

# **On the Ultimate Goals of Games: Winning, Finishing, and Prolonging**

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## **Introduction**

Despite the large number of definitions for games, scholars broadly agree that games have goals. Stenros' systematic review of 60 definitions from as early as 1930 identifies "Goals and End Conditions" as one of ten topics of interest in game definitions (Stenros 2017). Similarly, in their overview of eight notable definitions, Salen and Zimmerman (2004, 79) show that being "goal-oriented/outcome-oriented" was an important aspect for five of them. Costikyan defines games as "a form of art in which participants, termed players, make decisions in order to manage resources through game tokens in the pursuit of a goal" (1994, 25) while Parlett describes a game as "a contest to achieve an objective" together with a means, e.g. rules and equipment, that are manipulated to achieve that objective (Parlett 1999). Bernard Suits argues that games are distinguishable from other activities in part due to the arbitrary nature of their goals (ends) and the restrictions (rules) that define how those goals can be achieved (Suits 1978). Even for definitions that do not explicitly use the term 'goal', we see that the idea of a goal is present either through the inclusion of conflict or competition (in which the goal of overcoming said conflict or competition is implicit) or through the idea that rules are sometimes defined to include goals and objectives (see Stenros 2017).

A fair amount of work has also been done to understand and articulate the different kinds of goals that games may have, and how they might relate to each other. In game studies, goals have been equated to victory conditions (Costikyan 1994; Elverdam and Aarseth 2007), end conditions (Salen and Zimmerman 2004; Heide-Smith 2006), and to both victory and end conditions (Juul 2010). Goals are also often conflated with terms such as the game's outcome and measurements of player progress (Salen and Zimmerman 2004). One common distinction is that goals in games are either explicit (Costikyan 1994; Juul 2007; Järvinen 2008) or implicit (e.g. Costikyan 1994). Järvinen also describes explicit goals as the difference between games and non-games, such as social gatherings or toys (2008, 69). Following Costikyan, explicit goals are win-states, while implicit goals emerge from the game artifact and have to be sought by the player. Goals in games have also been described as obligatory or optional (Juul 2007), and similarly as deniable and undeniable (Leino 2010). This distinction aims at the necessity for the player to fulfil a goal to proceed in a game or to engage with the game at all. All of these notions describe how goals can be or what role they take in a game.

In this article, we focus on a different question that deserves deeper exploration: to what end must a game's goals be achieved?

While there are plenty of reasons why a player might want to achieve a game's goals (e.g. entertainment, sense of achievement, etc.) we will – for the purposes of this article, purposefully exclude player-defined goals. While these kinds of goals are critical for understanding how and why games are played, they are not intrinsic to the game. In other words, we seek to answer the question – what is the overarching, game-afforded goal a player pursues when playing any kind of game?

We identify three possible answers to this question. We argue that, at the highest level of abstraction, all games have one of these overarching goals and drawing from Heide-Smith (2006), we call these **ultimate goals**.

### **To Win**

For most games, their overarching goal is implied or assumed. This assumption comes from the fact that most games have some element of competition: the effort to outperform another according to some metric. It is thus “obvious” why, say, a basketball team tries to score more baskets than its opponent: its players want to win.

Winning (*To Win*) is the first ultimate goal we identify in games. Games you can win are generally those where an evaluation or assessment occurs when the game concludes. This was described by Juul as a quantifiable outcome (2005). Sometimes, the assessment consists of comparing players' results (e.g. Who finished quickest? Who has more points?). These are games where, as a direct result of the evaluation, players (or teams) might be declared winners, losers, or tied. Most sports, boardgames, and other competitive games fall in this category. Sometimes, the assessment might be against a pre-determined metric (e.g. To win, score more than X). There are also games in which, over the course of play, players are eliminated from the game until only one is left. We argue that these games all share the same ultimate goal: *To Win*.

