Videogame Collecting

Literature Review

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Videogames are a serious cultural and economic force, popular among a large swath of Americans. According to the Pew Internet and American Life Project in 2008, 53% of Americans 18 and older play videogames, 1 in 5 adults (21%) play every day.[i] QQuantitative analysis of game play communities by Dmitri Williams refutes the stereotype of gamers as isolated teenage boys, deviants, and social misfits. Williams attests, in effect, that normal people play games.[ii] Despite this prevalence, videogames have only recently begun to enter academic discourse. Sitting at the intersection of many disciplines, Game Studies encompasses scholars from anthropology, media studies, education, design, computer science, and mathematics to name only a few. Existing literature about the social significance of videogames splits into a few clusters. Cultural reception has historically focused research attention on potentially harmful effects of interpersonal violence and aggression.[iii] More recently, research showing the power of videogames as drivers of motivation and learning has lead to a widespread interest in 'gamification' in sectors like economics, advertising, and education.[iv] Along these lines, game play has been studied as important mediator for learning and socialization.[v] Scholars also continue to explore the aesthetic and narrative capacities of videogames as narrative fiction or folk[vi] or high art.[vii]

Academic study of videogames also faces the perception of the games as 'fun' and not worthy of serious scholarship with a variety of justifications. Some scholars emphasize the economic impact of the videogame market or the universality of game behavior across cultures.[viii] Other responses include elevating the status of play,[ix] advocating for games as cultural expression[x] and distinguishing a more intellectual subset of games. The term serious game was coined by Clark C. Abt to refer to this final group.[xi] While Abt's terminology may be

useful for some researchers, particularly those in education and psychology, this paper chooses to remain agnostic to any questions of merit and quality of individual games.

For information scientists, videogames challenge both conceptual models of description and representation as well as physical models of collection and preservation.[xii] Videogames are not simply static artifacts but systems of interactivity between software, hardware, networks, and users. The boundaries of a single videogame spread across interwoven dependencies of variably degrading digital and physical artifacts. Suffice to say, videogame collection and preservation is a fertile ground for investigation. For the purposes of this literature review, we will focus on videogames through the lens of contemporary collecting practices rather than review all literature of the broader social science or technical landscape.

This article takes as a starting point the notion that the practice of archiving games extends past the work of game designers and producers to incorporate documentation of gamers and gameplay. Participant communities are frequently cited as necessary collaborators in preserving digital artifacts related to gaming and virtual worlds.[xiii] Yet, few studies have explored the videogame collecting behavior of individuals. This article reviews the literature related to digital media collecting, videogame preservation, and individual collecting in an attempt to bridge this gap and propose a link between current literature on the rhetoric of games and the expressive classification behavior of private collectors. The terms individual or private collector are used here to refer to persons who are not affiliated with museums, libraries, archives, or any other institutional collection[xiv].

Defining Games & Videogames

Games are both easily identified and difficult to define. Submitted to the Oliver Wendell Holmes test, you know a game when you see it. In an often-cited treatment of the anthropology of games, Elliott Avedon and Brian Sutton-Smith ask: "What are games? Are they things in the sense of artifacts? Are they behavioral models, or simulations of social situations? Are they vestiges of ancient rituals, or magical rites? It is difficult and even curious when one tries to answer the question 'what are games' since it is assumed that games are many things and at the same time specific games are different from one another—but are they?"[xv] Sutton-Smith, a prolific scholar of play and games in the 20th century, distinguishes games from the larger umbrella of play by emphasizing that games are not simply objects or behaviors but a system of interactions. In his definition, a game is a system that facilitates a conflict between powers, confined by rules, to produce an unequal outcome.[xvi] A contemporary adaptation of Sutton-Smith's definition by Katie Salen and Erik Zimmerman states, "a game is a system in which players engage in an artificial conflict, defined by rules, that results in a quantifiable outcome."[xvii] This definition from 2002 acknowledges the computational bend of digital games and retains the construction of games as a system.

