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Abstract

The original *Adventure by Crowther and Woods (1977)* has an important place in computer game history. It is not only considered the first adventure game but also the ancestor of interactive fiction, point-and-click games, action adventures, and even massively multiplayer online role-playing games. Adventure often defined in terms of categories that did not exist at the time of its making. The concept of video games as the cultural institution we know today was alien to its authors. This article reframes *Adventure* in its historical context. If it is not yet an adventure game, what is it? The proposed methodology is inspired by the work of early cinema historians and consists of identifying the cultural practices within which an early piece was developed. *Adventure* is analyzed as a program, a hack, fantasy role-playing, a cave survey, and a game. This approach delivers a new perspective on *Adventure*, freed to some degree of teleological preconceptions.

Keywords

computer games, adventure games, history, adventure, interactive fiction, Crowther, Woods, video games

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Introduction

The original *Adventure*, the text-only game by William Crowther and Don Woods (1977), certainly has not been overlooked by the various historical accounts of the video game phenomenon. *Adventure* might be one of the most important “firsts” of this young medium. It is obviously the first adventure game, a label which originally meant that a game was similar to the original *Adventure*. Accordingly, it is also considered the ancestor of the genre’s multiple subsequent variations: interactive fiction (Montfort, 2003), graphic adventures, or “point-and-click” games (Fernández-Vara, 2009).

Adventure has also inspired adaptations that have founded parallel genres of their own. The creator of Atari’s *Adventure* (1979), Warren Robinett, adapted the concept to the 2,600 home video game console. To achieve this, many changes had to be made to the game’s structure, bringing into existence an original form of gameplay. This new kind of game was successful and its numerous imitations would eventually constitute the autonomous genre of “action-adventure” games. Massively multi-player online role-playing games (MMORPGS) can also be traced back to *Adventure* via what is generally considered its first occurrence: *Multi-User Dungeon* (MUD: Trubshaw, 1978), a multiplayer adventure game inspired by *Zork* (Anderson, Blank, Daniels, & Lebling, 1979), one of the earliest (and most famous) “adventure-type” game.¹

Not only is *Adventure* at the origin of video game genre genealogies, it can also be considered the birthplace of very important video game paradigms. For Wolf (2007), all games relying on nontrivial exploration of space can be traced back to the original *Adventure*. For Juul, it is through the adventure game genre that “games of progression” were introduced to computer games (2005, p. 3). These include all games in which the player must face a series of predefined challenges in order to reach an eventual conclusion. By contrast, “games of emergence” are based on a simple structure of rules allowing infinite possibilities for gameplay situations (e.g., chess or sports).

Although these perspectives on *Adventure* give much credit to its originality and historical importance, they are more concerned with contemporary arguments on video gaming than with Crowther and Woods’s historical piece of software as is. *Adventure* is often apprehended in terms of subsequent events, positioned as the origin of a teleological chain leading to modern-day objects and issues. Of course, neither William Crowther nor Don Woods had ever heard of an adventure game, not to mention action-adventures or MMORPGS. In other words, considering *Adventure* as an adventure game is somewhat anachronistic. The mere concept of “video games” as the cultural category we know today was alien to these programmers. If we strive to better understand what *Adventure* actually was in 1976 and 1977, rather than what it represents for the history of video gaming in general, we need to find alternative ways to approach it.

Lessons From the History of Early Cinema

Historians of early cinema have had to tackle similar problems: If the films of the Lumière brothers, Edison or Méliès cannot be considered “Cinema,” a cultural institution that would emerge long after the films themselves, then what exactly are they? From what perspective are these cultural objects to be considered? A traditional approach consists of speaking of a “primitive cinema” bound to grow eventually into its full-fledged form. Early cinema history is written as a “coming of age” constituted of a series of “firsts”: first expressive editing, first nonlinear narration, and so on. Rather than seeing contemporary cinema as the product of a historical process, the biological metaphor implies a cinematographic “essence”—a natural and inevitable evolution of the invention of the cinematograph. According to André Gaudreault, cinema (or any medium) should be considered at any point in time as a set of concurrent practices that are not striving toward the actualization of a unique model (2008, p. 44). The chain of important “firsts” that have led to contemporary cinema is not uninteresting or trivial, but it can blind us from those objects, practices, and events that have had no obvious enduring influence and yet were very important in their own time.

