

3 WHAT IS A GAME?

GENERAL MODELS FOR UNDERSTANDING GAMES/THE ISSUE OF GENRE

Are Poker and *Half-Life 2* examples of the same phenomenon? The playing situation could hardly be more different. Poker is inherently multi-player and is governed by abstract rules not justified by any fictive world—a full house beats two pairs, aces are higher than jacks. Meanwhile, *Half-Life 2* is a single-player shooter game whose rules mimic those of the physical world (see Figure 3.1). These two games are so different that it might be hard to see how they both belong to the same category.



Figure 3.1 *Half-life 2*

Nevertheless, there are similarities. For instance, in both games the player faces opposition—albeit from wildly different “foes”—and has his or her choices evaluated by the rules of the game.

In this chapter, we dig beneath the surface to examine what games are made of. We will introduce influential theoretical approaches, and their respective models. By discussing the—admittedly rare—“classics” of game studies we aim to show the different ways in which games have been theorized. We will be returning to these perspectives throughout the book. We also introduce a genre system that we shall use to distinguish between different types of games.

GENERAL MODELS FOR UNDERSTANDING GAMES

In daily life, we tend to define games informally; the general public, and even most serious gamers, don’t require formal criteria in order to enjoy their games. For students of games, however, definitions are essential. Understanding the way games work and how they differ from other types of entertainment helps us choose the appropriate methods to analyze video games. If we are not specific, we run the risk of using terminology and models inappropriate to our discussion, or we risk blindness to the bias of our perspective. For instance, if we consider games to be stories we will focus on rather different things than if we consider games to be drama, or systems, or types of play. The challenge here is not so much to find the correct perspective but more to be aware and explicit about the assumptions we make.

Our criteria for what makes a game can have another serious consequence. Defining anything is a highly political project. Define games as narrative and the research grants are likely to end up with departments devoted to film or literature studies. Define games as a subcultural teenage phenomenon and studies of games are less likely to be funded by ministries of culture, to reach the pages of the “serious” press, or to be available in public or research libraries. In other words, definitions are tremendously important, and not just for purely academic reasons (see also the discussion of genre systems below).

Ludwig Wittgenstein and the problem of games

German philosopher Ludwig Wittgenstein (1889–1951) could not think of a common definition that would include all “games.” Wittgenstein, in his *Philosophical Investigations*, famously argued that there was no common feature of the objects that we call games, and that we could hope for nothing more than “family resemblances.” Wittgenstein looked at a number of activities traditionally referred to as games, including chess, tic-tac-toe (otherwise known as noughts-and-crosses), tennis, and ring-around-the-rosy. While some of these have elements of luck while others require skill, he notes that “we see a complicated network of similarities overlapping and criss-crossing: sometimes overall similarities, sometimes similarities of detail.”¹ According to Wittgenstein’s definition of family resemblances, while Game A shares features with Game B and Game B shares features with Game C, Game A and Game C need not share any features. This can be easily illustrated (see Figure 3.2).

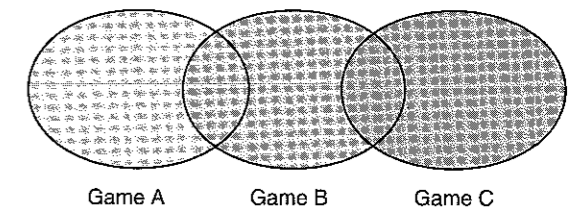


Figure 3.2 Game A shares features with Game B which shares features with Game C. Game A and Game C share no features

We must realize that Wittgenstein was not really interested in games per se, but used his analysis as an element of the larger project presented in his *Philosophical Investigations*. Nevertheless, in our context, there are two problems with Wittgenstein's analysis. First, he does not really try to find the common feature that he claims does not exist. He merely offers a few examples and notes how they do not share certain (more or less random) features. Second, Wittgenstein's analysis rests on a peculiarity of language. German, like English, does not distinguish between formal games and the informal games that children play; ring-around-the-rosy and chess are both "ein Spiel" (a game) in German. But this is not the case in Scandinavian languages, for instance. In Danish the word "spil" refers to formal games (including video games) while the noun "leg" refers to informal playful activity like playing house. Thus, Wittgenstein's argument may be quite language specific; and we should not be led by his analysis to believe that games necessarily escape sensible definition.

Johan Huizinga and the magic circle

Historically, games have been severely under-theorized. However, in the mid-twentieth century a few writers did look more closely at games than others (including Wittgenstein) had done. In 1938 Johan Huizinga, a Dutch scholar whose PhD dissertation focused on the clown figure in Sanskrit drama, published an homage to play entitled *Homo Ludens*,² that underscored the importance of play in culture. This study, whose title translates roughly as "Man the Player," reevaluates the status of play in cultures that have historically treated it as inferior to work and other "serious" activities. Despite his approach, Huizinga has little to say on defining or understanding games. He does, however, make the important and much-cited observation that games construct a "magic circle" which separates the game from the outside world.³ Playing a game, in this view, means setting oneself apart from the outside world, and surrendering to a system that has no effect on anything which lies beyond the circle. When you begin a game of chess, for example, you are submitting to a formally defined experience with rules that are clearly distinct from those we follow outside this special activity. The chess rules make sense in themselves and are only important within their particular context. Thus, arguably, the chess players construct (or enter into) a magic circle to engage in an activity cut off from the outside world.

Huizinga's vision of games has merit, but also clear problems. First of all, it is perhaps too closely tied to an ideological agenda. Huizinga's intention was to praise the act of play, and in his effort to protect play—from what he saw as the destructive influence of the Protestant work ethic, and a Western culture that prized seriousness over fun—he may well have overstated his case. Games are special contexts where particular rules apply, but we can apply this definition to a wide array of utterly different activities: work, family life, university classes, weddings, the nightlife of a big city. All of these situations are governed by special rules and norms that do not always—indeed, could not always—apply in other contexts. Games, then, are not entirely different from the remainder of our lives, and should not necessarily be treated as an aberration.

As we criticize Huizinga's philosophy, we must acknowledge that the modern game researcher's agenda, too, may in fact be ideological. For instance, economist and **virtual world** theorist Edward Castronova has echoed Huizinga's point:

As meaning seeps into these play spaces, their status as play spaces will erode. As their status as play spaces erodes, the laws and expectations and norms of contemporary Earth society will increasingly dominate the atmosphere. When Earth's cultures dominate, the game will be over; the fantasy will be punctured; the illusion will be ended for good.⁴

Castronova acknowledges that no bullet-proof philosophical argument can be made to support the idea of games as a completely separate sphere of human existence. He is arguing instead that we all, as gamers and as societies, should attempt to erect or uphold such barriers if we want game worlds to retain their unique appeal.

Apart from the ideological dimension of Huizinga's argument, we should consider whether it is really true that games do not extend into other spheres of life. Although in-game the conflicts within a game—between you and that stubborn enemy nation, for example—do not usually extend directly into other parts of your life, games do have real-world consequences. We can easily name a small number:

- *Games require time.* Games affect our lives by substituting for other possible activities, from watching television to reading a book to sleeping.
- *Games affect our moods.* Games can make us feel satisfied, or enraged, or thrilled. These and a plethora of other emotions can easily carry into other activities.
- *Games are communication media.* Games may communicate ideas and values. For instance, a strategy game may teach us how complex systems like cities or warring nation states work. Or advertising in a game may brand a certain product in our minds.
- *Games affect our behavior.* Games may make us do things that we would not otherwise have done. For instance, the American military have used the game *America's Army* as an (allegedly efficient) recruitment tool.
- *Games may directly affect the outside world.* Activities that occur in a game may have concrete effects in "real" life. For instance, objects acquired in game worlds are sold for real money on trading websites like eBay, blurring the boundary between the two domains.