In a systemic interpretation, games include a network of actors and actions operating in states of change. Salen and Zimmerman identify four elements of game systems: objects, attributes, relationships and an environment. The physical medium is one element, but does not represent the entire game. Furthermore, the meaning of a game is situated at the interaction of these elements—not at any one object or result. As systems, games possess meanings that are "read, interpreted, and performed by players."[xviii] The other merit of this definition is that it does not differentiate between single-player and multiplayer games.

"Artificial conflict" can take place between the player and the system (including puzzle games like crosswords and Tetris) or other players.

The definition proposed by Salen and Zimmerman, however, makes no distinction between digital and non-digital games. Digital games, electronic games, videogames, computer games—there is significant ambiguity even in the basic terms. How are videogames differentiated from other games and other new media? Videogame definitions tend to focus on the conventions of digital computing or the ludic experience. In the former group, games are described as layers of logical abstractions or "human products, scripted and engineered out of millions of lines of code written by dozens or hundreds or even thousands of individuals."[xix] The later foregrounds interactivity or potential for adaptation in digital game play.[xx] Given the rapid expansion of digital technologies and the porous boundaries of digital gaming it seems limiting to structure a definition around medium or code. It is perhaps more practical to classify videogames by virtue of the operations of gameplay. Interactivity, information manipulation, automated complex systems, and networked communications are all capabilities characteristic of videogames.[xxi] To borrow from the Preserving Digital Worlds Project, this paper will define videogames as a system in which players engage in an artificial conflict, defined by rules, and taking place in a digital setting that results in a quantifiable outcome and a consistent ludic or interactive experience.[xxii]

Rooting the definition of videogame in a broader definition of game does have the consequence of excluding some innovative new media from consideration. Many products that fulfill the above characteristics of a videogame (and are often marketed as such) may not fit the systemic version of game. A computer program like SimCity does not have explicit goals,

but is broadly marketed and considered under the umbrella of a videogame. Designer Will Wright has suggested that players can turn The Sims into a game by constructing their own goals.[xxiii] Similarly in role-playing games, if viewed from session-to-session, players set missions or personal objectives (like levels of power) that could be considered quantifiable goals. [xxiv] Other products straddling the borders between games, toys, and applications offer even less explicit goal-orientation despite being run on consoles or marketed to gaming audiences. For example, MarioPaint for Super NES consisted of a drawing utility and musical composition application. Nintendo CEO Satoru Iwata calls this software without challenges, objectives, or goals "non-games."[xxv] Many non-games are explicitly marketed to populations outside of the stereotypical male adolescent gamer. Dress-up fashion games like Barbie Fashion Show or Deepak Chopra's mediation game Leela, built for Kinect, offer ambiguous results and no formal objective. Inevitably new products will continue to occupy the liminal spaces and challenge the conceptual boundaries of videogames. For the purposes of studying videogame collectors, it might be advisable to err on the side of inclusiveness to better engage with participant communities.

What We Collect When We Collect Videogames

The difficulties of collecting and preserving digital media systems are well documented by scholars and public pundits alike. The Library of Congress-sponsored report, *Preserving Virtual Worlds*, though addressing a slightly different construct, sums up the situation succinctly. "Virtual worlds…are software artifacts, communities, and commodities. Their preservation is thus intertwined with issues of technology, social relationships, and law".[xxvi] The

challenges to videogame preservation are too numerous to recount here in detail. They do, however, fall generally into a few general clusters which we will attempt to address generally: obsolescence, digital and material degradation, intellectual property, conceptual boundaries, and collection stewardship.