The teleological approach is also somewhat unfair to early films and cinematographers who often end up being defined by their shortcomings in terms of an aesthetic canon that would be instituted much later. According to Gaudreault, it is more fruitful to analyze early films according to what they were actually striving to be rather than to what they were not. He argues, for example, that to consider Méliès’s work as tentative cinema is to miss the point altogether. Méliès was not failing as a cinema director; he was succeeding as a talented and innovative vaudeville artist and promoter, using new technology to improve his act (Gaudreault 2008, p. 115). Because of his exclusive use of static shots, Méliès has sometimes been criticized for his lack of vision as to the creative possibilities of the camera. It could also be argued that this was not a shortcoming—Méliès was certainly aware that camera movements were possible—but a conscious decision made according to different criteria than those of contemporary cinematography. For him, moving the camera would have ruined the intended effect. In his vaudeville mind-set, he wished the public to forget the apparatus and believe that what was projected was a truthful recording of something that had happened (or even was happening) on stage. A moving camera would not have failed to remind everyone of its mediating presence. On the other hand, Méliès is often lauded for his early use of cross-fading between scenes. Although the achievement is not unworthy, it is also coherent with Méliès’s trade. Cross-fading was a technique common in magic lantern shows, a type of entertainment familiar to the early filmmaker.

Cultural Series

As André Gaudreault phrases it, “[...] the cinematograph has not only been ‘influenced’ by other media and cultural spaces that were fashionable at the turn of the

XXth century, it actually *was* vaudeville, magic lantern show, magic act, [etc.]” (2008, p. 113).² He suggests framing the production of early films according to what he calls the “cultural series” in which they were produced: the practices familiar to the filmmakers, which they hoped to augment and extend by the use of the cinematograph. Gaudreault regards cultural series as a voluntarily constructivist concept allowing the researcher to constitute an observable historical set from various cultural phenomena linked by arbitrarily chosen common factors pertinent to the study at hand. One could construct the cultural series of “moving images on screen” in order to include in a comparative corpus not only cinema, but also cartoons, magic lantern shows, and shadow theater. By consciously creating these series, one can avoid unnecessary arguments over the fuzzy and disputable boundaries of media, genres, arts, and trades.

Our aim here is to take a fresh and contextualized look at the original *Adventure*, one that is as free as can be from the knowledge of subsequent developments. Although historical objectivity is always to some degree an idealistic illusion, our practical approach here will be to see what we can learn from apprehending *Adventure* without referring to the anachronistic categories of adventure and video games. The question is, then, in which cultural series can we frame Crowther and Woods’s work? Rather than a primitive or incomplete form of adventure game, perhaps we can consider it an accomplished and innovative . . . something. In the following sections, we will see what we can learn from seeing *Adventure* as the computerized extension of a specific mesh of cultural series familiar to William Crowther and Don Woods.

First, credit should be given to work that has already been done to situate *Adventure* within artistic traditions other than computer games. Beginning with Mary Ann Buckles’s early 1985 thesis on *Adventure*, there have been various efforts to promote text-adventures (or interactive fiction) as being part of the general history of world literature. For Buckles, *Adventure* is the “first work of a literary mode in its infancy” (1985, p. 65) that can be linked to novels of chivalry, detective stories, traditional folk tales, and different forms of playful literature. Montfort (2003) builds upon this last aspect and convincingly demonstrates text-adventure games’ close relationship to the literary tradition of riddles in the way they are designed and experienced. *Adventure* and subsequent interactive fiction works have also been situated in the cultural series of “cybertexts” (Aarseth, 1997) or “literary machines” (Montfort, 2003). Although not completely equivalent, both terms refer to devices (either physical or purely textual) able to generate multiple texts from the application of sets of rules or the work of a mechanism.

These literary perspectives provide interesting insights on the workings of *Adventure*. They have also served the purpose of legitimizing the study of adventure games by relating them to established art forms and literary genres. Although these series allow fruitful formal comparisons between objects dispersed in time and space, they do not reveal much about the specific historical contexts of each individual item. If *Adventure* can be argued to be a literary machine, it would be difficult to

defend the idea that Crowther and Woods had the *I-Ching* or Oulipo in mind when working on it. In this analysis, we will limit our scope to the time and place of *Adventure's* conception and the observable conditions of its making.