### **To Finish**

There are games that have a pre-designed and determined conclusion(s), but do not have an explicit, competitive assessment when they conclude. These are the games that people colloquially describe as “finished”, “completed”, or “beat”, rather than “won”. These are games where the designed play experience is to “reach the end”. You “finish” *BioShock* (2K Boston 2007) and *The Legend of Zelda* (Nintendo 1986) but it is less idiomatic to say you “won” any of them. This, while constituting “only” a linguistic difference, appears to intuitively grasp a difference in the state that players are required to reach: players overcome the game system by reaching a predetermined “ending” rather than overcome the opposition that other players pose. In fact, it would seem this goal is only present in single-player games or collaborative multiplayer ones. The goal *To Finish* is also often seen in games with a strong narrative component when players describe an interest in getting to the end of the story (Montfort 2003). We also see this ultimate goal in games where solving puzzles is the primary activity: e.g. adventure games (see Fernández-Vara 2009). Juul (2010) calls these

“completable games” in that once their ultimate goal has been achieved, the player “will always be someone who has completed [the game]”. Games with a pre-designed conclusion without some sort of quantifiable outcome all share the same ultimate goal: *To Finish*.

### **To Prolong**

There are games that “ideally” never conclude. Some of these games conclude against the player’s intention or desire; here players “lose” when the game ends. The goal in *Space Invaders* (Taito 1978), and most arcade games, is to delay the conclusion of the game – to “not die”. In the case of many drinking games in which players chug alcohol as long as they can (e.g. some “extreme consumption games”, see LaBrie et al. 2013; Zamboanga et al. 2013), or “communal games” (LaBrie et al. 2013) in which players drink at an agreed upon event occurring in, for example, a movie), play stops when players can no longer play (Sotamaa and Stenros 2016). Other games only conclude when the player chooses to stop. These are games that are conceived of as having no ending. Massively multiplayer online games in which the consequences of character death are negligible (e.g. *World of Warcraft* Blizzard 2004) are often described as endless. In fact, the act of quitting a game like this is often a meaningful event in that game’s player culture (Dutton 2007). Many open-ended sandbox style games, sometimes described as games without a goal (e.g. Waern 2012), in fact have the ultimate goal *To Prolong*, but require that players bring their own goals to guide their play (e.g. *Minecraft*, Duncan 2011). Similarly, we see *To Prolong* as the ultimate goal in many incremental (idle) games like *Cookie Clicker* (Thiennot 2013) described as “games that keep playing themselves” (Ruffino 2016). Many free-to-play games, while not technically endless, are treated as such in their design: they are considered a service (not a product) and thus there is a need to endlessly extend, change and evolve them (Tyni et al. 2011), often by adding more content (e.g. levels). Consider *Candy Crush Saga* (King 2012), a game in which you play a series of successive levels. Presumably, there is a final level – at which point we could say that you have finished the game. However, the game’s developer continually adds more levels to the game – is this a game that can be finished? While prolonging the play experience can be challenging (e.g. most arcade games) or not (e.g. most MMORPGs), these games share the same overarching goal: *To Prolong* the play experience.

### **Ultimate Goals: Benefits and Opportunities**

We have argued that there are three possible answers to the question: if a game has a goal, what can we say about why that goal must be achieved? We contend the answer is that games are played to either be won, finished, or to prolong the play experience. A charitable reader might wonder why this matters.

First, we offer a broader perspective that can help us gather and make sense of games as they are currently developed, sold, and played worldwide. We argue that most definitions of games presume an understanding of goal that is too narrow (i.e. victory conditions, quantifiable outcome, only considers *To Win*). Definitions of games that only include, say, “winnable” games, are unable to account for a significant number of the most popular and best-selling games out there. This is the same issue that plagues open-ended games (e.g. tabletop role-playing games, MMOs) that are so often marginalized by definitions requiring

an “explicit goal” (Waern 2012). While we could spend time proposing new definitions for games or tweaking those that already exist, it seems more practical and effective to broaden our understanding of the kinds of goals games have beyond only winning. We believe this approach is more honest to the current diversity of cultural artefacts out there designed as, sold as, played as, and talked about as games. In other words, we seek to engage with videogames as they currently are, rather than as they (theoretically) should be (Keogh 2014).