Obsolescence, format and degradation

Digital media exists at the intersection of software and hardware so preservation and collection requires active conservation of both. Whereas books kept in proper conditions can be expected to maintain their legibility for long periods of time, as Winget states, "digital information needs constant intervention to survive." [xxvii] Both consoles and computing platforms may cease to be supported in the aftermarket, and software needed to run a game may become incapable of running on future hardware or software environments. Videogames are usually released without documentation of the proprietary game code, making preservation more difficult. Emulators produced to run old games on new systems are also frequently produced in questionable legality by individual fans.[xxviii] No matter how faithful the reproduction, emulators (by definition) compromise some aspects of the gameplay experience. Finally, physical hardware of game systems was produced for toys and entertainment systems; never intended to be archival. The cheap plastics, wiring and screens have limited lifespans and were not generally built for upkeep and repair.[xxix]

Intellectual Property Law

Given our systemic definition, videogames sit at the intersection of many layers of intellectual property and possesses a hybrid structure of social identity. Games subvert clear structures of authorship and ownership as they are released through complex and variable

publishing structures by collaborative teams. Who is the creator of Tetris, the original designer Alexey Pajitnov, or Nintendo? In the case of an orphan game, do the proprietary rights go to the game designers? What can a designer donate to a collection if the publishing company is unwilling to cooperate?[xxx] Does the right of first sale exist for digital assets in a non-commercial environment?[xxxi]

Even in the hands of the original designer, computer code builds upon hundreds of simple structures written by preceding developers. These structures are the frequent the subject of dubious patent claims.[xxxii] Furthermore, there are separate corporate entities and individuals behind the development of the supporting hardware or OS environments. The need to migrate or emulate digital assets places even the most law-abiding collectors at a risk of trespassing legal limits. Finally, player community content ranging from mods or emulators to replays and in-world events and even IRL cosplay all draw on protected content and represent the unique work of individuals. This creates a double bind where the participant work may infringe upon an existing trademark or copyright while also possessing its own protected status as artwork (should the appropriation be considered fair use).

Boundaries

As "primarily conceptual rather than physical objects,"[xxxiii] videogames offer a loosely bounded terrain for collectors. The systematic definition of a videogame opens up objects, but also attributes, relationships (or experiences) and a broader environmental context as potential subjects of a collection. This cultural/contextual approach has strong support in the literature and clear echoes in the activities of individual collectors. "Any collecting activity thus must consider not only the fixed content of games as authored texts or software, but also examples

of game development, game play, and player responses and activity that provide a more complete picture of digital games as an interactive medium."[xxxiv] All acknowledge, however, that unlike a book in a library or even an LP record, these open boundaries that make it difficult to determine what is the object(or subject) of preservation and collection. Furthermore, it seems difficult to imagine the easy application of these methods in traditional collecting institutions, not least because of the challenges of non-participants to determine significant artifacts. [xxxv]

Artifacts and Events

A particularly useful dialectic—between artifacts and events—emerged from the discussion of boundaries and significant artifacts of videogame collecting. Articulated by Henry Lowood, Curator for History of Science and Technology Collections at Stanford University Library, this taxonomy is based in a belief in a 'history' within game worlds where notable events take place in digital participatory culture and merit documentation.[xxxvi] Artifacts are the interfaces, tools, and digital spaces of a videogames. Events constitute the happenings that take place within and around digital worlds and videogames. Events and associated participant community history pose particular problems for institutional collections, but are a large focus of individual collectors who are in a position to witness these developments. According to historian Timothy Burke, "I think the one thing that isn't in the proprietary data is the history of unusual or defining episodes or events in the life of particular virtual worlds. The narrative history, the event history of any given virtual world, may in fact be obscured by the kinds of gods-eye-view data that developers have. After all, they often don't know what its happening at the subjective level of experience within communities, or have to react to it after

its happened." [xxxvii] For newer games, particularly MMORPGs, few players have access to the official materials but there are many records of interaction with the user community and many instances of the source code being put to use to generate what Winget has dubbed "artifacts of participatory culture: mods, machinima, and "free shards"."[xxxviii]