Introducing *Adventure*

Although we often speak of *Adventure* by Woods and Crowther, the game is not so much a collaborative work as a sequential one. According to Jerz (2007), William Crowther worked on the first version of the game over 1975 and 1976 when he was working for BBN in Cambridge.³ The game was later discovered by Don Woods, a student at Stanford's Artificial Intelligence Laboratory in Palo Alto. He managed to get in contact with Crowther and asked him for the source code. He added some new features to the game and extended it significantly before releasing it again freely in 1977. This second version became immensely popular and quickly found its way to almost every computer in the country.

What was this game that became so popular that, according to myth, it slowed all computer research in the country for 2 weeks as everyone was trying to solve it? The player first encountering this software on a computer screen or printer would read:

You are standing at the end of a road before a small brick building. Around you is a forest. A small stream flows out of the building and down a gully. (*Adventure*, 1977)

He would then enter a two-word textual command in order to instruct the software as to his intended actions: "GO BUILDING." In response, the program would describe the consequences of his actions (often, a change of location): "YOU ARE INSIDE A BUILDING, A WELL HOUSE FOR A LARGE SPRING." This input-feedback loop would continue, constituting a conversation of sorts, by proxy of which the player could experience a simulated fantasy world. In this world (mainly a cave), he would be expected to try not to get lost, discover treasures, solve problems, fight off dwarves, and eventually earn all the possible points awarded for significant actions.

For a long time, Crowther's version of *Adventure* was completely lost. One could only guess at the exact contribution of the two authors. It was generally believed that Crowther's program was a textual cave simulation on the basis of which Woods made a "real" adventure game by adding a fantasy theme, treasures to find and puzzles to solve. Thanks to Jerz's (2007) recent exercise in software archaeology, we now have access to the original 1976 version. The comparison of both pieces of software gives a more nuanced picture. In the pages to come, we will refer to either Crowther's or Woods's version. The distinction is important here, as although both authors have many things in common, they are not working entirely in the same cultural series, and, therefore, their inputs are not to be considered in the same light.

A Computer Program

As the computer has become such a ubiquitous tool in our lives, it is easy to forget that the foundation of all software is code. It seems perfectly natural that a computer can and will do anything given that one can find the right “app” for the task. Games are no exception. We are so used to considering the computer as a common platform for games that it is easy to overlook the fact that computer games are not only games, but, first and foremost, software. That *Adventure* should first be considered in the cultural series of computer programming is made even more obvious when we take into account the fact that William Crowther was a professional programmer (considered one of the best) and that he wrote every single line of code in the game.

Although we can retrospectively consider Crowther a game designer, it probably would not have made much sense to him to distinguish the game designing and the programming itself. Until the mid-1990s, specialized computer gaming magazines often referred to computer games as “programs.” It is reasonable to assume that when Crowther first assessed the task of writing *Adventure*, software design and development issues were among his main concerns.

To understand Crowther’s decisions in these terms, we need to know what his objectives and constraints were. We know that he aimed to write a program that would be interesting and accessible to his young daughters, both less than 10 years old (Jerz, 2007), so that he could spend some time with them and share his interest in computers. His intended medium was a teletype⁴ he had set up in his house with which he could access his office’s PDP-10 computer. The task was no easy one. In 1975, computers were rare high-tech tools, and one required specialized knowledge to operate them. They were alien and off-putting for most adults, not to mention young children. To make matters worse, Crowther’s intent to use the teletype prohibited any ambition to facilitate access through a graphical or menu-based interface.

It was while dealing with these heavy constraints that Crowther came up with a very elegant solution, one of the most brilliant aspects of *Adventure*: an interface mimicking a natural-language conversation. The program would understand simple English commands that even children could come up with and respond in the same way. The whole process could easily be mediated by the teletype, as it, in fact, reproduces (in an accessible manner) the command-line interface so common at the time for which the instrument was designed.

In future years, the textual nature of the adventure-type game would be one of its key features. This aspect allowed comparisons with literature from which the genre would gain credibility opposite arcade and home video games. It is no wonder that text-adventure game developers and fans would eventually prefer the label “interactive fiction,” a term emphasizing these games’ intellectual nature. Even graphical adventures would long keep the natural-language interface figure at the core of their structure. Dropping the actual typing, “point-and-click” games streamlined the command process by allowing the player to compose sentences by clicking on verbs (or verb icons) and game objects (Fernández-Vara, 2008).

