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World of Alice on Video Game Design**

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## **The Impact and Influence of Carroll's World of Alice on Video Game Design**

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### **Abstract**

The study investigates the impact and influence of Carroll's world of Alice on video game design. An in-depth analysis is carried out of *Alice in Wonderland* and *Through the Looking Glass* with specific attention to the quest elements accompanying the character's journey and the mechanics and structure of the world of Wonderland. The study demonstrates how these elements are initially adopted in game design through their influence on Miyamoto's *Mario Bros.* and subsequently consolidate into commonly accepted conventional gameplay mechanics. Examples of direct adaptations of Alice are discussed, along with other game titles shaping their gameplay elements after Carroll's ideas. A profile of the author's interest in puzzles and mathematical games is outlined and parallel comparisons are drawn with modern game titles and how these embody Carroll's ideas.

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## Introduction

At the present time, and indeed over the last decade, video games have come to represent one of the most popular forms of entertainment embracing audiences from all ages and backgrounds. At the academic level, an entire field of research and investigation, known as game studies, has developed exclusively around the study of video games with a continuous and steady growth. As for large audiences, videogames represent the best-selling form of entertainment, with hit titles such as *GTA V* (Rockstar, 2013), *Call of Duty* (Activision, 2003-2013) *Battlefield* (EA, 2002-2013), *Assassin's Creed* (Ubisoft, 2007-2013) and the Nintendo's *Mario* (Nintendo, 1985-2013) franchise regularly generating more revenues than the movie industry. In the light of this growing importance games are gaining critically and academically, and considering the global impact of the medium on societies and cultures around the world, it becomes important to gain an insight into the nature of video games and the messages they carry, convey and represent. More specifically, a key factor lies in the understanding of not only why they have gained immense popularity, but also what has influenced and contributed to the shaping and development of rules and mechanics leading to entertaining and engaging gameplay.

This study aims to address the latter by investigating the influence of Carroll's books on video games as a whole, demonstrating why Carroll's world of Alice has been so influential in shaping elements, rules and gameplay across the history and development of video games. In other words, what has made these two children's books, namely *Alice in Wonderland* and *Through the Looking Glass*, so formative in establishing the conventions accepted and expected by players and designers alike?

This paper aims to demonstrate how Carroll's texts can be considered as proto-game texts, and how some of their elements have contributed to the formation of permanent conventional gameplay features in video games. By examining closely the case of Carroll's works and their adaptations in the video game platform, this paper argues that an intimate relationship can be traced between video games and children's literature: through the worlds, stories and characters particularly associated with children's classics which have often provided inspiration for video game design, be it in the form of adaptation or more broadly intertextual references to/incorporation of characters, setting and plot elements. An initial overview of the popularity of Alice during and after the time of its publication will be followed by a close comparison between the structure of Carroll's texts and the conventional structure of videogames in general. A more in-depth analysis, based on comparisons between Alice texts and specific game titles, will follow in order to identify which elements present in Alice emerge in video game design, how they transition from the written to the ludic medium and what purpose they serve both in Carroll's texts and in the gameplay experience.

### **Popularization of the Alice Brand and its Impact on Video Games**

Even prior to the emergence of video games, children's books have exercised a strong force on the processes of remediation, adaptation and re-interpretation in various formats and different media, including digital. Works such as Daniel Defoe's *Robinson Crusoe*, Mary Shelley's *Frankenstein*, Jane Austen's novels, Bram Stoker's *Dracula* or iconic characters such as Don Quixote, Odysseus, Pinocchio, Peter Pan, Sinbad and Gulliver have all provided a constant source of inspiration for movie makers, screen writers, illustrators and, to varying degrees, game designers. It is not only texts and characters that have travelled between media; some literary genres and themes have also proved popular with adaptors including those working in the area of video game design. We can observe, for example, the establishment of vampire narratives, deserted island/sole survivor themes, sci-fi/horror genres focusing on animating soulless bodies and entities and genres focusing on quest and voyage adventures. Even given the high level of intertextuality and transmediality between literary texts and new media as each has come on stream, Carroll's texts have reigned supreme, having been adapted for every format almost from first publication and strongly encouraged by Carroll himself. In his extensive analysis of Carroll's influence and role in children's literature and across other media, Jan Susina (2011) offers a comprehensive overview of Carroll's role as 'savvy, entrepreneurial businessman and marketer of his children's books', and the first 'creator of the Alice industry' (61).