A recent example of a collectable game-history event centers around the death of Sean Smith, aka Vile Rat, a player who occupied leadership roles of the MMORPG *EVE online* where he participated for nearly a decade as a key member of the GoonSwarm Alliance. A Foreign Service Officer with US State Department, Smith was killed in the attacks on the Benghazi Embassy on September 11, 2012. Within hours the *EVE Online* player community produced a large in-game memorial and hundreds of outposts (spaces in the game) were renamed in his honor. Smith's memorial received extensive media coverage due to the public nature of his death, however the response of his participant community is suggestive of the kinds of events that might be of great interest to future scholars and could take place without the knowledge of even the game developers.[xxxix]

In single-player or non-networked games, events can also take the form of game performances recorded as video or available as replay demos, which can be loaded into the game and run a playback of an exemplary performance. [xl] Game performance documentation serves the dual purpose of demonstrating some elements of the ludic experience as well as capturing a portion of the player community and culture. In the Guttenbrunner et al (2010) study of preservation methods for videogames, cited by Winget,[xli] the highest scoring preservation method (in terms of capturing the most desired attributes) was to film game play. This appears to be in line with the many private game collectors who include game play

footage in their descriptive metadata and on personal sites.[xlii] This strategy is particularly popular among collectors of niche game genres and MMORPG players. Game performance archives are not the solution to videogame preservation and collection, as they are subject to the same technical, legal, and conceptual challenges as other games. Rather, these event records are best thought of as part of a multivariate strategy that includes hardware and software collections.

Collecting and Collectors

Individual collectors play a substantive role in documenting events and participant communities, however literature on their information seeking and organizational behavior is scant. Amateur or hobbyist collectors have not historically been subjected to the same amount of rigorous information science scholarship. The collecting practices in need of future research are those Stebbins identifies as serious leisure[xliii] Stebbins presents serious leisure as occupying the space between work and pure, unserious entertainment. Serious hobbyists devote substantive labor to their chosen pursuit which provides an outlet for personal expression, self-identity enhancement and self-fulfillment that may not otherwise be gained through traditional employment. [xliv] Expanding on this research, Trace and Lee hold up the rigorous information-seeking behaviors of individual collectors as evidence of their seriousness. [xlv]

According to Baudrillard, collecting transcends accumulation by "bringing together objects to construct a subjective world."[xlvi] Collecting differs from most other types of consumption because it involves forming a set of things, set off from their usual function.[xlvii] "Things" in this definition are not synonymous with objects. Belk attests that experiences, like

travel or rounds of gold, may be systematically accumulated and thus constitute a collection. [xlviii]

What differentiates a collected object or experience from the everyday accumulation? How does a collector use these items to shape a "subjective world'? Collecting is active and selective process of "passionately acquiring and possessing things removed from ordinary use and perceived as part of a set of non-identical objects or experiences," writes Belk. [xlix] Collecting involves passion or obsession—sustained emotional involvement separates it from ordinary consuming. Baudrillard evokes the Romantic artist-ideal when he states that that boundless passion invested in a collection embues the artifacts with sublimity.[l]

Mark Doty, in his meditation on the collector's impulse *Still Life with Oysters and Lemon*, suggests that the collected are totems for the personal projections of the collector. In Doty's estimation, the collector acts upon "a faith in the capacity of the object to carry meaning, to serve as a vessel. For what? Ourselves, of course." [li] For Belk collecting behavior is socially sanctioned self-indulgence that enables the individual to extend the aura of self outside of the limits of the physical body. The "possession ritual" of collecting provides a "connection to self-transcending sacredness."[lii] Csikszentmihalyi takes a less critical approach to the psychology of collecting. He views objects as sources of continuity and permanence that act as stable touchstones in the lives of fragmented and impermanent individuals.[liii]