Was it Crowther's design ambition to create a slow-paced, literary-orientated, intellectual type of game? It seems impossible to answer this question when considering *Adventure* solely as an effort of software development with specific constraints. As far as we know, the choice of a textual, turn-based interface was unavoidable in the circumstances. Perhaps if he had had access to a terminal with a monitor in his home, he would have preferred developing a real-time graphical game. What we can say is that Crowther's brilliant software design solution would become a long-enduring human-computer interaction figure that would help introduce many nontechnical people to the realm of computing in a pleasant, relaxed manner.⁵

A Hack

In the context of the programming culture of the late 70s, Crowther's *Adventure* would not only have been considered in the line of professional software development but, most certainly, as a "hack." Although hacking has come to be associated almost exclusively with software piracy and security breaching, such was not the case at the time. A hack, a term inherited from MIT student culture, was a technical feat realized for the sole pleasure of accomplishment (and eventual bragging rights) among people who considered programming and engineering as arts. A good hack demonstrated virtuosity, genius, and elegance by making a machine do something no one thought possible (Levy, 2001, p. 23).

Considering *Adventure* in the cultural series of hacking allows a better understanding of Crowther's attitude toward his project. For him, the game was not only a programming task; it was a programming challenge. One of his colleagues reports that although people enjoyed playing with his program, exploring the cave and finding treasures, Crowther's main satisfaction came from fooling people into thinking his simple FORTRAN program was intelligent enough to understand and speak English⁶ (Jerz, 2007). Of course, *Adventure*'s seeming "intelligence" was only the results of Crowther's clever programming tricks.

Crowther did not have any other ambition for *Adventure* than to share it freely with his daughters and the computer community. Once he had overcome the challenge, he lost interest in it. One should not be surprised that Crowther did not see his invention's commercial potential. This was not a "serious" endeavor. It was a side project for fun and demonstrating prowess. Consistent with the hacker ethic of information sharing and the right to build upon the work of others (Levy, 2001, pp. 39–49), he did not hesitate to answer Don Woods's request for the source code.

Don Woods was also a hacker. He was even an important contributor to the "Jargon File," a glossary of hacker slang. His attitude toward *Adventure* was very similar to Crowther's. He made the game freely available, so that anyone could play it and discover his personal additions. He even went a step further, inscribing certain aspects of hacker culture in *Adventure*'s content—more specifically, hacker humor. This is made obvious by his inclusion of meta-commentaries attracting attention to

the game as being a computer game (breaching any suspension of disbelief) and to its specific interaction mechanisms. A well-known example is the sleeping dragon puzzle, which is solved in this way:

PLAYER: kill dragon

COMPUTER: With what? Your bare hands?

PLAYER: yes

COMPUTER: Congratulations! You have just vanquished the dragon with your bare hands! (Unbelievable, isn't it?) (*Adventure*, 1977)

In this segment, the game plays on the fact that the response “with what? Your bare hands?” is the same as the one given to the player when he attempts to kill the dwarves empty handed. This reply implies that an object is needed to complete the action (e.g., the axe). In the case of the dragon, the game breaks from convention, demanding that the reply be read literally and allowing the player to accomplish a task that would be impossible in the game’s diegesis.

The “hacker humor” entry in the contemporary *Jargon File* speaks of “[f]ascination with form-vs.-content jokes, paradoxes, and humor having to do with confusion of metalevels.” The end of Woods’s version of *Adventure* is one large metalepsis (Montfort, 2003, p. 90). When he has acquired enough points, the player discovers a special secret room: “[y]ou are at the northeast end of an immense room[.] It appears to be a repository for the ‘ADVENTURE’ program” (*Adventure*, 1977). This room contains uninitialized versions of all the game’s objects, ready to replace the ones the player took or used: a nursery of beanstalks, sleeping dwarves, a bed of oysters, a collection of brass lanterns, and so on. Auto-referential humor and breaches in the different levels of fiction would be very common features in all types of adventure games to come.

Fantasy Role-Playing

Meanwhile, we had been playing *Dragons & Dungeons* game. You know these role model, role playing games at the Dave Walden’s house, and so I thought, “Gee, I’d make a computer version of the *Dragons & Dungeons* game,” and that turned out to be *Adventure*. (Crowther, 1994)

Crowther’s design starting point for *Adventure* is clearly stated in this quote from a 1994 interview; he wanted to adapt *Dungeons & Dragons* for the computer. Taking another look at *Adventure* as situated in continuity with live table-top fantasy role-playing sessions gives us a new perspective on some of its features.⁷

Crowther’s intention to create a simulation of *D&D* forces us to reconsider *Adventure*’s textual interface. Software design constraints are probably not the only

factor to take into account. *Adventure*'s "voice," the English-speaking proxy between the player and the virtual world, certainly bears a great resemblance to a *D&D* dungeon master (DM) or referee. In the same fashion, a DM describes the status of the fantasy world to the players, listens to player commands (generally given in natural language), and details the effect of their actions. The whole process takes the form of a step by step, language-based (albeit verbal rather than textual) conversation.