All of these aspects of gaming belie the myth that the magic circle truly separates games from the outside world. Thus, in game studies today, magic circle arguments are often treated with suspicion or seen as primarily applicable on a strictly formalist level of analysis—as when one brackets other aspects of a game to close study its design (thus speaking as if a game could be separated entirely from the outside world).

Nevertheless, the notion remains crucial and widely used, as we can see in the writings of Chris Crawford,⁵ Katie Salen and Eric Zimmerman.⁶

Roger Caillois and the sociology of play

French philosopher Roger Caillois has articulated a more specific vision of the nature of games than Huizinga's magic circle. In his 1958 work *Man, Play, and Games*, Caillois stressed four essential qualities of play: that it must be performed voluntarily, is uncertain, unproductive, and consists of make-believe. He also famously divided games

into four categories, according to their dominant features. The categories are: *agōn* (competition), *alea* (chance), *mimicry* (imitation), and *ilinx* (vertigo). Additionally, he argued that all games exist on a continuum between *paidia* (playfulness) and *ludus* (formal, rule-based game behavior).

- *Agōn* (contest): in play of this type, competition is central and skill determines whether the player is successful or not. This includes hide-and-seek, chess, physical sports, and most video games within the action genre.
- *Alea* (chance): here chance is the most important parameter for the play experience. Chance decides who wins a lottery or a dice game. Most video games have an element of chance and randomness, although some classic **adventure games** are entirely linear, and lack this quality.
- *Mimicry* (imitation): here the important play experience centers on being someone else, the ability to take on the role of a vampire, sibling, clown, or pilot. Winning is usually not an important part of this play form which is often found in traditional role-playing games and adventure video games.
- *Ilinx* (vertigo): this play form offers the chance to experience a pleasurable sensation, often through physical activities like riding a roller coaster or carousels. In video games, it is found most vividly in racing games like *Stunt Car Racer*, and *Super Monkey Ball*.

When describing a particular game, these features can be combined to form complex play forms such as *mimicry-agōn-ilinx*. *Super Monkey Ball*, for example, is a video game where the player controls a monkey (*mimicry*), who competes against other players (*agōn*), and who drives fast around various tracks, and sometimes over the side and into the abyss (*ilinx*).

These different categories of play can be further analyzed on the spectrum between *paidia* and *ludus*. The following model illustrates the relation between *paidia/ludus* and the four play categories.

	<i>AGŌN</i> (Competition)	<i>ALEA</i> (Chance)	<i>MIMICRY</i> (Situation)	<i>ILINX</i> (Vertigo)
<i>PAIDIA</i>	Racing Wrestling Etc. } not regulated Athletics	Counting-out rhymes Heads or tails	Children's initiations Games of illusion Tag, Arms Masks, Disguises	Children "whirling" Horseback riding Swinging Waltzing
Tumult Agitation Immoderate laughter	Boxing, Billiards Fencing, Checkers Football, Chess	Betting Roulette		Velador Travelling carnivals Skiing Mountain climbing Tightrope walking
Kite-flying Solitaire Patience Crossword puzzles	Contests, Sports in general	Simple, complex, and continuing lotteries*	Theater, Spectacles in general	
<i>LUDUS</i>				

Figure 3.3 Callois's classification of games⁷

In a *paidia* activity, one is not bound by rigid rules. *Ludus*, by contrast, refers to systems with formalized rules like chess, soccer, or backgammon. Although winning or losing is not anathema to *paidia*, these goals are not always present; who wins is much more a matter of negotiation between the players than something decided by specific rules. In *ludus* play forms. There are rules that must be adhered to and winning is a result of meeting these specific conditions. In the new field of video game studies, Callois's categories have been widely cited but his formulation has its critics. Game scholar Jesper Juul, for one, does not find Callois's categories very useful in describing video games:

Although it is commonly used, I find Callois' categorization to be extraordinarily problematic. The individual categories can in many cases be useful, but their selection and the distinction between them are very hard to justify: while the distinction between *paidia* and *ludus* is more or less correct on a formal level, the idea that they would be opposite ends of a spectrum on an experiential level stems from the misunderstanding that rules are strictly limitations, and that the player can do nothing more complex than what the rules explicitly specify.⁸

While perhaps immediately appealing, these four game types seem somewhat arbitrary and don't always help distinguish between individual games. Take, for instance, the soccer game *FIFA 2004*. The game is competitive, has elements of chance (at least from the players' perspective) and simulates a sport, thus placing it in three of Callois's four categories. His claim that "sports in general" belong solely to *agōn* does not seem enlightening in relation to video games.⁹

You may have noticed, in addition, that the distinction between *paidia* and *ludus* is somewhat similar to the common distinction between play (as in "children in play") and game (as in "they sat down to play a game"). While a very useful distinction, it is usually best not to think of them as entirely separate. Play—even in the loose-knit form of *paidia*—will always have *ludus* elements, since even free-form play has some rules. When children play in the sandbox, they still have to—as their parents' insist—"play by the rules." These rules may be implicit, or may even be flexible, and they may not even be spoken, but they function as guidelines nevertheless. Sandbox activity will often "be about" building the biggest, tallest, or prettiest sand creation. Most children will also be aware of the social rules that one should not take sand from the other children's sand castles, step on them or steal other children's designs and claim to be the inventor. These rules, however unspoken, shape the entire experience of being in the sandbox with others.

Forms of play with stronger *ludus* elements, in contrast, have precise rules and a quantifiable outcome. However, even *ludus* experiences contain room for interpretation, alteration of the rules, and some actions that are not covered by the rules. In chess, a standard rule states that once you have moved a piece the move is binding; an even stricter variant version states that you must move a piece even if you have only touched it. But in casual play, the strictness with which this rule is enforced varies greatly. This may seem like a minor detail, but chess is arguably the strictest *ludus* game, and an oft-cited archetype of this more severe end of the gaming spectrum.

We should note that video games differ from traditional games in the sense that their rules are enforced by the computer—rather than a gullible younger sibling or a tenderhearted older relative—and thus not open to the same type of negotiation possible in traditional board games like chess. Nevertheless, the overlap between

ludus and paidia is also found in video games. One must consider video games both as rule systems and more open-ended universes. In a game like *Microsoft Flight Simulator*, for example, the player is engaged in paidia when just flying around, but when he chooses to go on a mission, the experience takes on more elements of ludus. Modern video games in particular often let the player choose between trying to achieve the goals and to simply roam the game world.

And while it is true that we cannot negotiate with our computers, we are often not competing solely against a program. Gamers don't hesitate to discuss, often fiercely, the rules of a video game, and a fundamental element of playing a video game is developing the rules about how it is played. Both before and during play, as anyone who has ever played a video game with a friend knows, it is common to try and figure out "what rules apply." It has been suggested that over time rules inevitably become less ambiguous, and that this makes games suitable for a computer platform, where the computer requires that rules be unambiguous in order to work.¹⁰ This theory, of course, hinges on our perception of rules. In multiplayer games, the negotiation of rules is often part of play, and players and developers may continuously add new rules (on various levels) to the game universe.¹¹ For instance, players of the **real-time strategy game** *Age of Empires II*, would often spend time trying to collectively define legitimate strategies before starting a battle on Microsoft's online gaming system Zone.com.

More specifically, a certain video game type tends to encourage free-form play over strict adherence to rules and single-minded attempts to fulfill game goals. In this book, we call such games "process-oriented" (and deal with them in detail later in this chapter). An example is *SimCity*, in which the player indirectly controls the development of a city without any clear end goal.