Susan Pearce (like Trace and Lee) uses collector motivation to categorize collecting into three types: souvenir, fetishistic and systemic. Souvenir collections serve to augment memory and act as lasting reminders of ephemeral experiences. Fetishistic collections contain many diverse samples and are organized idiosyncratically, by personal groupings. Systematic

collections are organized taxonomically with a focus on prized or externally-valued specimens. Pearce differentiates between these last two collection types by their intended audience. The fetishistic collection extends the collector's identity into the assembled artifacts. . According to Pearce, "systematic collections are often created, consciously or unconsciously, to demonstrate a point or illustrate a pre-defined theme."[liv]

Videogame Collectors

Pearce's groupings provide entre into the multiplicity of individual collection practices, but the boundaries between souvenir, fetishistic, and systematic collections are not concrete nor are these categories mutually exclusive. Videogame collectors do not fit universally into any one category and significant properties can be found in each type of collection. Members of the popular game collector database/social collecting site retrocollect.com organize their collections using a shared database with admin-level metadata as well as personal entries and documentation images. The site's descriptive schema includes a space for standardized data like publication year as well as entries for member's personal data like console history, memories, and favorites. RetroCollect members, in this hybridized database community, exhibit characteristics of systematic, fetishistic, and souvenir collections. Future studies are needed to determine how database-cum-social space sites like RetroCollect[lv] might shape collector behavior. They nonetheless demonstrate that videogame collecting asks for new approaches to collecting scholarship.

Narrowing on videogame collecting, one can also look to literature on institutional collections to derive motives specific to individual game collectors. Rather than focus on the

individual level, these motives appear to exist at the level of a game collector community. Again in the absence of a large institutional network, individual videogame collectors often take on discourse and motives that in other realms of collection might be left to institutionalized scholars. Three recurrent themes include: cultural memory, financial gain, and communities of practice.

Cultural Memory

Individual collectors are frequently cited as preserving objects of import in the face of political and social upheaval, indifference, and persecution.[lvi] A related line of argument states that collectors are "stewards of treasures that are only temporarily theirs."[lvii] Collectors invested in the cultural and artistic merits of videogames may be motivated to assemble significant works with an eye on shaping future historical narratives. As the authors of Preserving Virtual Worlds state, "Just as it would be very difficult to analyze a painting such as Manet's Olympia without reference to Titians's Venus of Urbino, it will prove very difficult in the future to discuss games such as *Star Wars Galaxies* without reference to *Spacewar!*"[lviii] The analogy to fine art collecting is apropos. Many contemporary artists seek to manage their legacy by engaging with collectors. Conversely, collectors can exert agency over future scholarship simply by their process of selection. For example, Marcel Duchamp believed artists could wait upwards of 50 years to find their true audience. In this delay, Duchamp worked closely with patron Katherine Dreier and artist Man Ray to assemble the *Société Anonyme* collection. 1000 significant works of Modern Art, primarily from the 1910s, 20s, 30s were donated to Yale University in 1951. The size and location of this collection has made it one of the largest and most frequently studied groupings of 20th century artworks. The narratives of

Duchamp, Dreier and Man Ray expressed in this collection now have become art history doctrine. [lix] Like the historical avant guard, the drive to preserve videogames as cultural heritage elevates the status of games and validates the passion and investment of dedicated gamers.

Financial gain

Many of the major game collector websites include title valuation in their metadata. Much copy on these sites is given to discussion of most valuable titles and forums for online commerce. Can a videogame collector be motivated by profit? The primary-market videogame industry earned $52 billion in revenue in 2011 and estimates suggest thus number will reach $70.1 billion by 2017.[lx] The market for explicitly collectible videogames is dominated by collectors' editions and related ephemera. Sites like PlayerAuctions.com also offer a venue for transacting accounts, power levels, and other in-game MMORPG goods. Despite the evidence of marketing to the lucrative 'collector' market, it is unclear whether these buyers are collecting (in line with the academic definition) or simply engaging in commerce.