Interestingly enough, Eric Roberts, the referee of the game sessions which Crowther attended, wrote a manual detailing the *D&D* variant he had designed for his players: *The Mirkwood Tales* (1977). This document contains the transcript of a typical session, which can be compared to an *Adventure* printout:

REFEREE: The passage continues west.

FARIN: We'll follow it.

REFEREE: After walking about twenty more feet, you notice that there is a corridor off to the north some twenty feet ahead of you, although the main passage continues west.

FARIN: We go up to the intersection and carefully look into the northern corridor. What do we see? (Roberts, 1977, pp. 9–10)

PLAYER: look

COMPUTER: You are crawling over cobbles in a low passage. There is a dim light at the east end of the passage.

PLAYER: go west

COMPUTER: You are in a debris room, filled with stuff washed in from the surface. A low wide passage with cobbles becomes plugged with mud and debris here, but an awkward canyon leads upward and west. (*Adventure*, 1976)

As it appears, *Adventure*'s textual interface is at the same time a manifestation of command-line computing and a typical (if somewhat rudimentary) *D&D* conversation.

Many other aspects of *Adventure* can be understood in light of the *Mirkwood Tales* (and early fantasy role-playing in general). Although there are other reasons to explain *Adventure*'s mainly underground setting (more on that later), it is also coherent with the tabletop adventures Crowther had experienced. Roberts writes: "[m]ost of the action of the *Mirkwood Tales* occurs in underground caverns" (Roberts, 1977, p. 19). He explains that this type of setting is much easier to manage in detail (in comparison to open territories). *Adventure* also reproduces common figures of role-playing that do not fit the "simple cave simulation" description: item-based puzzles (you need the cage to capture the bird), monsters (fiendish dwarves), and the presence of magic (teleporting spells).

The role-playing connection is not only interesting in terms of continuity but also of divergence. Strangely enough, Crowther left out of his adaptation what would constitute the core of computer role-playing games (CRPGS): statistic-based character representation and combat. We have to consider this omission as a design choice, for this aspect of *D&D* is certainly the best suited to computers and would have been very easy for Crowther to implement. In *Adventure*, combat is simply a matter of having the right tool (the axe) and luck (victory is seemingly random). Although we will probably never know why Crowther did not deem it important to further develop combat mechanics, his imitators would follow his lead in this direction. Violent encounters would always play a very marginal role in adventure games and would generally be treated as any other puzzle. *Adventure* defines a type of fantasy role-playing emphasizing exploration and problem-solving over fighting.

At first glance, *Adventure*'s computerized adaptation of *D&D* does not seem to offer much improvement over the original. The program certainly does not offer the freedom and fluidity of interaction with a human DM. Its understanding of English is, at best, rudimentary, and it can only allow actions which have been foreseen by the programmer. Yet, it does offer a unique and significant advantage: It can be played alone. *D&D* strongly depends on finding a pleasant group of players, a talented DM and a long period of common free time. *Adventure* frees the player from all these constraints.

A Cave Map

The cave map is perhaps the most surprising and yet determining cultural series in which *Adventure* can be situated. Before his divorce, Crowther had done some caving as a hobby with his wife. He had also used the BBN computer to plot the data recorded from a survey of sections of Kentucky's Mammoth Cave in which his wife had participated. It is a well-known fact that *Adventure*'s virtual geography was inspired by this specific underground network. In 2007, Jerz proved that *Adventure* went beyond mere resemblance and could almost be considered an accurate model of the Mammoth Cave.

What was not given much attention in this matter is that Crowther did not only import the actual geography of a specific cave into *Adventure* but also the whole cave surveying and mapping mind-set. Space in *Adventure* is modeled in a very peculiar way. It is structured as a network of discrete, arbitrarily interconnected nodes. The player does not explore its space in a continuous fashion; he is, rather, teleported from point to point. These points are related to each other according to cardinal directions: The "nugget room" is to the south of the "hall of mists." This treatment of spatial relationships is very similar to the way caves are surveyed and mapped: as a list of points (stations) situated with respect to one another according to relative distance and orientation. This method of plotting space allows for a manageable data set of interesting locations, discounting tedious intermediary

spaces. As it turned out, point-to-point navigation proved perfectly compatible with command-line interfacing and conversational role-playing.