Carroll's efforts to capitalize on his literary creations took the form of numerous special editions, including a collector's edition of *Alice in Wonderland*, a picture book version for younger readers entitled *The Nursery "Alice"* (1890) and the adaptation to a variety of expressive forms and media available during the Victorian period such as dramas, operettas, songs and magic lantern slides. When not directly involved in the composition of transmedia adaptations, Carroll collaborated with various authors in order to extend the Alice image on different media. In 1870, he gave music composer William Boyd permission to write *The Songs from Alice's Adventures in Wonderland*, and the music experiment continued with *The Songs from Through the Looking Glass* (1872). Musical adaptations continued on stage in the form of Savile Clarke's operetta *Alice in Wonderland: A Musical Dream Play*, first staged in 1886. In 1893, *Alice* was adapted by the photographic company Primus to another form of entertainment popular during the Victorian period, the lantern slides, consisting of the projection on to a screen of colorful images recorded on a plate and accompanied by live commentaries. As Susina (2011) indicates, this 'prefigured early cinema' (66) and it can also be considered as a precursor to the aural/visual integration implemented in video game design. In short, Carroll contributed to and supported the creation of the *Alice* brand, encouraging not only the production of spin-offs, but also of theme-related objects and merchandise such as the *Alice's Wonderland Birthday Book*, produced by Stanely Leathes in 1884, or the Looking-Glass Biscuit Tin and the "Mad Tea Party" tablecloth, both produced in 1892

(Susina, 2011). Particularly in the light of his enthusiasm for photography, it seems likely that, had video games and cinematography been available at the time, Carroll would have been actively interested in using them to further explore the aesthetic potential of his literary creations on the new platforms, perhaps actively contributing to the scripts and building of game worlds as a number of authors have done such as Terry Pratchett with *Discworld Noir* (Perfect Entertainment, 2000). The *Alice* industry created by Carroll continued to thrive also after the author's death, with numerous adaptations and reiterations of *Alice* regularly appearing and travelling to virtually every media format available at any point in time (see Susina, 2011; Brooker, 2004; Sunshine, 2004 for a comprehensive list). Entering the video game realm for the first time in 1985 until the latest video game title, *Madness Returns* in 2011, it appears that 'Alice lives in the popular culture' (Hancher, 1991, 202), and it has outgrown its literary formats and represents one of the longest-lasting brand "supersystems" (Susina, 2011; 68).

Yet, the extensive commercialization of the *Alice* brand by the author as well as others, and its widespread presence across all media do not suffice in explaining why, among a large number of other popular literary texts, the *Alices* draw such attention of the game designers and maintain a close, intimate relationship with video games, for they are effectively their progenitors. At a practical level, and as will be demonstrated in more detail below, the distinctive properties of Carroll's texts and characters are themselves self-explanatory in their success and adaptability in the video game platform. For instance, the books are essentially episodic and the way Alice moves between episodes has much in common with the way players progress through different levels in video games. The several environments Alice encounters through her adventures constitute self-contained micro-world, spatially separated from one another and bearing distinct aesthetic properties and structures. In videogames, except for sandbox titles<sup>1</sup> designed around a quest-based rather than level-based concept, the division of the game world in separated stages or levels is the most conventional form of level and game world design. Structure-based similarities can also be observed from the broader perspective of the format. In the light of the first book's success, and as 'a way to expand the brand of the Alice franchise' (Susina, 2011; 75), the way the author composed *Through the Looking Glass*, initially entitled *Alice II* ' , responds to the same process through which virtually all successful games are followed by one or more sequels often bearing sequenced numbers (i.e. *Tomb Raider I, II, III* etc), and presenting the same themes and characters of the first installment and the introduction of new adventures. Indeed, Carroll's idea of sequentially numbered sequels will initiate what is now the established trend adopted in cinematography and video games.