Marshall McLuhan and games as cultural reflections

Both Huizinga and Caillois agree that games are entirely separate from the outside world. Others, however, see games as reflections of culture, and claim that a culture's most popular games can even reveal its core values. One major proponent of this position is Canadian media theorist Marshall McLuhan, referred to by some of his 1960s contemporaries as "the oracle of the electronic age." In a brief chapter of his book *Understanding Media*, McLuhan loosely defines games:

Games are popular art, collective, social reactions to the main drive or action of any culture. Games, like institutions, are extensions of social man and of the body politic, as technologies are extensions of the animal organism. Both games and technologies are counter-irritants or ways of adjusting to the stress that occur in any social group . . . Games are dramatic models of our psychological lives providing release of particular tensions.¹²

Here, McLuhan makes two claims: the first is that game forms are tied to the culture in which they exist, and thus reveal its nature; the second is that games release tension. An example of the first claim, from McLuhan's own discussion, is that American football is gaining in popularity at the expense of baseball because football is "nonpositional." Any player can take any position during play. Baseball, where players fulfill specific positions, represents industrial society, while football agrees "very well with the new needs of decentralized team play in the electric age."¹³ He also claims that the reason why Russians surprisingly like "individualist" games like

ice hockey and soccer (clearly representing a problem for his theory) is that these games have an "exotic and Utopian quality" to what is still considered "tribal" people. Although there may be some general truth to the McLuhan's claim he undermines himself somewhat by explaining away problems in such an off-hand manner.

McLuhan's second argument, that games release tension, is also not entirely obvious. Games, and in particular multiplayer games, can obviously provoke both anger and frustration. Beyond this, the general idea of "catharsis" (Greek for cleansing) through games is not backed up by much empirical data. The same is true of McLuhan's claim that "we enjoy those games most that mimic other situations in our work and social lives." If we look hard enough we can find similarities between most things, but we are equally likely to find examples from our list of favorite games that make this claim sound hollow. More generally, the idea of games as reflections of cultural themes remains an interesting but under-explored idea.

Gregory Bateson and play as communication

In games we are perfectly willing to accept the presence of orcs even if we would strenuously deny their real-world existence. We may even hold a series of assumptions regarding game orcs who have not even been encountered; they are likely to be evil, to not appreciate beauty and to generally be bad company.

The British anthropologist Gregory Bateson's theory on meta-communication helps us understand why we accept such fictions as meaningful (if not "real" in the strong sense). Meta-communication means communication about communication and refers to the wealth of cues we transmit and receive about how statements or actions should be interpreted. In conversation, for instance, we use body language and tone of voice to tell the other party how seriously a statement should be taken. In play, we also communicate (through numerous, often subconscious, means) that what we are doing is not to be taken at face value: We are not fighting, but *playing at fighting*. We, as animals with higher cognitive functions, are able to appreciate that an action holds different meanings within different contexts, and we come to learn this through play. As we grow older we expand the ability to meta-communicate into other areas of life and are perfectly capable of interpreting fiction (adequately meta-communicated to be fiction) in a different light than we would shine on reality.

Some recent games, known as alternate reality games, have challenged our ability to know and maintain the frame of play even more than traditional games. In *Majestic*, for example, part of the game consists of using real websites, fax numbers, and email addresses in order to uncover a conspiracy; the player becomes an investigator collaborating with other "real-life" players, all chasing increasingly complex clues. As play progresses, the line between what is within the video game and what is outside blurs. Huizinga would say that the magic circle is challenged, and Bateson might see increasingly subtle forms of meta-communication.

It is worth noting that alternative reality games have not achieved widespread popularity perhaps indicating that most players are not particularly interested in playing with the very boundaries of what constitutes a game.

Brian Sutton-Smith and games as play

Since the 1970s, educationist Brian Sutton-Smith has been a significant force in establishing games and play as a legitimate area of research through papers, anthologies, and conferences. Sutton-Smith never fails to stress the multifaceted

nature of games, noting that "a game is what we decide it should be; that our definition will have an arbitrary character depending on our purpose."¹⁴ According to Sutton-Smith, the variety and widespread presence of games in many cultures should not be interpreted as proof that games are inevitably a part of every culture. Rather games emerge as societies mature and develop more advanced political and social organizations. Games reflect the evolution of a society: the more complex a social system, the more advanced its games.

Sutton-Smith sees a game as finite, fixed, and goal-oriented. He defines games as "an exercise of voluntary control systems in which there is an opposition between forces, confined by a procedure and rules in order to produce a disequilibrium outcome."¹⁵ This definition is quite broad, but it is necessary given the multifaceted nature of games. Games come in very different forms ranging from social games, to solitary games, physical games, and theoretical games. *Monopoly* is a system with rules and procedures for working out a final state—one victorious player. Each individual player tries to establish dominance by making the right moves. In soccer, players interact with each other within teams to score a greater number of goals than the opposing team.

Although Sutton-Smith has refused to give a one-line definition of play, the complexity of the challenge has not stopped others from trying, as we will see in the following sections. In fact, it seems that almost every well-known philosopher has theorized on play. For example, German philosopher Friedrich Nietzsche said that "Two different things wanteth the true man: danger and diversion. Therefore wanteth he woman, as the most dangerous plaything."¹⁶ Psychoanalyst C.G. Jung refers to the creative aspect of play: "The creation of something new is not accomplished by the intellect but by the play instinct acting from inner necessity. The creative mind plays with the objects it loves."¹⁷

George Herbert Mead and role training

Social psychologist George Herbert Mead considered play to be an important ingredient in what he called the process of the genesis of the self. According to Mead, who wrote his influential work, *Mind, Self, and Society* in 1934, a self arises through a learning process in which children understand and eventually come to master normal human social activity. Social activity is all about communication, where humans use a shared system of symbols to exchange ideas with each other. Play and games, also being symbolic, are for Mead a clear precursor to adult communication.

His definition of play is mainly what others have called "make-believe," in which children pretend to be one thing or another and play a role: a mother, a policeman, or an Indian, for example. This is different from the way animals play, in that children deliberately take on another role and build a temporary self by using the symbols that indicate that role. This kind of play is usually limited to one role at a time, even though children can change from one role to another very quickly. The essential difference between this kind of play and organized games is that in games, the player has to "take the attitude of everyone else involved in that game, and that these different roles must have a definite relationship to each other."¹⁸ This means that the player needs to be conscious about the other players' roles at all times, something that is facilitated by the rules of the game. Rules are "the set of responses which a particular attitude calls out."¹⁹ So to go from play to game requires the individual to integrate himself into a higher level of group organization.

For Mead, an individual can only obtain his unity of self when he has internalized this "generalized other," that is, the attitude of the whole community. Games are excellent mirrors of the way that people organize themselves, where all actions are related to each other in an organic way that can be understood by learning the rules. Children experiment with many different kinds of social organizations as they grow up. The exercise of learning to belong, of learning different roles and rules, allows their personality to develop.

Henry Jenkins and the art of the game

An influential cultural view of the nature of video games has been presented by a professor of comparative media studies, Henry Jenkins.²⁰ Jenkins argues that video games are a new form of popular art, and game designers the artists of our century. His work is inspired by cultural critic Gilbert Seldes, who in his book *Seven Lively Arts*²¹ argued that "America's primary contributions to artistic expression had come through emerging forms of popular culture such as jazz, the Broadway musical, Vaudeville, Hollywood cinema, the comic strip, and the vernacular humor column." Although some of these cultural forms have today acquired a certain cultural respectability, Seldes's focus on popular **aesthetics** instead of on the "great arts" was rather revolutionary in the mid-twentieth century.