Space segmented into “rooms” (a term inherited from *Adventure*’s speleological setting) has persisted as a structuring element of the great majority of adventure games to this day. Even graphical adventures would disdain continuous navigation in favor of cinematographic ellipses between static scenes (the character exits the screen to the right and appears on the left of another screen). Adventure games’ focus on slow-paced problem solving gives very little importance to the actual maneuvering of the avatar, therefore rendering intermediary spaces useless. Real-time action-adventure games, on the other hand, are all about the moving around *between* significant places. Their challenge resides in testing the player’s ability to reach the next point by deftly jumping around, shooting things, and avoiding obstacles.

Adventure’s specific way of representing space would also institute the principal form of progression in these types of games: discovering and unlocking new “rooms.” Although Crowther’s version contains very few puzzles in comparison to its successors, they are all geared toward making new locations available; scaring the snake allows the player to move beyond his room and waving the rod (magic wand) creates a bridge across a chasm. Although Crowther was used to mapping real locations, he quickly discovered that his system allowed for physically unrealistic spatial networks. He inaugurated the infamous maze figure of adventure games made up of often non-Euclidian spatial relationships (leaving from the east end of a room only to reenter it). He also implemented teleportation with the use of magic words (the famous XYZZY). In a virtual world, there are no restrictions as to the number and nature of links between spatial nodes. Although rooted in caving, *Adventure*’s peculiar take on space would provide a great deal of freedom and flexibility to future designers in modeling any type of setting. Being unaccountable to specific relationships between places, designers would be able to construct complex itineraries based on ellipses, similar to how one might construct a novel or film.

A Game

Ironically, the first adventure game can hardly be described as a game, strictly speaking. Although ludic in nature, Crowther’s *Adventure* contains no stated objective, no way to measure performance, and not even an end state. At best, it could be considered a sandbox game, allowing for playful exploration and tinkering. For some reason, Crowther never pushed his adaptation of *D&D* to the extent of defining a quest at which one could succeed or fail. We owe to Don Woods the insight that this original software infrastructure had strong potential to be a game.

It is difficult to divine Woods’s precise inspiration in terms of games when he was working on his expansion of *Adventure*. What we do know is that he had never played *D&D* (Cordella, 2001), which explains why we do not find in his game the usual fantasy role-playing rewards of experience points, leveling up, equipment

upgrades, and magical items. The main ludic figures he would develop in *Adventure* are treasure-hunting, points, puzzles, and mazes.

Crowther's version already had a set of treasures to be found: a gold nugget, diamonds, bars of silver, jewelry, and a pile of silver. Woods expanded this list significantly by adding (among others): an emerald, a Persian rug, a Ming vase, a gold chain, a pyramid, a pearl, spices, and a golden egg. We can see that his conception of treasure is neither bound to what one could normally find in a cave nor to traditional heroic fantasy objects. He also samples from historical valuables (spices) and folktale items (golden egg). In Woods's version, finding the treasures is not enough. The player also needs to find a way to bring them back to the building to "get full credit" (*Adventure*, 1977). In this respect, *Adventure* is more than anything else a treasure hunt.

In Woods's *Adventure*, gathering treasure is also a means to earn points. In this version, almost every possible action is rewarded and the player is encouraged to find the way to gather all possible points. In the newly added "INFO" section, motivation is given by setting up a distinction between beginners and master players. At the end of a game session, the "adventurer" is ranked according to his points as amateur, novice, seasoned, junior, master (A, B, or C), or grandmaster. Points would also be an important and enduring feature of adventure games. They are a convenient way of giving players some information as to the length of the game and feedback on progress and performance. They also act as a motivation to replay the game, since one can finish with only a partial score.