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<sup>1</sup>In sandbox titles such as the *Grand Theft Auto* series (Rockstar, 2001-2013) elements such as free roaming of the game world and interactivity with it are maximized. While an overall narrative thread exists, this is structured through a nonlinear, rather than level-based, completion of secondary quests motivating players to further explore and interact with the game world.



## Carroll's Legacy in Game Design

The evidence of Carroll's influence on games can be identified, first, in the infancy of the medium: in the "ludic period" in which narrative and stories play a minimal role and action/puzzle gameplay represent the entire gaming experience<sup>1</sup>. Not surprisingly, then, the earliest direct adaptations of *Alice* privileged the ludic dimension of the texts, and could be considered as more of a collection of mini-games than plot-driven adventures. According to Susina, the story of *Alice* is 'episodic, and lacks a clear narrative structure, except when Alice falls asleep and then wakes at the conclusion' (2010, 164-65). The fragmented nature of *Alice* emerges as each chapter introduces a different setting with its own prominent characters (in games they often become known as "bosses") and situations/puzzles which are often unrelated to elements of previous or following chapters. Explanations are not always given regarding the nature and origin of the characters and their reasons for being in a particular context or why certain items suddenly appear with no explanation. These characteristics lend themselves to video games which are similar in terms of their episodic, level-based structure, puzzle-based gameplay and the incorporation of items whose purpose is not necessarily to maintain logical continuity in the story structure, but simply to enable players to reach the end of the level and remain engaged.

Found in the original texts, the minimal narrative line linking Alice's falling into and awakening from her dream can be seen as similar to the self-contained episodes and levels extensively tapped in games before the advent of the narrative-driven game design at the end of the last century. During the "narrative period", the storytelling dimension of the *Alice* books as well as Carroll's cast of characters, as discussed below, started to play a major role in game development. At this point, game designers' attention shifts towards narratives as a core element to give cohesiveness to the increasingly large and detailed three-dimensional virtual worlds and to provide motivation for players to navigate and interact with them. Not only have the ludic elements been preserved, but this narrative period also witnesses many who have rewritten and reinterpreted *Alice* in the video games they developed, such as American McGee: *American McGee's Alice* (EA, 2000) and *Madness Returns* (Spicy Horse, 2011), and the Japanese game *Alice in the Country of Hearts* (Quin Rose, 2007). As will be shown, that *Alice in Wonderland* displays characteristics of video games and that video games bear a strong resemblance to Carroll's text are not coincidental. I argue that the *Alice* books are proto-game texts which have contributed permanent elements to video game design at the levels of structure and narrative.

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<sup>1</sup>For example, early game titles such as Pac-man or Tetris. However, action-focused games reminiscent of the ludic period continue to be developed today.

### **Affirmation of the Puzzle Element**

A first influential factor towards game design is found in the structure and “puzzle solving” sequences present in Carroll’s classics and how these have contributed to some of the most traditional gameplay situations and recurring themes implemented in games. The influential elements in question involve finding the solution to puzzles and enigmatic situations, (finding and opening the door to the garden) and body alterations after the consumption of substances that appear in Carroll's text (i.e. cakes and drinks). These elements which lend themselves so readily to level design in games have, however, attracted the attention of literary critics and biographers for what they reveal about the texts and the author.