For Seldes, the "lively arts" are mainly kinetic, that is, they seek to move people emotionally rather than to appeal to the intellect as the classical arts do. Popular artists, Jenkins explains, explore new directions and new media:

Cinema and other popular arts were to be celebrated, Seldes insisted, because they were so deeply imbedded in everyday life, because they were democratic arts embraced by average citizens. Through streamlined styling and syncopated rhythms, they captured the vitality of contemporary urban experience.²²

For Jenkins, video games are the worthy heirs of this trend:

Games represent a new lively art, one as appropriate for the digital age as those earlier media were for the machine age. They open up new aesthetic experiences and transform the computer screen into a realm of experimentation and innovation that is broadly accessible.²³

Jenkins reminds us that a lot of the social prejudice levelled against video games today has clear parallels to the reactions against the cinema in Seldes's time, like the vitriol levelled against the depiction of violence and sex.

He nevertheless acknowledges that many games are "banal, formulaic and predictable," following well-known recipes instead of innovating. Economical constraints are not a valid explanation for their aesthetic conservatism, as this doesn't prevent artists in other media such as film from delivering good products. (However, we must not forget that video game technology changes so dramatically every few months that designers spend a lot of time catching up instead of exploring the medium aesthetically.) Jenkins argues that games are an art form still in its infancy, but some games with advanced aesthetics already suggest that the form can provoke strong emotions. Video games have also already given us such memorable characters as Sonic the Hedgehog and *Super Mario Bros*, Mario and Luigi.

In order to understand how key developmental moments come about in video games, we need to understand them as a medium. For Jenkins, games are about player control, and the best experiences arise when players perceive that their intervention has spectacular influence on the game, such as when a *Civilization IV* player understands that her carefully planned strategy ensured her narrow but crucial victory over a warring neighbor nation.

The games he admires are those which offer players the opportunity to do things that were not possible before. For example, in *Black and White* players are gods whose every decision has moral consequences and affects the balance of good and evil in the game world.

Jenkins talks of play as a performance, where a person's interaction with a game facilitates a kind of immersion unknown in other media. In order to facilitate the player's sense of extreme control over the game he is in—vital to Jenkins' vision of a successful game—the design and aesthetics of the game is crucial. Even more than cinema, games make use of “expressive amplification,” a process in which the impact of specific actions is exaggerated so that the player feels increased pleasure at executing these actions. In Jenkins' view, the artistic potential of video games will be met when designers concentrate on exploring the aesthetics of action instead of trying to imitate other media.

Formal definitions

Thinkers like Huizinga to McLuhan, as well as many others, have used games primarily in the pursuit of other questions, and are not solely concerned with creating a “formal” definition of a game. Others, however, have tried to define games in their own right. Game historian David Parlett, for instance, suggests that a game—in the sense used in this book—has two defining components: *ends* and *means*.²⁴ *Ends* refers to the notion that a game is a contest, with a goal that only one player or team can achieve. Thus, to Parlett, a game always has a winner. *Means* refers to the game equipment and rules. Parlett's definition is obviously both strict and broad. Many of the phenomena that we label here as games in fact do not qualify according to Parlett's concept of a game, as something that can be won, and by only one player or team.

Parlett writes mostly on non-electronic games and this focus shows. Processor-oriented single-player video games, for example, cannot be won in the sense that poker can be won. The 1983 classic *Elite* is a game where the player explores deep space; part of the game's brilliance which has been copied by more recent games like is that it has no fixed endpoint, no single goal. But as a result, it would thus be excluded by Parlett's strict definition. The same goes for persistent (i.e. those which are always available and never reset to the initial state) multiplayer games like *EverQuest* (a fantasy role-playing universe where players can complete quests alone or can collaborate with characters controlled by other players); these games do not end, and in principle all players can reach the highest level. At the same time, Parlett's definition is usefully broad, since it includes activities that we would normally not consider games—auctions, for instance, and certain types of democratic elections.

A more elaborate definition is proposed by philosopher Bernard Suits in his book *Grasshopper: Games, Life, and Utopia*. He writes:

To play a game is to engage in activity directed towards bringing about a specific state of affairs, using only means permitted by rules, and where the

rules prohibit more efficient in favour of less efficient means, and where such rules are accepted just because they make possible such activity.²⁵

Importantly, Suits stresses that game rules are inhibiting, and favor “less efficient means.” It is a highly compelling, though counter-intuitive, model: that to enjoy ourselves we in fact seek out rigid and restrictive structures.

Like most one-sentence truths, however, it has limitations. Think of the board game *Monopoly*. The most efficient way of moving around the board would be to just move your car as you please, without bothering about dice, cards, and other formalities. But of course *Monopoly* isn't really about driving at all. The game is about amassing wealth and ruining opponents. One very efficient way to do this would be to just to roll the dice and hand out play money according to the rolls. A simple role of the dice would decide the winner and the loser. Clearly, this would be a less than thrilling experience; we appreciate the difficulty of making money in the game, and our appreciation is evidence in favor of Suits's definition.

However, we should also stress that *Monopoly* could be far more difficult than it is. “Less efficient” certainly should not be interpreted as “least efficient,” since it would appear that what makes *Monopoly* fun is not so much extreme difficulty, but rather its appealing goal—which is really quite simple—and the set of well-balanced rules we follow to try and achieve that goal. The *Monopoly* rules create excitement not just by being more difficult than our minimalist one-dice-decides-all version. The game system introduces an element of skill and encourages us to use strategy while still maintaining the importance of chance, thus keeping alive, if only barely, the hope of recovery from unfortunate situations. What is crucial—at least for our *Monopoly* example—is a particular combination of rules and chance; the rules-as-limitations concept is powerful but not without its problems.

While Suits and Parlett are not specifically interested in *video* games, others have put forth definitions that clearly take into account the rise of electronic entertainment. The first writer to seriously and systematically address such issues was game designer Chris Crawford. In 1982—several years ahead of the crowd—Crawford published *The Art of Computer Game Design*²⁶ an exploration of how to understand games and their relation to players. Crawford's book boldly attempts to “address the fundamental aspects of video games to achieve a conclusion that will withstand the ravages of time and change.”²⁷ Crawford does not offer any one-line definition but rather names four features that are common to all video games: representation, interaction, conflict, and safety.

- 1 Representation refers to games being about something else; or as he writes, a game “subjectively represents a subset of reality.”²⁸ Games model external situations—a baseball game, for example—but they are not actually part of these situations. Crawford stresses how most games, in fact, do not attempt to be truly faithful simulations; hence their representation is “subjective.”
- 2 Interaction, according to Crawford, is crucial to games' appeal. The player must be able to influence the world of the game and get meaningful responses to his actions, so that he feels engaged with the game.
- 3 Conflict is the idea that a game has a goal that is blocked by obstacles, whether human or electronic. Conflict can be “direct or indirect, violent or nonviolent, but it is always present in every game.”²⁹

- 4 Safety refers to the fact that the conflicts in a game do not carry the same consequences as those same conflicts in the real world. For instance, losing a war game may be humiliating, infuriating, and even costly, but it does not mean that your actual home is destroyed. Thus, although games can have consequences, Crawford considers them safe ways of experiencing real situations.

Of these characteristics, representation and safety stand out as the most debatable. Crawford ties the former to the idea that games are systems, but in this regard, representation is an odd term to use. We can have a system that is not a representation in any ordinary sense of the word. Many games do not represent real-life situations; the gold-coin filled worlds of *Super Mario Bros.*, for example, or the endless array of puzzle games like *Tetris*. Crawford argues that while these games do not represent any objective phenomenon they nevertheless represent something to the player: "the player does perceive the game to represent something from his private fantasy world."³⁰ Thus, the player can perceive the game action as meaningful even though it has no reference to the outside world.