Second, this broader perspective on goals serves as an invitation to consider that the category “game” might have changed. It is undeniable that game creators have, over the past 60 years, pushed the medium of games in new directions. It is these new directions that require us to reconceive our understanding of what games are (and could be). For example, Aarseth (2019) found that humanistic scholars studying adventure games before 1997 rarely used the term “game” to describe them<sup>1</sup>. Nowadays, we call them games and understand that their goal is *To Finish* (rather than *To Win*). Also, tabletop role-playing games, long considered “not-quite-games” (e.g. Salen and Zimmerman 2004) are games whose goal is *To Prolong*. Similar things can be said about “walking simulators” as games (see Grabarczyk 2016), free-to-play games and those played on social networking sites like Facebook (Consalvo and Paul 2019). While arguments regarding the legitimacy of what is a “real game” have a long complicated history (Consalvo and Paul 2019), we argue that a portion of this debate might stem from a rejection of the ultimate goals *To Finish* and *To Prolong* in favour of the ultimate goal *To Win*. In other words, games considered by many as “borderline” or “not-quite” games are generally those whose ultimate goals are not winning. We share in Swalwell and Wilson’s (2008, 4) desire to reclaim games that have otherwise been marginalized (e.g. *The Sims*).

Additionally, the perspective that games have been changing over the years is forward looking and recognizes that, borrowing from prototype theory (Lakoff 1987), definitions and distinctions have “fuzzy boundaries regarding what games exemplify them (or have aspects that exemplify them...)” (Zagal et al. 2005). Categories such as “this is/is not a game” cannot be defined strictly and timelessly. This is a natural part of creating knowledge and understanding. It is especially true in our domain of inquiry, wherein new games are created that challenge our notions of what games are and can be. As new games are created, and our understanding is tested, we should expect definitions and ideas to change and adapt. In this sense, the three ultimate goals we see in games represent our current understanding. We should expect new games to challenge these types leading to their refinement and further development.

Third, in the same way that we should be thinking of the future possibilities for games by examining how they seem to be changing nowadays, we should better articulate and understand the relationship that the broad variety of games have with each other including those that are relatively under-studied. Game studies has been criticized for favouring the examination of games enabled by computing platforms over their card, board and tabletop counterparts (Tobin 2015). The same could be said of folk games, pinball, children’s games, and more. We note that many traditional children’s games (e.g. tag, hide and seek) are played as if they had the ultimate goal *To Prolong*. These are games that are played informally and in diffuse fashion (Sutton-Smith 1989). The play of tag ends when the players stop (e.g. players get bored or tired) or some external event intrudes (e.g. end of recess). Play does not

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<sup>1</sup> Interactive fiction/narrative was the preferred term.

end when someone is tagged. Pinball, often neglected in game studies, also has the ultimate goal *To Prolong* since the player must keep the ball in action for as long as possible (Manning and Campbell 1973). Thinking in terms of these ultimate goals allows an additional perspective for tracing and connecting the lineages of play (Bateman 2016) that exist among these different kinds of games.

Fourth, a broader view of ultimate goals can help us better situate videogames in the context and cultural-historical continuum of other activities with ludic connotations. Consider the tradition of puzzles, wordplay, and riddle-solving (e.g. Benefiel 2013). As Montfort (2003) argues, the riddle is not only “the most important early ancestor” in text adventure games, but is also crucial for understanding how these games operate and create meaning. We could say the same of crosswords and puzzles. These are all ludic activities whose goal is *To Finish*: they are to be solved and completed. Thus they are connected to games via their goals. There are countless games that consist of “simply” a series of puzzles with varying degrees of narrative framing. We only argue that examining the ultimate goal of these (and other) ludic activities can be productive especially as they have been co-opted or incorporated into games as we now understand them.