In their quest to gather treasures and points, players of *Adventure* face two main types of challenges: the exhaustive exploration of the territory and puzzle solving. Both aspects were already present in Crowther's version, but Don Woods's expansion brought them to a new level. First, Don Woods built on the idea of confusing mazes made of similarly described rooms interconnected in unpredictable ways: the famous "maze of twisty little passages, all alike" (*Adventure*, 1975). He expanded this original maze and designed another one: the "maze of twisty little passages, all different." He also made their exploration necessary by hiding important items in them. The player must carefully map out the cave to avoid getting lost and ensure he does not miss anything. This is particularly difficult in the mazes where one must drop objects along the way to differentiate the rooms (in the manner of Hop-o'-My-Thumb). To make matters worse, the lamp eventually dies out, leaving the player with a limited number of actions before he will go blind and fall into a pit. The exasperating maze figure of *Adventure* would become a hallmark of early adventure games. In 1981, Roberta Williams—the famous adventure game designer—could still write: "[o]ne of the most common and perturbing puzzles in adventure games, is the inevitable maze" (p. 7). Later developments would prove that far from being inevitable, mazes were actually more of an *Adventure* meme serving the purpose of bloating play-time.

Don Woods also hindered the acquisition of treasures and points with puzzles (or problems to solve): getting rid of dangerous creatures, accessing previously

unavailable rooms, and successfully stashing treasure. These problems are usually solved by specific use of items: You feed the bear food, water a plant to turn it into a giant, climbable beanstalk, and drop the rug before the vase in the building so that it does not break. If mazes eventually disappeared from the genre, puzzle solving and space exploration would remain central.

It is not entirely true that Crowther's version did not include an end-of-game state: One could die by falling into a pit or getting killed by a dwarf. What was lacking (in terms of it being a game) was a *positive* end-of-game state. As long as the user could avoid death, the simulation would go on endlessly. Don Woods prepared a special ending in his version for the players who managed to gather all the available points: They were granted access to the hitherto unavailable "master section" where they could gather more points and witness the closing of the cave. The game being extremely difficult (especially by today's standards), experiencing this special scripted event is truly satisfying and communicates the most desirable end-of-game state: definitive victory.

It is interesting to see that by going along the lines of game design, Woods actually took *Adventure* in a very different direction from the contemplative pleasures of cave exploration and the thrills of free improvisation specific to *D&D*. In a game, player performance can be judged, and everything is given objective value.

A Story?

As we have noted a few times, adventure games have often been linked to literature and storytelling. Are text adventures not called interactive fiction? Mary Ann Buckles, for instance, speaks of the "storygame" *Adventure* (1985), while Espen Aarseth calls it a "story-game hybrid" (2004, p. 51). In her PhD thesis on adventure games, Clara Fernández-Vara refers to story-driven games (2009, p. 13). Contemporary adventure games are undoubtedly associated with the stories they tell, but what of *Adventure*? Was this defining aspect of modern-day adventure games already present in the seminal program?

If we look for a story in *Adventure*, we will find one: the story of X who went into a cave, solved some problems, fought some dwarves, found some treasure, and brought it back in a well house. As the player tinkers with the program, the output of his conversation with the interface constitutes the textual narrative of this long and repetitive story. It is in this respect that *Adventure* can be considered a literary machine: It can generate variable narratives on the basis of its interaction with the player. But when contemporary analysts think of stories in adventure games, this is not the type of story they are referring to. They are thinking of what Salen and Zimmerman call "embedded narrative": "pre-generated content that exists prior to a player's interaction with the game" (2003, p. 383). In modern adventure games, this content is delivered as a series of prewritten events triggered here and there by the player that, together, constitute the outline of a plot. Fernández-Vara also refers to embedded stories in adventure games. She speaks of an "ideal walkthrough":

“[t]he player is usually expected to traverse the game following specific steps [. . .] so that a concrete state of affairs is reached and the story unfolds along with the gameplay” (2009, p. 15). Although there are a few scripted events in *Adventure*, they can be experienced in almost any order and do not contribute much to the unraveling of a structured plot. There is no context, no motives, no characterization, and no dialogue. The type of story found in *Adventure* is in fact closer to what can be found in other themed games. Does *Monopoly* tell a story? Does playing it generate a narrative? In a way, yes: the story of these random manufactured objects who buy and exploit real estate until all but one go bankrupt. As a basis for comparison, the modern adventure game *Gabriel Knight: Sins of the Fathers* (Sierra, 1993) enables the player to progressively unravel the mystery of a voodoo cult in New Orleans leading to the discovery of the protagonist’s German roots and mystical heritage as hunter of shadows. In *Adventure* and *Monopoly*, the narrative is almost entirely *constituted* of the actions of the players, in *Gabriel Knight* (and other modern adventure games), a mostly prewritten story is *revealed* by the actions of the players.