Several interpretations, for example, have been given to this specific hidden/locked doors scenario, sometimes influenced by the sexual symbolism of Freudian psychoanalytic approach. This approach was facilitated by the view of Alice’s journey to Wonderland as a dream, with all its elements therefore carrying symbolical references seen as the product of Alice’s, and thus the author’s subconscious. A. M. Goldschmidt (1933), for example, identifies the normal doors as representing adult women, 'disregarded by the dreamer [whose] interest is centered on the little door symbolizing the female child' (330). What can be deduced from Goldschmidt and other authors, following this line of analysis (see Schilder, 1938; Skinner, 1947; Grotjahn, 1947), is that Carroll’s interest in and love for children, his anxieties (displayed by Alice’s body alterations) and his sense of inadequacy among adults contribute to the creation of many of the elements that we see in the texts. Interestingly, it is these very elements -hidden locked doors and keys, enhancements and alterations of physical abilities, and more generally puzzle-based situations that have also become embedded and prominent in the fabric of video game design. The extent to which these elements were exploited in the design of video games soon after their first appearance identifies the *Alice* books as proto-game texts (i.e. the use of such elements in *Super Mario Bros*). Indeed, the reason why these elements have proved successful in video games is likely to be traced back to the author’s mathematical thinking and his love for puzzles and conundrums that led him to devise interesting story situations for what he called his “young friends,” in this case the daughters of Dean Liddell in Oxford. Martin Gardner (1996) notes how Carroll’s ‘strong sense of mathematical beauty became intertwined with a delight in play that found expression in a fondness for mathematical games, puzzles, logic paradoxes, magic tricks, riddles' (1). Rather than a projection of the author’s subconscious, the puzzle element, taking many forms and shapes, represented a conscious and carefully thought creation that spanned the author’s writing career and personal correspondence (Gardner, 1996). Examination of John Fisher (1975) and Edward Wakeling’s (1990, 1992, 1995) extensive overview and collection of Carroll’s puzzle games, and as set out in Gardner’s *Annotated Alice* (1999), illustrate how the “game” element is at the heart of Carroll’s production.

In Alice’s first adventure in Wonderland, her initial attempts to find a way

out increase the resemblance with the typical situation in a large number of games, particularly the way ‘she had been all the way down one side and up the other, trying every door’, and how ‘she walked sadly down the middle, wondering how she was ever to get out again’ (2007; 15). The experience of being trapped in an environment, separated from the outside, often by means of locked doors, combined with the necessity of finding a solution is a basic formula in game design and sets the theme for many titles (i.e. *Silent Hill* series, the *Resident Evil* series, Capcom 1996-2011, *Fatal Frame III – The Tormented*, Tecmo, 2005, to mention a few), especially those belonging to the survival horror genre. In this genre, largely inspired by horror fiction, players, with limited resources at their disposal in terms of weapons, ammunitions, health and physical abilities, endeavour to escape and “survive” overpowering enemies. At the same time, they must navigate maze-like environments, finding hidden keys and solving puzzles in order to enter rooms and locales previously inaccessible or open lockers and chests containing useful items. For example, in the first game of the *Resident Evil* series (Capcom 1996-2011) players initially find themselves in an abandoned mansion in the fictional Raccoon City. As players start to wander in the large, empty hall, they soon realize that most of the doors are inaccessible and that hidden keys or unseen doors need to be located in order to advance. In *Fatal Frame III – The Tormented* (Tecmo, 2005), a young Japanese woman, who survived her boyfriend’s death in a car accident, descends through a type of “rabbit hole” after falling asleep, landing in the empty hall of a Japanese house where all the doors to the various rooms are locked. Initially inaccessible environments, whether in the form of rooms or buildings (i.e. *Silent Hill* series), unreachable ledges (*Prince of Persia*) or scattered enigmas (*Myst* series), bear a striking resemblance to the opening sequences of Alice’s adventure.

### **Body Altering Substances**

We have, so far, discussed how the puzzle-solving atmosphere Carroll established at the beginning of his narration has been immensely adopted by video game designers. One further most evident plot devices involves the flexibility of the character to alter the physical size by consuming various substances. ‘What a curious feeling’, says Alice after drinking a mysterious bottle with a label “drink me”. As her body shrinks, Alice is now small enough to enter the tiny passage she has just discovered, but having left the key on the table she must experiment with the cake labeled “eat me”. She thought:

‘Well, I’ll eat it’, said Alice, ‘and if it makes me grow larger, I can reach the key; and if it makes me grow smaller, I can creep under the door; either way, I’ll get into the garden’ (19).