Fifth, an examination of game’s ultimate goals might provide insight into the thorny problem of game genres (Arsenault 2009) by providing a perspective different from those that have been used before (e.g. classifying games by their mechanics). A cursory examination of some common videogame genres suggests they might be distinguishable (among other things) by their ultimate goals: puzzle games, adventure games, RPGs, platformers and more all seem to have *To Finish* as their ultimate goal. On the other hand, racing games, MOBAs, sports games, and fighting games have *To Win*. Finally, MMOs, idle games, and social games all seem to have *To Prolong* as their ultimate goal. We can also examine specific games – noting how they can shift between genres (or create new ones) simply by adapting their ultimate goal. Consider the boardgame *Pandemic* (Leacock 2008). It is a collaborative game whose players try *To Win* by managing a series of disease outbreaks around the world. In 2015, a new version of the game was released called *Pandemic Legacy: Season 1* (Daviau and Leacock 2015). *Pandemic Legacy* is played as a campaign consisting of series of games of *Pandemic*. Over the course of these games, rules and game components are modified and permanent changes are made to the board that affect future games of *Pandemic*. *Pandemic Legacy* is designed to be played between 12 and 24 times<sup>2</sup> before players (hopefully) succeed. It is not a game that was designed to be played ad infinitum, rather it was designed with the ultimate goal *To Finish*. In this case, a design change regarding the ultimate goal of a game has resulted in what might become a new subgenre of boardgames: legacy games (see Mosca 2017). Are there other examples of this? What new connections between games might we be able to establish by examining their ultimate goals?

Sixth, examining game goals might offer critical traction for articulating insights regarding game-specific concepts. For example, consider the term “replayability”. Replayability, refers to a perceived property of games indicating a “game’s potential for continued play [...] after its completion” (Hanson 2012). The term is usually used in a value-laden way (higher “replay value” is good) (e.g. Van Lent et al. 2005) because of its perceived benefits (Roth et al.

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<sup>2</sup> Each play session of *Pandemic Legacy* takes place during a month (January-December), and players have the option to play a month a second time if they fail during their first attempt, after that they must continue on to the next month. Thus the minimum number of plays is 12 and the maximum is 24.

2012). It is a curiously game-specific term<sup>3</sup> that might hint at attempts to norm the kinds of things that should be thought of as games. We speculate that games whose ultimate goal is *To Win* have more replayability than those whose goal is *To Finish*. Furthermore, we hypothesize that the desire for increased replayability has led to game designs to change in a desire to make narrative heavy games more “gamelike” to players (e.g. adding new endings or after making new options accessible after “completion”). This apparent implicit form of game design normativism might be present in other terms and concepts that are a part of the lexicon of games (e.g. playthrough, new game plus, permadeath, campaign, high score).

## Discussion

While our notion of three ultimate goals (win, finish, prolong) might reflect our current understanding of what games are, this will need to adapt and change over time. New games may be designed and released that have new forms of ultimate goals we have not currently considered. Arguably, there are already many games that test our understanding along a variety of dimensions.

Many modern videogames provide multiple modes for play. These multiple modes complicate our assertion that all games have one of three ultimate goals because they force us to consider one mode as the primary mode and ignore the rest as secondary. *Call of Duty: World at War (CoDWaW)* includes three modes: campaign, multiplayer, and “nazi zombies” (Treyarch 2008). If we consider each mode as a distinct and separate game it is evident that each of our ultimate goals *To Finish* (campaign; complete 15 missions), *To Win* (multiplayer; defeat other players/team in online matches), and *To Prolong* (nazi zombies; collaboratively fight unlimited waves of them) are present in *CoDWaW*. However, should we consider each mode as a separate game? And, what are the implications if we do not? Is the “campaign” mode the primary mode and should we hold it as representative of *CoDWaW*’s ultimate goal? And, by what metric or reasoning would we make that assertion? We do not have a good answer to these questions – but this example illustrates how many modern videogames can complicate our definitions and understanding of games.

The complications do not stop there, though. Some games seem to shift their ultimate goal depending on player choice. Consider the example of *Halo 3*. Let’s ignore for a moment that *Halo 3* features a competitive online mode and assume its ultimate goal is *To Finish* (the campaign). *Halo 3* includes an optional feature “called the ‘campaign metagame’ [that adds] a social and competitive twist on the play of the campaign by adding a formal system that scores and ranks a players' performance in campaign missions” (Carter et al. 2012). In this mode, killing enemies earns players points with multipliers available for playing on harder difficulty settings. When playing with this feature enabled, the ultimate goal of *Halo 3* is arguably, *To Win* (obtain a score higher than anyone else in the world). So, what is *Halo 3*’s ultimate goal? Or, is playing *Halo 3* with the campaign metagame option enabled equivalent to the meta-goal of getting a high score? In fact, the concept of high scores requires further investigation.