Money is often an anathema within collecting circles because it leads to the charge that someone is not a devoted or passionate collector. [lxi] As Mark Doty says poetically, "there is a whole community build around the reassignment and redistribution of things. It pretends to be concerned with value, and of course on one level it is; there are precious objects that escalate in price, and represent concrete forms of wealth. But many things next-to-worthless, or only of ordinary value…are also there to be dealt with."[lxii] An emotionally neutral speculator on valuable assets does not meet the definitions of a collector. This is accumulation as commerce.

The listed prices on game collector websites can thus be conceived of as markers of rarity or abstracted worth as much as exchange-value.

Communities of Practice

The practice of videogame collecting creates a tension between the competitive individual and desire for collective community. Belk defines collecting as primarily an individual activity, grounded in competition. "A collector may compete with others or a self-imposed standard of excellence to gain heightened status and feelings of pride and achievement."[lxiii] Large game collector websites (boasting thousands of members) demonstrate that collectors do not operate exclusively in isolation but seek out others as kindred spirits sharing a common passion to learn from them or to compare collections. Focusing on the element of competition, many sociologists and critics identify the game world (and by extension collector communities) as a space, removed from external markings of social status that allows those who feel marginalized, unchallenged, or unable to participate in other mainstream activities to gain personal empowerment.[lxiv] This derogatory line of research ignores the role of hobbies of all kinds including both performed activity (an amateur soccer player) and fandom (a supporter of AC Milan) in developing social capital and empowering individual identity. The model of the self-seeking, antagonistic collector ignores the pro-social behaviors of hobbyists, like updating game collector databases and developing emulators.

It may be possible to turn away from the derogatory narratives of the disempowered gamer or the anti-social competitor by viewing videogame collectors as active co-participants in the situated learning practices of a social community.[lxv] Etienne Wenger, in conjunction with Jean Lave, studied instances of situated learning outside of a classroom—from Yucatec

midwives to sober members of Alcoholics Anonymous—to develop the notion of communities of practice.

> Communities of practice are formed by people who engage in a process of collective learning in a shared domain of human endeavour: a tribe learning to survive, a band of artists seeking new forms of expression, a group of engineers working on similar problems, a clique of pupils defining their identity in the school, a network of surgeons exploring novel techniques, a gathering of first-time managers helping each other cope. In a nutshell: Communities of practice are groups of people who share a concern or a passion for something they do and learn how to do it better as they interact regularly.[lxvi]

Videogame collectors as a community practice share a concern for the preservation of the shared cultural heritage of videogames and gamer culture. In the absence of well-developed collecting institutions, individual collectors form social relationships on websites and at conventions to learn together how to document, organize, and preserve the artifacts and events of videogame history.

Classification and the Rhetoric of Videogames

Lead by Ian Bogost, an emerging scholarship of videogame rhetoric explores how games make arguments and express ideas through rules and symbolic systems. Videogames represent entities and interactions procedurally—structuring actions, engagements, and possible outcomes. As Bogost states, "the rules do not merely create the experience of play—they also construct the meaning of the game. That is to say, the gestures, experiences, and interactions a game's rules allow (and disallow) make up the game's significance." [lxvii]

The videogame collector community of practice is not by definition a meaning-making collective. Nonetheless, it is possible to read the mores and structure of online videogame

collector communities as representing specific cultural values. Winget argues that the reproducible and variable nature of games as digital artifacts encourages a culture of sharing rather than competitive accumulation. "Instead of focusing on acquisition, new media collectors focus their energies on organization and sharing. Because there are few if any physical limitations to storage and display, these collectors are much more concerned with providing access to as many people as possible."[lxviii] This collective approach, which focuses on access over ownership, echoes the collective ethos of MMORPGs where procedural 'success' often necessitates active collaboration and information sharing. Collaboration in this context does not connote utopian Idealism. Gamers engage in sophisticated *realpolitik* both in and out of game environments to achieve goals. Again, this behavior contrasts the sociological stereotype of the isolated gamer devoid of social skills.