As for safety, it implies that games operate inside the "magic circle" discussed previously in this chapter; that game events are without direct real-world consequences. Crawford's position, however, is more nuanced than that of Huizinga and Caillois (he agrees that there are consequences; they just aren't direct) and so he doesn't invite the criticism leveled at "strong" magic circle thinking.

More than twenty years after Crawford's pioneering book, game scholars have recently picked up the challenge of defining games. Their commitment is notable for its desire to seriously engage with the work that has come before. Of the resulting definitions, two are particularly useful. The first was suggested in 2003 by game theorists Katie Salen and Eric Zimmerman, in their book *Rules of Play*:

A game is a system in which players engage in an artificial conflict, defined by rules, that results in a quantifiable outcome.³¹

The second definition comes from theorist Jesper Juul:

A game is a rule-based formal system with a variable and quantifiable outcome, where different outcomes are assigned different values, the player exerts effort in order to influence the outcome, the player feels attached to the outcome, and the consequences of the activity are optional and negotiable.³²

These definitions look quite similar, and they are both very thoughtful. They both stress that games are systems and have quantifiable outcomes. The most obvious difference, perhaps, is that Salen and Zimmerman's description of "an artificial conflict" returns us to the idea of the magic circle, whereas Juul is concerned less with the nature of the conflict and more with describing the player herself.

Salen and Zimmerman's definition is brief and elegant, but it is not exclusive to games. Depending on how we read "artificial conflict" it might, for instance, include university exams. Here, the student is engaged in a conflict (to outdo her fellow students, to prove wrong her skeptical teacher, or to overcome the "challenge" of the situation); this conflict is defined by rules (the university's laws and regulations), and it results in a quantifiable outcome (her grade). The conflict is artificial in the sense that the exam situation takes place within a magic circle, with a variety of rules that do not really apply outside. (We should note that the conflict

is not, however, artificial in Crawford's sense; it is not a representation of a real-life situation.)

Juul's definition, on the other hand, gets around this particular objection by stipulating that the consequences be optional and negotiable. His definition is interesting for including the player in the equation; a game in Juul's terms depends on the player's attitude towards the activity. Of course, this may invite objections. Inevitably, for example, there will be players who neither exert much effort in their games nor feel particularly attached to the outcome; but we would not want to exclude such a person's game of poker—much less the game of poker—from the "game" category.

Juul's definition is an attempt to tease out the criteria that we intuitively use to differentiate games from non-games. To this end, he offers a model which shows our often implicit reasons for calling something a game:

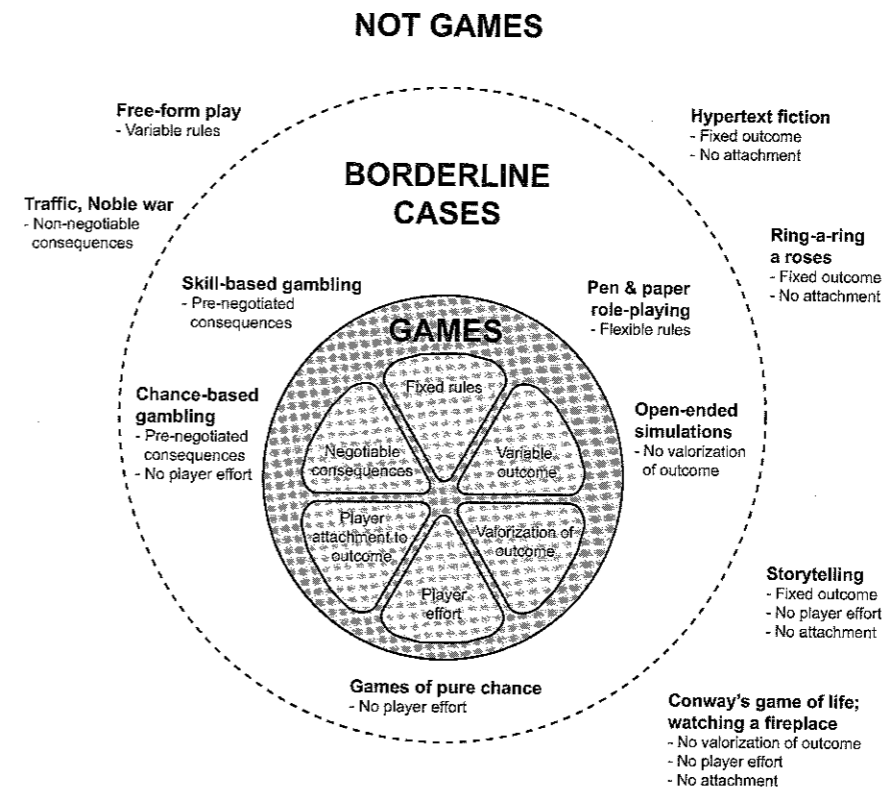
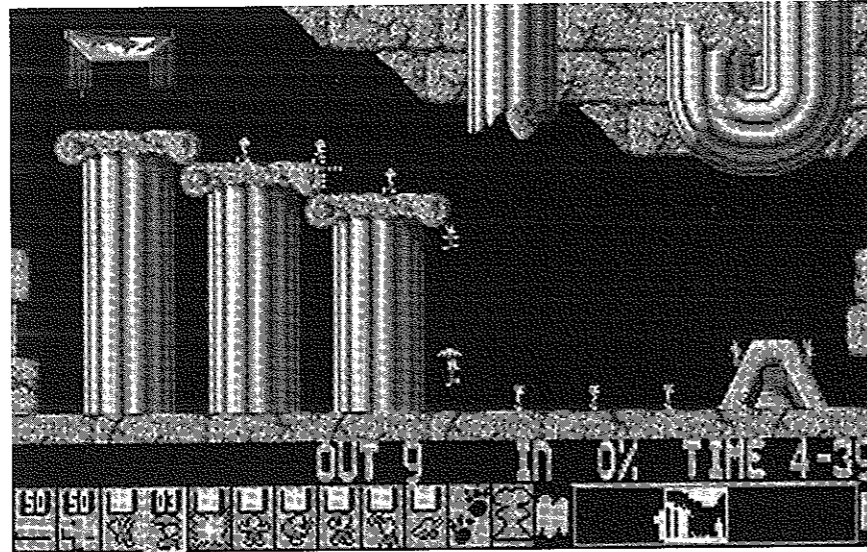


Figure 3.4 Jesper Juul's model of how standard game definitions work³³

Juul refers to this as the "classic game model," based on his observation that certain modern video games in fact do not comply with the criteria which have traditionally been part of game definitions. The six inner slices in the model represent the classic criteria. The level labeled "Borderline cases" includes phenomena that only marginally qualify as games in terms of the classic model. For instance, pen-and-paper role-playing games do not always have fixed rules. The third level holds activities that plainly fall outside the classical model—"storytelling," for example, which has a fixed outcome, requires no effort by the player (in this case the listener) and which, according to Juul, requires no attachment. By contrast, a video game like *Lemmings*, in which the player is faced with unambivalent goals, where the rules are fixed, and the outcome is not prescribed, falls squarely within the "classic" model of games.

Figure 3.5 *Lemmings*

For every game like *Lemmings*, as Juul insists, we could probably find another example of a video game that proves Juul's observation about video games not fitting the "classic" criteria. In massively multiplayer **online role-playing** games like *World of Warcraft*, for example, players can set their own goals and there is no one way to win. The criteria also don't apply to wide open **gamespaces** like that of *Grand Theft Auto: Vice City*, where players can be so distracted from their missions by the vibrant city simulation that they may not ever complete the game's plot. Even certain older video games do not fit into the classic model. In *Little Computer People*, released in 1985, the player interacts with a character who performs various tasks—based on the player's treatment—as a sort of virtual pet. The program, which was of course marketed as a game, does not meet the "valorization of outcome" criterion of Juul's model, and would therefore be classified as a borderline case.