It is clear that, for Don Woods, *Adventure* was not about structured storytelling. When asked in 2001 if he would be interested in working on other adventure games, he answered: “[n]o. The genre has moved beyond what I’m willing to produce. Adventure games now have complex plots, stories, and mysteries. I’m good at coming up with puzzles, but uniting them all into a single story is not something I’m good at” (Cordella, 2001). This quote also confirms that the accent on storytelling is a historical evolution of the genre. Detailing the moment and circumstances of this “narrative turn” of adventure games certainly constitutes a worthwhile matter for further research.

Conclusion

In the end, what is *Adventure*? We can now say that it is:

- Software that makes command-line computing accessible via the use of natural-language input and output.
- A playful and self-aware hack, challenging for both its creator and its public.
- A computerized adaptation of conversational fantasy role-playing allowing for a *D&D* session without the need for a human DM or friends.
- The experience of a virtual territory mapped as a network of interconnected points of interest.
- A challenging treasure hunt rewarding exploration and problem solving with points.

We can also say what it is not, or not as much as we thought. Previous accounts have often focused on the many aspects of modern computer games already present (if only in seminal form) in the original *Adventure*. Although they are not wrong, the process of ancestor-finding can sometimes lead to a minimization of differences.

Embedded narratives are a defining feature of modern adventure games and it is tempting to see them already existent in the original one. By shifting our perspective away from adventure games, we were able to see how marginal this aspect actually is in *Adventure*. What we can see, though, is that the game's structure had all the *potential* to harbor embedded narratives. Although neither Crowther nor Woods pushed in this direction, others would soon see this.

Looking back at the reviewed cultural series, it is interesting to discover that no single influence or line of practice can fully explain *Adventure*'s specific form. Being neither fully a cave simulation, nor an adaptation of *D&D*, nor a hack, nor even a game, it appears at the crossroad of many existing traditions. William Crowther was not only a brilliant programmer, he was also in a privileged position to think along the lines of a unique set of cultural series (some of them quite avant-garde): programming, hacking, fantasy role-playing, cave mapping and, to a lesser degree, game designing. His endeavors would bring into existence a new type of software-game hybrid that would soon prove its appeal. As imitators reproduced this form, mainly in reference to the original, adventure-type games would soon lose their dependence on other traditions and form an autonomous and recognizable cultural series able to inspire other innovations.

Although most subsequent adventure game developers knew nothing of cave mapping or even teletypes, they have continued to reproduce the ludic structures that have arisen from these initial traditions: natural language interface, the simulation of a fantasy virtual world by proxy of conversation, slow-paced problem solving, segmentation of space in arbitrarily interconnected rooms, and progression based on the unlocking of new connections between spatial nodes. They have also brought other influences into the genre from their own backgrounds or line of practice, such as fiction writing, cinema, or even home console video game playing. To write the whole history of the genre, one should track these later inputs and try to understand the context and circumstances in which they have exerted influence.

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Notes

1. *Zork* was also known as *Dungeon*, the name of its widespread FORTRAN adaptation.
2. Free translation of: “[...] *le cinématographe a non seulement subi les « influences » des autres médias ou espaces culturels qui étaient en vogue au tournant du XXème siècle, mais il fut à la fois numéro de vaudeville, spectacle de lanterne magique, numéro de magie, spectacle de féerie ou spectacle de café concert.*”

3. Bolt, Benarek, and Newman: a high-tech firm within which Crowther worked on the development of the ARPAnet.
4. Probably a Texas Instrument Silent Writer 700, according to Bernie Cosell, one of Crowther's ex-colleagues (2010).
5. Crowther did not actually invent natural-language interfaces. *Adventure* is often compared to ELIZA, the artificial psychoanalyst developed in the 60s by Joseph Weizenbaum at MIT, and to SHRDLU, another MIT project allowing the user to give English commands to a virtual robot. Crowther's solution differed in its simplicity of implementation (it was based on predetermined responses rather than procedural and complex AI algorithms) and in introducing the idea that this interface could mediate the experience of a virtual world.
6. FORTRAN was often considered too simple a programming language for any attempt at artificial intelligence.
7. According to his former colleague Bernie Cosell, Crowther was most likely unaware of preceding attempts at adapting *D&D* to the computer. Consequently, the series of CRPGs (computer role-playing games) is probably irrelevant in this analysis. His was a fresh attempt at the exercise (2010).

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