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<sup>3</sup> Books, music, and film are not usually described in terms of re-readability, re-listenability, and re-watchability.

While we know that games are often nested within games – we have not usually considered what this means in terms of goal structures and ultimate goals. Consider the classic version of *Space Invaders* (Taito 1978). The player has paid to start the arcade machine, which is – in the form of descending aliens – continuously attempting to remove them from the game and act of play. Thus, it is easily argued that the goal of the game is *To Prolong* (play as long as you can). There is, however, another possible ultimate goal of this game that is perhaps located outside of, or “above” this version of *Space Invaders*: the high score. These high scores are as much part of the game as holistic digital object as the machine’s possibility to remove the player from play. Consequently, any arguments that ‘high scores are not part of the game’ are invalid. Still, they could be considered ‘games outside of’ or ‘above’ other games: metagames (Carter et al. 2012; Debus 2017). Since *Space Invaders* has a high score table that compares players scores to each other and establishes a winner, is the game’s ultimate goal *To Win*? We argue not really. High scores are interesting because they constitute a goal that is about winning an “eternal competition” with other players. Any ‘victory’ in a high score is always only temporal, lasting until another player claims the top spot. In this sense, high scores are akin to the notion of ‘records’ used in many sports (World record, Olympic record, etc.). Thus, a high score is a meta-goal. Similarly, any meta-structure imposed on a game, such as a league or tournament, can be considered as using a game with a particular ultimate goal and imposing the competitive ultimate goal of *winning* on top of it. Thus, these meta-structures can be considered as increasing the earlier mentioned replayability by adding competition to the game. This, however, is only one way to achieve this increase in replayability and (potentially) alters the ultimate goal completely.

Another game design element intended to increase replayability is the “new game plus” feature (NG+) nowadays included in many games. These games let “players [...] start a new game after completing the game once, while retaining some of the experience, status, or items in the newly started game” (Lee et al. 2014). Arguably, the ultimate goal of these games is *To Finish* since the NG+ mode only becomes available once the game has been completed. Or, should we consider the ultimate goal as being *To Prolong* since the invitation of a NG+ is to continue playing? Perhaps we should consider successive playthroughs the way we might think of individual matches of chess? The goal of a game with NG+ might be *To Finish*, but the game’s creators have allowed for some persistence to make things more interesting for players for their future playthroughs. It is the continuity between games, sessions, and playthroughs that makes these games complicated to think about in terms of their ultimate goals.

Furthermore, it is often the case (for games that have multiple distinct endings each resulting from a complete playthrough) that different endings are not considered equally valid by player communities: there are “good” endings and “bad” endings. Some games might even have a “true” ending only obtainable after multiple “completions” (playthroughs) of the game. Should we consider these games as having the ultimate goal *To Finish*, but associate completion of that goal only when the “best” ending is achieved? Or is this a new form of ultimate goal that is both winning (achieving the “best” ending) and completing? Or should we consider these as games with nested ultimate goals?

As a final example of how, even with a broader understanding of ultimate goals, there are avenues for additional complication, consider *Pac-Man* (Namco 1980). Newman (2016) explains how “[i]n the pages of the various paperback guides, Pac-Man is presented as an infinitely cycling game. Pac-Man in the 1980s is understood and presented as a game of masterable technique but unending ludic opportunity.” Clearly, and obviously, *Pac-Man*’s ultimate goal was *To Prolong*.