Figure 3.6 *Little Computer People*

At a glance, perhaps, the attempts to provide formal definitions discussed above, may appear to be relatively abstract exercises with few real-world implications. But they are important since they help us refine our thinking on what constitutes a game and thereby address subconscious biases and since they help us clarify whether the conclusions we reach are unique to games or perhaps apply to other media as well. If, for instance, we study the effects of games on learning we will do well to reflect on whether a measured effect is due to audiovisual representation (which other media have as well) or to the fact that players interact with a rule system and thus "experience" its **dynamics** (which isn't the case with books, movies or television, for instance).

Our point here is that it is more important to acknowledge and specify one's own definition than it is to try to decide on the "correct" one. However, based on this discussion we see that there is a good deal of overlap between the definitions proposed. First, they are focused on games as rule systems and are unconcerned with matters of representation. In other words, audiovisual feedback is not a requirement, and the definitions say nothing about digital computation and thus are definitions of *games* and not merely *video* games. One of the shared requirements which is most useful in distinguishing games from other activities is the notion that events or actions should be evaluated, for instance by the game assigning points to the player. Essentially, this means that a game has goals somehow specified by the game design. It is not enough that a person has a goal (say, finding a specific street address) for something to be a game; the experience must be designed. But nor is it enough that an experience is designed. Virtual worlds like *Second Life*, for instance, are designed but have no specific goals and thus would fall outside most of the definitions discussed. Of course, designed experiences with goals does not in itself work as a definition either (since, again, it would include university exams). It is the *additional characteristic* which an activity must display to be a game which in fact seems to cause disagreement and which is therefore all the more worthwhile to consider in one's efforts to understand games.

Having discussed formal definitions which are end-results of attempts to understand games, we turn now to definitions which—quite intentionally—are less rigorous but also serve a different purpose, as tools for actual game design.

Pragmatic definitions

The "formal" definitions discussed above aim to be as consistent and precise as possible. They are not tools for the creation of new games. Rather they can be compared to philosophies of language; they may be truly insightful without ever making anyone a better communicator. Another type of definition, labeled here as "pragmatic," has the opposite characteristics—they are meant as tools for action and not as philosophically bullet-proof concepts.

Perhaps the most famous recent game definition, famous enough to make it into most design books and onto the t-shirts of many a gamer, is that of game designer Sid Meier: "A game is a series of interesting choices."³⁴ In contrast to formal definitions, Meier's is less rigorous, much more casual, and perhaps intentionally simplistic. Probably, we'll actually need to amend it slightly if it is to make sense. Surely something does not cease to be a game if the choices are uninteresting? That merely makes it a bad game. So Sid Meier should be read as saying "A good game is a series of interesting choices." By stressing that choices must be interesting, Meier is pointing out (or claiming) that cases where one option is clearly better

than others or where one's choice does not matter to how the game plays out are not particularly engaging to the player.

For example, in *Civilization IV* (designed by Meier himself) the player must constantly choose whether to spend resources on research, diplomatic standing, or armament. At any given time, the player has clues about which choice is likely to be most sensible, but there is no single correct choice. The element of chance is ever present, and the player's choices invariably depend on what she thinks the enemy is doing.

From a critical perspective, Meier's statement is very useful for thinking about strategy games, but less appropriate for action games. In *Super Mario Bros.* (see Figure 3.7) you have no choice but to jump to a certain platform, or down a particular pipe. The choice is not interesting in itself; the activity, however, may still increase your heart-rate, since the outcome depends completely on your skill. Improving your abilities and finding the correct solution to Mario's problems makes the game interesting, but there is no interesting choice as such.³⁵ In classic adventure games like *Blade Runner*, there may be only one correct choice and there may not even be any physical skill involved, but the investigation process can still feel exciting. Meier's definition is thus helpful, and wonderfully pithy, but not really sufficient.

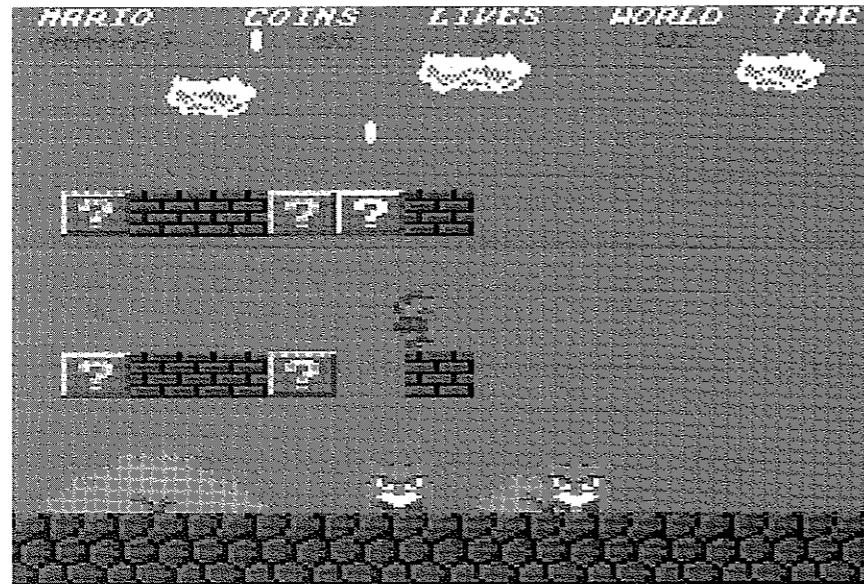


Figure 3.7 *Super Mario Bros.* (Commodore 64 version)

A simple, yet highly useful, pragmatic way of modeling games emerged out of several workshops held at the Game Developers Conference in California between 2001 and 2004. The "MDA model," developed by Robin Hunicke, Marc LeBlanc and Robert Zubeck, seeks to divide games into three separate dimensions: mechanics, dynamics, and aesthetics.³⁶

Mechanics are the rules and basic code of a game. It is not what we see or hear while we play a game. Rather, "mechanics" refers to the vast amount of information that goes into constructing the world of the game—the series of algorithms, for example, that determine the reaction pattern of a computer-controlled character.

Dynamics is the way the game actually plays based on the mechanics. It is the events that actually occur, or can occur, during the course of the game as experienced by the

player. For instance, the game mechanics may contain complicated algorithms by which the behavior patterns of an enemy soldier are determined in a probabilistic fashion, while the player is merely presented with a dangerous foe hiding behind a tree and opening fire. Dynamics are functions of the mechanics, but they may also be surprising, as complex processes interact in ways that cannot always be predicted. For instance, certain mechanics of the narrative-based shooter *Duress* were flexible enough that a player could complete missions in ways not predicted by the game's designers (as we describe further later in this book under the heading of "emergence").

Aesthetics covers the favorable emotional responses invoked in the player as he or she interacts with the game. Hunicke, LeBlanc and Zubeck list the elements that attract us to games:

- 1 Sensation (game as sense-pleasure)
- 2 Fantasy (game as make-believe)
- 3 Narrative (game as drama)
- 4 Challenge (game as obstacle course)
- 5 Fellowship (game as social framework)
- 6 Discovery (game as uncharted territory)
- 7 Expression (game as self-discovery)
- 8 Submission (game as pastime).

A game will usually offer some of these pleasures, but not all of them. *Tetris*, for instance, emphasizes challenge, submission, and perhaps sensation, but does not offer narrative or expression. *Grand Theft Auto: Vice City*, on the other hand, affords most of the pleasures with the exception of fellowship. The categories should not be seen as "objective" as they depend on interpretation and the context in which the game is played. For instance, we can interpret both *Tetris* and *Grand Theft Auto* as providing as social framework, and we can imagine a player expressing herself through *Tetris* by modifying³⁷ the game and designing new background images.