Bogost states "the values of a videogame community exist outside the game. The [game community] is primarily focused on the social practices of playing the game, rather than the social practices represented in the game. This is an important distinction: videogames are not just stages that facilitate cultural, social or political practices; they are also media where cultural values themselves can be represented—for critique, satire, education, or commentary. Videogames make claims about the world, which players can understand, evaluate, and deliberate."[lxix] While there is not sufficient research yet to draw any conclusions, the rhetoric of videogame collecting as an social-level aggregate merits further examination as its expressed values suggest a possible divergence from other collector communities.

On the individual level, the notion that collecting is a form of rhetorical engagement with a *set* of videogames that seeks to identify a particular cultural, social, or material aspect of

the game experience has support from existing scholarship. Belk describes the choice and assembly of objects as an expressive act.[lxx] In particular, the classification and organization of the collection seems to be the locus of meaning-making and expression. Winget suggests this may be the result of the variable nature of videogame media. The significance of taxonomy and classification to the amateur collecting community may trace its origins to the shifting terrain of medium and game-play.[lxxi] Still others, like Elsner and Cardinal see classification as central to any collecting behavior "Collecting is classification lived, experienced in three dimensions. The history of collecting is thus the narrative of how human beings have striven to accommodate, to appropriate, and to extend the taxonomies and systems of knowledge they have invented."[lxxii]

Melanie Feinberg produces a developed and applied methodology for examining the rhetoric of classification as personal expression. In a study of social-tagging websites, Feinberg sees the assembled terms as a form of communication; what she calls "expressive bibliography." "These individual collections of cited resources and associated metadata within the larger network constitute an emerging medium for creative expression, a sort of still life by means of tagged citation. Through selecting and describing a set of resources, each individual user, in a process similar to that of the still-life artist, focuses a particular attention upon the items being described as well as the terms used to describe them."[lxxiii] The maintenance of physical assets and the preservation of digital variable media are acknowledged as major beneficent activities of the individual videogame collector community. Yet, it is in this expressive practice of classification and taxonomy that they most aid the work of information scientists. As Winget has acknowledged, information science has provided robust models for

description of physical media; however, digital assets still elude effective processing and description. [lxxiv] Perhaps the rhetorical study of classification could offer new trajectories for both interpretation and organization of the ever-expanding terrain of videogame collecting. While institutions can be seen as taking leadership roles in book and physical artifact collecting, in the case of videogames, institutions must consider themselves as members of a broader community of practice, where all participants learn together to collect and manage the videogame assets of our past, present, and future.

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[i] Lenhart, Amanda, Jones, Sydney, and Macgill, Alexandra, *Adults and Games*, 4.
[ii] Williams, "Groups and Goblins: The Social and Civic Impact of an Online Game."
[iii] Sherry, "The Effects of Violent Videogames on Aggression."
[iv] Squire, "From Content to Context: Videogames as Designed Experience."
[v] Rieber, "Seriously Considering Play: Designing Interactive Learning Environments Based on the Blending of Microworlds, Simulations, and Games."
[vi] Jenkins, "Games, the New Lively Art."
[vii] Antonelli, "Videogames: 14 in the Collection, for Starters."
[viii] Winget, "Videogame Preservation and Massively Multiplayer Online Role-playing Games."Huizinga, *Homo Ludens*.
[ix]Salen and Zimmerman, *Rules of Play*.
[x] Bogost, "The Rhetoric of Videogames."
[xi] Abt, *Serious Games*.
[xii] Winget, "Videogame Preservation and Massively Multiplayer Online Role-playing Games."Lowood, "Shall We Play a Game: Thoughts on the Computer Game Archive of the Future." Winget, Megan, "Collecting the Artifacts of Participation : Videogames, Fan-boys, and Individual Models of Collection."
[xiii] Winget, "Collecting the Artifacts of Participation : Videogames, Fan-boys, and Individual Models of Collection," 1880.
[xiv] The boundary between private/individual collector and institutional collection are not always entirely clear given that many large private collections, such as the Cabinetry Collection, form the basis of major institutional collections. Once these collections are donated, however, the original owner largely loses agency over any further collection policy so it is possible to clearly differentiate between these two groups.
[xv] Avedon and Sutton-Smith, *The Study of Games*, 419.
[xvi]ibid.
[xvii] Salen and Zimmerman, *Rules of Play*, 89.
[xviii] Salen, *The Ecology of Games*, 10.
[xix] McDonough et al., *Preserving Virtual Worlds Final Report*, 9. See also: Juul, *Half-real: Videogames Between Real Rules and Fictional Worlds*.
[xx] Juul, *Half-real: Videogames Between Real Rules and Fictional Worlds*.
[xxi] Salen and Zimmerman, *Rules of Play*, 89.
[xxii] McDonough et al., *Preserving Virtual Worlds Final Report*, 9–10.
[xxiii] Baker, "Will Wright Wants to Make a Game Out of Life Itself."
[xxiv] Salen and Zimmerman, *Rules of Play*, 82.
[xxv] Iwata, "Keynote Address."

