstin Radde-Antweiler, and Xenia Zeiler, 17–32. New York, NY: Routledge.

Tunstall, Jeremy. 1977. *The Media are American*. New York: Columbia University Press.

Uricchio, William. 2011. "Simulation, History, Computer Games." In *Handbook of Computer Game Studies*, edited by Joost Raessens and Jeffrey Goldstein, 327−338. Cambridge, MA: MIT Press.

van Dijk, Teun A. 2001. "Multidisciplinary CDA: A Plea for Diversity." In *Methods of Critical Discourse Analysis*, edited by Ruth Wodak and Michael Meyer, 95−120. London: Sage.

Wakin, Daniel J. 2003. "Anti-Israel Video Game Created by Hezbollah." *Desert News*, May 18. Accessed [June 20, 2022]. https://www.deseret.com/2003/5/18/19723081/anti-israel-video-game-created-by-hezbollah.

Whippey, Caroline. 2011. "It's Not All about the Words: Non-Textual Information in World of Warcraft." *Proceedings of the American Society for Information Science and Technology* 48 (1).

Wijman, Tom. 2021. "The Games Market and Beyond in 2021: The Year in Numbers." *Newzoo* website, December 22. Accessed [June 20, 2022]. https://newzoo.com/insights/articles/the-games-market-in-2021-the-year-in-numbers-esports-cloud-gaming.

Winget, Megan A., and Wiliam Walker Sampson. 2011. "Game Development Documentation and Institutional Collection Development Policy." In *Proceedings of the 11th Annual International ACM/IEEE Joint Conference on Digital Libraries*, 29–38. New York, NY: ACM.

Wodak, Ruth. 2001. "What CDA is About: A Summary of Its History, Important Concepts and Its Developments." In *Methods of Critical Discourse Analysis*, edited by Ruth Wodak and Michael Meyer, 1−13. London: Sage.

Wolf, Mark J. P. (ed.). 2015. *Video Games around the World.* Cambridge, MA: The MIT Press.

Zakaria, Norhayati, Jeffrey M. Stanton, and Shreya T.M. Sarkar-Barney. 2003. "Designing and Implementing Culturally-Sensitive It Applications: the Interaction of Culture Values and Privacy Issues in the Middle East." *Information Technology & People* 16 (1): 49–75. Doi:10.1108/09593840310463023.

Zimmerman, Eric. 2013. "Manifesto for a Ludic Century." *Kotaku*, September 9. Accessed [June 20, 2022]. http://kotaku.com/manifesto-the-21st-century-will-be-defined-by-games-1275355204.