The MDA model is a very useful tool for understanding—and discussing—the way games work. Although admittedly simplistic, it offers a decent distinction between the various elements of a game, and highlights the ways in which games are systems rather than linear, pre-determined structures like novels, movies or television programs. However, MDA has limitations. It is more of a designer's tool than a satisfying account of how **gameplay** actually works. Powerful parts of the gaming experience—everything from the context in which we play a game, to the culture that frames the game, to its intended or unintended links to other games, or movies, or texts—fall outside the model's jurisdiction. For instance, a teenager playing *Grand Theft Auto: Vice City* might enjoy the game's anti-establishment attitude, and might relish participating in the violent acts that have caused such a media uproar. This pleasure does not strictly emerge from the game mechanics, though there is a clear connection. Furthermore, the model is centered on the rules of a

game, and except for the aesthetic category of "sensation"—which alludes to the pleasure brought about by a game's audiovisuals—MDA all but ignores the expressive side of the game.

Though not perfect, Sid Meier and the developers of the MDA model offer two of the most prominent pragmatic definitions of a video game thus providing useful "tools for thought" helpful in inspiring one's game design work.

THE ISSUE OF GENRE

In both popular and academic literature on games, the concept of genre tends to play a role. Observations may pertain only to certain game types and thus many game scholars and journalists find it hugely useful to establish systems for categorizing games.

Existing genre systems are based on a variety of criteria. Rigorous attempts to define mutually exclusive genres are rare, but can be found in Mark J. P. Wolf's *The Medium of the Video Game*³⁸ and in work by Espen Aarseth aiming to produce multi-dimensional genre systems.³⁹

Wolf, a media theorist, discusses the relevance of various approaches to defining genre in other media. These approaches generally focus on representational, surface phenomena—what we actually see on the screen—but according to Wolf **interactivity** is more important in video games as it "is an essential part of every game's structure and a more appropriate way of examining and defining video game genres."⁴⁰ Wolf's notion of interactivity is closely linked to a game's goals: "In a video game, there is almost always a definite objective that the player strives to complete . . . and in doing so very specific interactions are used. Thus the intention—of the player-character at least—is often clear, and can be analyzed as a part of the game."⁴¹ However, Wolf then goes on to outline forty-three distinct genres, many of which are only vaguely linked to his own interactivity criterion—from abstract to board games, and from educational to sports. Thus, despite Wolf's reasonable discussion we end up with a list of genres based on no discernable system of categorization.

Game theorist Espen Aarseth considers it unproductive to define a genre based on one variable (such as theme) as this is likely to have major overlaps (e.g. games that are about shooting and flying) or tell us nothing very interesting. Instead, he suggests that video games should be evaluated based on a series of variables. By this perspective we could decide on a game's genre by rating it in relation to each of the variables selected. This approach has the advantage of categorizing every possible game that could be conceived. The drawback of this system is that it is limited practical use.

Less formally, popular magazines and websites often have their own—more or less idiosyncratic—way of dealing with genres. Gamespot.com, a major games website, employs a common solution, dividing games into the following categories: action games, adventure games, driving games, puzzle games, role-playing games, simulations, sports games, and strategy games. While useful for the purposes of the website, these genres are obviously not derived from any standard principle. For instance, *driving* implies a game's theme while *action* implies a more fundamental characteristic.

Philosophically speaking, the large number of genre systems exist because there is no objective way to measure the differences between two things. An example: two books will share many characteristics (e.g. they have pages and they can be carried) but also have many differences (e.g. the covers look different, they have

different titles, they don't weigh the same, and they don't have the same content). But there is no objective way of determining which similarities or differences are the most important.

The same goes for people. How different are human beings from one another? The answer is all in your perspective. Anthropologists and other students of culture may tend towards "very different," while biologists might lean towards "very similar." Neither group is right or wrong. Similarly, no one can prove that it is better to focus on differences rather than similarities, or vice versa.

Genres, then, are arbitrary. They are analytical constructs imposed on a group of objects in order to discuss the complexity of their individual differences in a meaningful way. But are genres just categories with no bearing on reality? No, the conventions of each genre create expectations. Take movies. When you watch a romantic comedy, you expect the movie to follow certain conventions and ignore others—you expect the man and woman to kiss and make up, and you are confident that a crazed murderer will not jump out from the bushes and kill them. When watching a slasher movie, you might have the opposite expectations. Perhaps more importantly, producers make movies that conform to established genres. Box office receipts may indicate that war epics do well financially, and this may influence a producer's decision to approve the next World War II movie instead of a teen comedy.

How exactly one chooses to split the cake and divide up games may be a largely arbitrary decision but some methods are more consistent than others. One way to ensure consistency is to use genre labels based on the same criterion. An example of the reverse is revealing: an inconsistent genre system might consist of *girl games*, *home-computer games*, *racing games*, and *sports games*. This system is not useful, as a particular title could easily fall into all four categories.

In this book, we propose a genre system based on a game's criteria for success. We ask: "What does it take to succeed in the game?" To explore this concept, let's look at two games that are quite different: the ever-popular *Tetris*, and *Myst* (a narrative adventure where the player has to explore a mysterious world and investigate the disappearance of certain characters). To succeed in *Tetris* you need fast reflexes and decent hand-eye coordination. To succeed in *Myst* you need puzzle-solving skills and deductive logic. These criteria for success are quite different. So rather than focus on criteria like theme or narrative, the system we're proposing focuses directly on a feature important to games: goals, and how to achieve them.

Another example that further illustrates this distinction is a comparison of the two soccer themed games *FIFA 2004* and *Championship Manager 4*. In *FIFA 2004* the players must wriggle their **joysticks** in order to out-score the opponent. In *Championship Manager 4* the player takes on the role of soccer coach, and concentrates on high-level strategy rather than playing in the matches. Thus, while both are "about" soccer we do not consider them to be in the same genre.

Two types of games pose a challenge to our system: single-player and multi-player role playing games. The first problem is that these two types of role playing games are, in fact, quite different from each other. Single-player games such as *Baldur's Gate* (a fantasy-themed game where the player controls multiple characters) demand strategic skills and include puzzle solving, while online multiplayer games such as *World of Warcraft* (where thousands of players can act in the same fantasy-themed world simultaneously) do not have very explicit goals and do not generally contain puzzles, but do require social skills for dealing and collaborating with the other players. The second challenge to our system is that certain games (e.g. *World of Warcraft*) and similar games cannot be so readily categorized based on criteria for