[xxvi] McDonough et al., *Preserving Virtual Worlds Final Report*, 5.
[xxvii] Winget, "Videogame Preservation and Massively Multiplayer Online Role-playing Games," 1872.
[xxviii] McDonough et al., *Preserving Virtual Worlds Final Report*, 14.
[xxix] Depocas, Ippolito, and Jones, *Permanence through Change: The Variable Media Approach*.
[xxx] McDonough et al., *Preserving Virtual Worlds Final Report*, 23.
[xxxi] Bergman, "Digital First Sale: A U.S. District Court Tackles Used MP3 Sales."
[xxxii] Lessig, "The Problem with Patents "."
[xxxiii] Winget, "Videogame Preservation and Massively Multiplayer Online Role-playing Games" 1870.
[xxxiv] McDonough et al., *Preserving Virtual Worlds Final Report*, 19.
[xxxv] McDonough et al., *Preserving Virtual Worlds Final Report*, 11.
[xxxvi] McDonough et al., *Preserving Virtual Worlds Final Report*, 38.
[xxxvii] Burke, "The History of Virtual Worlds."
[xxxviii] Winget, "Videogame Preservation and Massively Multiplayer Online Role-playing Games," 1871.
[xxxix] Totilo, "The Amazing Life of Sean Smith, the Masterful Eve Gamer Slain in Libya."
[xl] McDonough et al., *Preserving Virtual Worlds Final Report*, 42.
[xli] Winget, "Videogame Preservation and Massively Multiplayer Online Role-playing Games," 1875.
[xlii] Weil, Femicom Collector Interview.
[xliii] Stebbins, "Serious Leisure: A Conceptual Statement."
[xliv] Ibid., 251–3.
[xlv] Lee and Trace, "The Role of Information in a Community of Hobbyist Collectors."
[xlvi] Baudrillard, *The System of Objects*, 8–24.
[xlvii] Belk, *Collecting in a Consumer Society*, 66.
[xlviii] Ibid., 317.
[xlix] Ibid., 67.This definition of collecting is functionally compatible with others by Alsop, Aristides, and Muensterberger. See also: "A collector is a person who purposefully accumulated similar artifacts, where the artifact's original function is not the primary reason for integration into the collection. Winget, Megan, "Collecting the Artifacts of Participation : Videogames, Fan-boys, and Individual Models of Collection," 27.
[l] Baudrillard, *The System of Objects*, 9.
[li] Doty, *Still Life with Oysters and Lemon*, 48.
[lii] Belk, *Collecting in a Consumer Society*, 94.
[liii] Csikszentmihalyi, "Why We Need Things," 25.
[liv] Pearce, "Thinking About Things."
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