However, this changed when the games now infamous “kill screen” was discovered. Due to a programming error, when a player reaches the 256th screen they are presented with a garbled image of the usual maze. This screen is impossible to complete because there are not enough dots available. Suddenly, *Pac-Man* became a game you could finish:

“What is so ironic about the situation in the 1980s is that the manifest desire to beat Pac-Man was confounded by the mistaken belief that the game was infinite and unending. That it was assumed that it could not be finished meant, quite literally, that it could not be beaten, per se. The end of the game came only when the last Pac-Man was lost or the player lost interest and quit. Either succumbing to the challenge or becoming bored of it were the only conceivable conditions under which the player would reach the “Game Over” text.” (Newman 2016)

Thus, we must confront the realization that, like in the case of *Pac-Man*, a game’s ultimate goal might not be immediately knowable. For *Pac-Man* it took years of expert play to discover a technical problem that changed our understanding of the game. However, that does not preclude designers from purposefully subverting players’ understanding of a game’s ultimate goal. Lantz’s *Universal Paperclips* (2017) is an incremental game in which the player is tasked with creating paperclips. Its ultimate goal is *To Prolong*. However, the game ends once the player reaches a certain score equivalent to all of the matter in the universe having been converted into paperclips. So, in a reversal from genre conventions – the game’s ultimate goal is *To Finish*, but this is not understood until one reaches that moment. While Lantz ultimately delivers on his punchline of an unexpected change in ultimate goal, we could conceive of games whose “real” ultimate goal may never be revealed, and what then?

## Conclusions

We have provided a broader view of the ultimate goal of games by extending the traditional understanding of victory (*To Win*) to consider two additional goals: *To Finish* and *To Prolong*. We have argued that this extension can be fruitful for a variety of reasons including the ability to incorporate into existing definitions of games a vast number of games that have been marginalized from consideration. However, we realize that even with this broader view, there are still many complicating factors that need to be thought through. We have merely provided a sketch of some of the more salient ones. As a preliminary work, we look forward to more detailed examinations of many of the issues raised here.

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## References

- 2K Boston. 2007. *Bioshock*. 2K Games.
- Aarseth, Espen. 2019. "Who Said Anything about Games? – Tracing the Prehistory of Game Studies (1980-1996)." In *Abstract Proceedings of the 2019 DiGRA International Conference*. Kyoto, Japan: DiGRA.
- Arsenault, Dominic. 2009. "Video Game Genre, Evolution and Innovation." *Eludamos. Journal for Computer Game Culture* 3: 149–76.  
<https://www.eludamos.org/index.php/eludamos/article/view/65>.
- Bateman, Chris. 2016. "The Lineages of Play." *Journal of Playwork Practice* 3 (2): 95–106.
- Benefiel, Rebecca R. 2013. "Magic Squares, Alphabet Jumbles, Riddles and More: The Culture of Word-Games among the Graffiti of Pompeii." In *The Muse at Play: Riddles and Wordplay in Greek and Latin Poetry*, edited by Jan Kwapisz, David Petrain, and Mokilaj Szymanski. Berlin/Boston: Walter de Gruyter.
- Blizzard. 2004. *World of Warcraft*. Irvine, CA: Blizzard Entertainment.
- Carter, Marcus, Martin Gibbs, and Mitchell Harrop. 2012. "Metagames, Paragames and Orthogames: A New Vocabulary." In *Proceedings of the 2012 Foundations of Digital Games (FDG) Conference*. Raleigh, NC: ACM.  
<http://people.eng.unimelb.edu.au/mharrop/pdf/metagames.pdf>.
- Consalvo, Mia, and Christopher A. Paul. 2019. *Real Games: What's Legitimate and What's Not in Contemporary Videogames*. Cambridge, MA: MIT Press.
- Costikyan, Greg. 1994. "I Have No Words & I Must Design." *Interactive Fantasy*, 1994.  
<http://www.costik.com/nowords.html>.
- Daviau, Rob, and Matt Leacock. 2015. "Pandemic Legacy: Season 1." Z-Man Games.
- Debus, Michael S. 2017. "Metagames: On the Ontology of Games Outside of Games." In . Cape Cod, MA: ACM. <https://dl.acm.org/citation.cfm?id=3102097>.
- Duncan, Sean C. 2011. "Minecraft, Beyond Construction and Survival." *Well Played* 1 (1): 1–22. <http://press.etc.cmu.edu/files/WellPlayed-v1n1-11-web.pdf>.
- Dutton, Nathan T. 2007. "Participatory Quitting: Quitting Texts and World of Warcraft Player Culture." Masters Thesis, Columbus, OH: Ohio University.  
[http://rave.ohiolink.edu/etdc/view?acc\\_num=ohiou1172851023](http://rave.ohiolink.edu/etdc/view?acc_num=ohiou1172851023).
- Elverdam, Christian, and Espen Aarseth. 2007. "Game Classification and Game Design: Construction Through Critical Analysis." *Games and Culture* 2 (1): 3–22.
- Fernández-Vara, Clara. 2009. "The Tribulations of Adventure Games: Integrating Story Into Simulation Through Performance." Doctoral Dissertation, Atlanta, GA, USA: Georgia Institute of Technology. <https://smartech.gatech.edu/handle/1853/31756>.
- Grabarczyk, Pawel. 2016. "It's like a Walk in the Park-On Why Are Walking Simulators so Controversial." *Transformacje*, 241–63.
- Hanson, Christopher. 2012. "Replay and Repetition." In *Encyclopedia of Videogames: The Culture, Technology, and Art of Gaming Volume 1*, edited by Mark J. P. Wolf, 522–24. Santa Barbara, CA: Greenwood.
- Heide-Smith, Jonas. 2006. "Plans and Purposes: How Videogame Goals Shape Player Behaviours." Dissertation, Copenhagen, Denmark: IT University of Copenhagen.  
<http://citeseerx.ist.psu.edu/viewdoc/summary?doi=10.1.1.122.9290>.