Similar situations and solutions are regularly and repeatedly provided for gamers as they deal with seemingly dead-end game scenarios. The presence of

food, drinks and/or other items bearing magical properties that alter the character's body and/or abilities is a fundamental component of the gameplay experience. By making it possible to change, players can then gain access to previously unreachable places and overcome challenges so as to advance to the next level. As in *Alice in Wonderland*, healing herbs, magical vegetables, or futuristic pro-biotics are scattered by designers throughout game worlds to help players progress in their quest. Appearing out of nowhere, the substances materialize at the moment of need by an unseen hand (Alice swore the cake was not there before), and contribute to players' feeling that no challenge is insurmountable. Nintendo's iconic character Mario is entirely based on this mechanic (food=ability); consuming mushrooms allows him to alter his size as well as jump higher, flowers give him fire-shooting abilities and honey gives him small bee-like wings. According to its designer Shigeru Miyamoto, the first *Mario* game consciously made extensive use of the body-altering processes as depicted in *Alice in Wonderland*. To take another example, Alice, as instructed by the Caterpillar, needs to eat one side of the mushroom to grow larger and advance in her quest; Mario, too, needs a mushroom to grow larger to reach previously unreachable platforms. That the paradigmatic series of *Mario* games so deliberately and repeatedly draws on and references the *Alice* books is further evidence that Carroll's texts can be regarded by designers as proto-games.

Furthermore, Alice decides to grab a handful of each side of the mushroom to carry with her and eat the appropriate side according to the situation. Likewise, Role Playing games for example, rely heavily on players' ability to collect and store a large variety of foods, herbs and drinks to use when the circumstances may require it. For instance, eating the "Echo Grass" cures the "Silence Spell" in the *Final Fantasy* series (Squaresoft 1987-2012), and royal omelets can temporarily increase the characters' health and strength. From First Person Shooters to Action Adventure Games, body-altering foods continue to be deeply ingrained in gameplay design. In the dystopian reality depicted in the recent first person adventure *Deus Ex: Human Revolution* (Eidos, 2011) cyberboost pro-energy bars enhance the sensorial abilities of the main protagonist. Overall, the crucial role played by Carroll's stories and their influence in video game design become evident when examining the list of games exploiting this device abounds along with the traditional puzzle solving components discussed earlier. It is a testimony that elements present in children's literature to appeal to young readers also represent fundamental structures in video games to appeal to young (and adult) players.

The examples discussed above have demonstrated how the conventional structure and gameplay mechanics contributing to the success of many game titles owe part of their origins to Carroll's imaginary for mathematical and puzzle games injected in his world of *Wonderland*. In 1983, approximately one decade after the birth of videogames as a commercial success, the game industry was witnessing its second decline (the first being in 1977) due to a general loss of public interest in games and game consoles. Poor quality versions of successful arcade titles such as *Pac-Man* (Namco, 1980) were

bringing disappointment among players and a sharp decline in sales from console manufacturers followed, causing many game developers to dismantle. Videogames were facing a crisis once again, and people ‘began to believe it was all a fad and lost confidence in the industry’ (Rabin, 2010; 9). Nevertheless, with the release of Nintendo’s first console in 1985, the NES, outside of Japan, Shigeru Miyamoto’s creation of *Super Mario Bros.* was the answer to breathe new life into the medium at the time of crisis. It essentially restarted the industry and its long line of growth and development that will continue to the present time by providing a novel, challenging and entertaining gameplay experience for players and constituting a landmark in game design for developers. The game world and level structure of *Super Mario Bros.* with its rules and mechanics discussed earlier, were the result and manifestation of Carroll’s influence towards Miyamoto’s ideas.

## Conclusion

Similarly to all modes of expression and representation, the design of characters, game-world settings, stories and gameplay mechanics in video games is often inspired and influenced by several sources. If today many techniques regarding visuals and adventure-based plots seem to remediate those established in cinema, it is looking back in time at titles such as *Super Mario Bros.* when we are able to witness the appearance of what would become fundamental gameplay elements. This study has attempted to trace a direct line of influence between conventional gameplay mechanics and level design with the structure of the world of Wonderland depicted by Carroll and the adventures met by Alice during her journey. By directly influencing *Super Mario Bros.*, Carroll’s works have injected permanent elements in game design in general, and are therefore to be considered as proto- game texts.

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