- Järvinen, Aki. 2008. "Games without Frontiers: Theories and Methods for Game Studies and Design." Dissertation, Finland: University of Tampere.  
<http://tampub.uta.fi/handle/10024/67820>.
- Juul, Jesper. 2005. *Half-Real*. Cambridge, Mass: The MIT Press.
- . 2007. "Without a Goal—On Open and Expressive Games." In , edited by Barry Atkins and Tanya Krzywinska, 191–203. Manchester University Press.
- . 2010. "In Search of Lost Time: On Game Goals and Failure Costs." In *Proceedings of the Fifth International Conference on the Foundations of Digital Games*, 86–91. Monterey, California: ACM. <https://www.jesperjuul.net/text/losttime/>.
- Keogh, Brendan. 2014. "Across Worlds and Bodies: Criticism in the Age of Video Games." *Journal of Games Criticism* 1 (1). <http://www.gamescriticism.org/articles/keogh-1-1>.
- King. 2012. *Candy Crush Saga*. King.
- LaBrie, J. W., P. J. Ehret, and J. F. Hummer. 2013. "Are They All the Same? An Exploratory, Categorical Analysis of Drinking Game Types." *Addictive Behaviors* 38 (5): 2133–39.
- Lakoff, George. 1987. *Women, Fire, and Dangerous Things: What Categories Reveal About the Mind*. Chicago: The University of Chicago Press.
- Lantz, Frank. 2017. *Universal Paperclips*. Self Published.
- Leacock, Matt. 2008. "Pandemic." Z-Man Games.
- Lee, Jin Ha, Natascha Karlova, Rachel Ivy Clarke, Katherine Thornton, and Andrew Perti. 2014. "Facet Analysis of Video Game Genres." In *IConference 2014 Proceedings*, 125–39. doi:10.9776/14057.
- Leino, Olli Tapio. 2010. "Emotions in Play: On the Constitution of Emotion in Solitary Computer Game Play." Dissertation, Copenhagen, Denmark: IT University of Copenhagen.
- Manning, Peter K., and Bonnie Campbell. 1973. "Pinball as Game, Fad and Synechdoche." *Youth & Society* 4 (3): 333–58.  
<https://journals.sagepub.com/doi/pdf/10.1177/0044118X7300400305>.
- Montfort, N. 2003. *Twisty Little Passages: An Approach to Interactive Fiction*. Cambridge, MASS: MIT Press.
- Mosca, Ivan. 2017. "Legacy's Legacy: Irreversibility and Permadeath in Legacy Games." *Analog Game Studies*, January. <http://analoggamestudies.org/2017/01/legacys-legacy-irreversibility-and-permadeath-in-legacy-games/>.
- Namco. 1980. *Pac-Man*. Franklin Park:IL: Midway Mfg. Co.
- Newman, James. 2016. "Mazes, Monsters and Multicursality. Mastering Pac-Man 1980–2016." *Cogent Arts & Humanities* 3.  
<http://dx.doi.org/10.1080/23311983.2016.1190439>.
- Nintendo. 1986. "The Legend of Zelda." Nintendo.
- Parlett, David. 1999. *The Oxford History of Board Games*. Oxford and New York: Oxford University Press.
- Roth, Christian, Ivar Vermeulen, Peter Vorderer, and Christoph Klimmt. 2012. "Exploring Replay Value: Shifts and Continuities in User Experiences Between First and Second Exposure to an Interactive Story." *Cyberpsychology, Behavior and Social Networking* 15 (7): 378–81.
- Ruffino, Paolo. 2016. "Games to Live With: Speculations Regarding Nike Fuel." *Digital Culture & Society* 2 (1): 154–59.
- Salen, Katie, and Eric Zimmerman. 2004. *Rules of Play: Game Design Fundamentals*. Cambridge, Massachusetts: The MIT Press.
- Sotamaa, Olli, and Jaakko Stenros. 2016. "Through a Shot Glass, Darkly: The Study of Games in the Light of Drinking Games." *Games and Culture* 14 (1): 87–103.  
<https://doi.org/10.1177/1555412016679772>.

- Stenros, Jaakko. 2017. "The Game Definition Game: A Review." *Games and Culture* 12 (6): 499–520.
- Suits, Bernard. 1978. *The Grasshopper: Games, Life and Utopia*. Toronto Buffalo: University of Toronto Press.
- Sutton-Smith, Brian. 1989. "Children's Folk Games as Customs." *Western Folklore* 48 (1): 33–42.
- Swalwell, M., and J. Wilson. 2008. "Introduction." In *The Pleasures of Computer Gaming: Essays on Cultural History, Theory and Aesthetic*, edited by M. Swalwell and J. Wilson, 1–12. Jefferson, NC: McFarland.
- Taito. 1978. *Space Invaders*. Bally Midway.
- Thiennot, Julien. 2013. *Cookie Clicker*. DashNet. <http://orteil.dashnet.org/cookieclicker/>.
- Tobin, Samuel. 2015. "Cocktail Cabinets: A Critique of Digital and Ludic Essentialism." *Analog Game Studies* 2 (1). <http://analoggamestudies.org/2015/01/cocktail-cabinets/>.
- Treyarch. 2008. *Call of Duty: World at War*. Activision.
- Tyni, Heikki, Olli Sotamaa, and Saara Toivonen. 2011. "Howdy Pardner!: On Free-to-Play, Sociability and Rhythm Design in FrontierVille." In *Proceedings of the 15th International Academic MindTrek Conference: Envisioning Future Media Environments*, 22–29. Tampere, Finland: ACM. <https://dl.acm.org/citation.cfm?id=2181042>.
- Van Lent, M., M. O. Riedl, P. Carpenter, R. McAlinden, and P. Brobst. 2005. "Increasing Replayability with Deliberative and Reactive Planning." In *Proceedings of the 1st Conference on Artificial Intelligence and Interactive Digital Entertainment*. <https://www.aaai.org/Papers/AIIDE/2005/AIIDE05-023.pdf>.
- Waern, Annika. 2012. "Framing Games." In *Proceedings of DiGRA Nordic 2012 Conference*. <http://www.digra.org/wp-content/uploads/digital-library/12168.20295.pdf>.
- Zagal, Jose P., Michael Mateas, Clara Fernandez-Vara, Brian Hochhalter, and Nolan Lichti. 2005. "Towards an Ontological Language for Game Analysis." In *Changing Views: Worlds in Play, Selected Papers of DIGRA 2005*, edited by Suzanne de Castell and Jen Jenson, 3–14. Vancouver, Canada.
- Zamboanga, B. L., M. W. Pearce, S. R. Kenney, L. S. Ham, O. E. Woods, and B. Borsari. 2013. "Are 'Extreme Consumption Games' Drinking Games? Sometimes It's a Matter of Perspective." *The American Journal of Drug and Alcohol Abuse* 39 (5): 275–79.