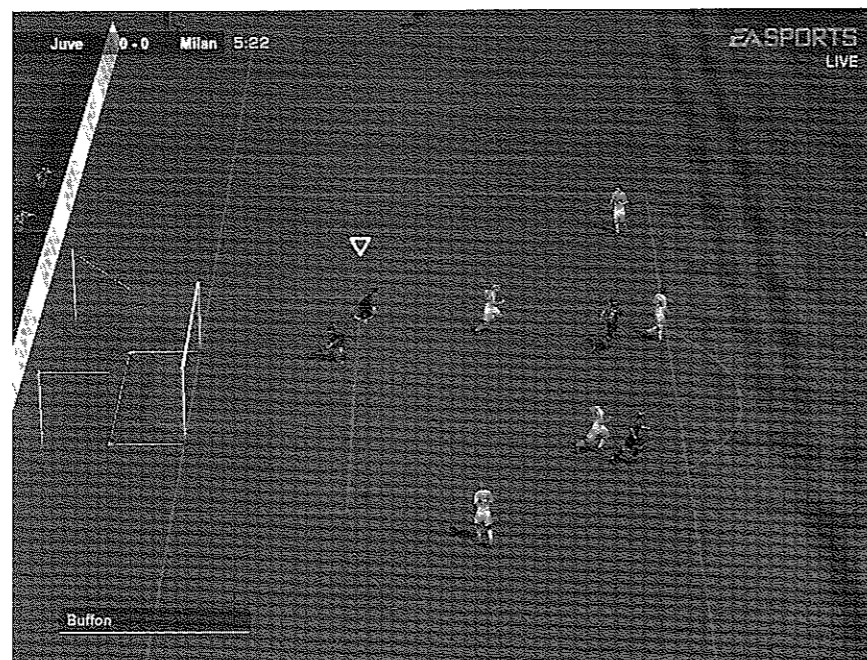


Figure 3.8 FIFA 2004

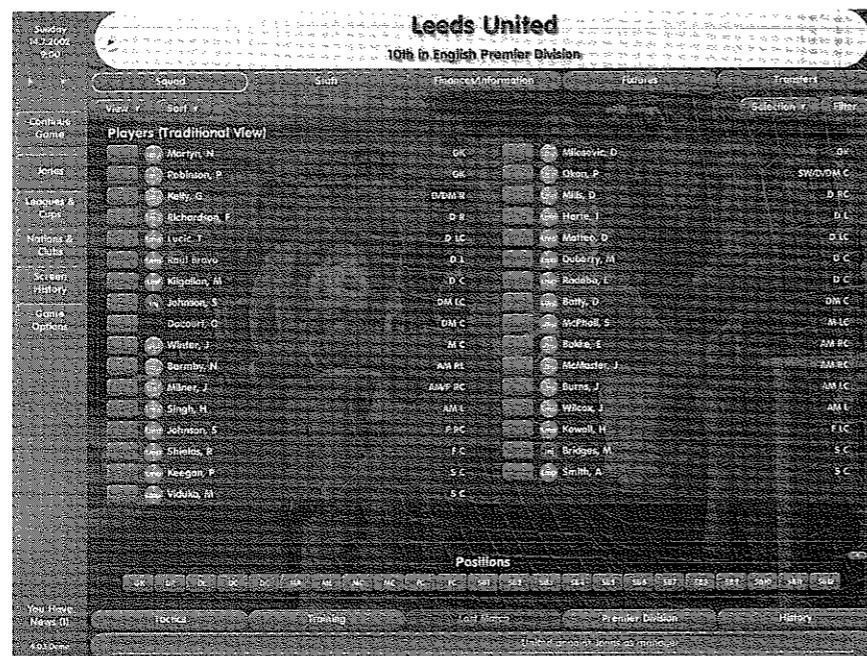


Figure 3.9 Championship Manager 4

success because they are not obviously goal-oriented (or at least invite players to set their own goals to a large degree). We recognize these problems as weaknesses of our genre system, and choose to group single-player role-playing games with strategy games and place games with vague goals (or no goals) in the special category of “process-oriented games.” We describe the four genres in our system below.

Action games

To some, the action game is the archetypal video game. Action games are often intense and usually involve fighting or some kind of physical drama. *Pac-Man* is an action game, as is the shooter *Half-Life 2* and the racing game *MotorStorm*. What ties these games together is that their criterion for success is motor skill and hand-eye coordination. In classical **arcade** action games, the player mostly had to coordinate the movement of the on-screen character and did not have to worry about what the correct choice might be (one simply, and obviously, had to jump an approaching barrel at the right time for instance). In more complex titles like the 2003 platform game *Prince of Persia: The Sands of Time* the player must still perform challenging feats of coordination but must also put effort into figuring out how to solve the game's spatial puzzles (i.e. each challenge must be analyzed to arrive at a solution and subsequently solved in practice by a sequence of jumps, climbs, etc.).

Adventure games

Adventure games are characterized by requiring deep thinking and great patience. These skills are employed to participate in, or uncover, narratives that are often based on detective story templates. Typically, the player is represented by an individual character involved in a plot of mystery or exploration, and faces puzzles of various kinds. Quite often, adventure games are entirely devoid of fighting and of action sequences; sometimes they even lack the risk of the main character dying. To succeed the player must exhibit skills of logic and deduction. Examples of the genre, in its pure form, include *Adventure* (from 1976), *Maniac Mansion* (from 1987), and *Dreamfall: The Longest Journey* (from 2006). We also include single-player role-playing games under this heading, although we acknowledge that they have strong strategy elements. Examples of this sub-genre include *Ultima*, *Wizardry*, *Baldur's Gate*.

Strategy games

Occupying a space somewhere between action and adventure games, we find the strategy genre. The most common form is perhaps a game of war, but rather than the player being on the battlefield (a clear example of the action genre), she takes on the distant role of general. Variations on the general role can include anything from mayor to deity. The conflict is often represented on a map that resembles classic board games, and which illustrates anything from a whole continent to an urban street.

Two important sub-genres exist: real-time strategy and **turn-based strategy**. Real-time strategy games do not pause between turns but rather play out in *real-time* or, perhaps more appropriately, *continuous-time* (since a single game session may span thousands of years in the game world's internal chronology). As a result they resemble action games, in that the player's score is dependent on fast reactions and skillful manipulation of mouse and keyboard. To win, the player must carefully balance large numbers of interdependent variables, paying careful attention to signals of other players' choices and strategies. Despite their action component, these games are strategic since understanding the ways in which priorities and perceptions interplay over time is ultimately more important than one's speed with the mouse. Examples of real-time strategy games include *Dune II*, *Warcraft*, and *Dawn of War*. The other sub-genre is turn-based strategy games. Here, the action stops

while players make their choices, following classic board games such as chess or risk. Examples include *Balance of Power*, *Civilization*, and *Warlords*.

Process-oriented games

Though winning seems an essential element of games, a (growing) breed of software exists on the edges of this definition of a game. Instead of giving the player one or more goals, process-oriented games provide the player with a system to play with. These products receive the game label not so much for staging conflict or competition but because they're made for entertainment purposes; they could fit the definition of a toy rather than actual games. Think of populating and watching an aquarium as opposed to playing chess.

There are two main approaches to the design of process-oriented games. In one type the player is a character exploring and manipulating a dynamic and ever-changing world. Another type puts the player in charge of more fundamental variables, such as taxation levels or elements influencing an ecosystem. Process-oriented games lack any standard, or consistent, criterion for success, although each game encourages certain types of play: most players will want to build a large city in *SimCity*, or try to reach higher levels in *EverQuest*. A few other examples include *Elite*, *The Sims*, and *Zoo Tycoon*.

A subgroup of process-oriented games try their best to mimic concrete, real-world experiences, such as driving a car or flying an airplane. These are often referred to as **simulation games**. While many action games do flout ever-greater levels of realism, simulation games go further than action games, and reproduce minor details even at the expense of immediate gratification. The obstacle in these games need not be any external enemy; it is often the challenge of mastering the complexities of the **interface**. The challenge of a flight simulator, for example, is learning the details of getting a passenger plane off the ground. By this definition, games such as *SimCity* or *SimEarth* are not simulation games, since they do not try to simulate a concrete experience or strive to replicate minute details. Examples of simulation games include *Flight Simulator 2002*, *Microsoft Train Simulator*, *Sub Battle Simulator*.

The four genres are summarized in table form below. We will be referring to them throughout the remainder of this book.

	Action games	Adventure games	Strategy games	Process-oriented games
Typical action	Battle	Mystery solving	Build nation in competition with others	Exploration and/or mastery
Criterion of success	Fast reflexes	Logic ability	Analyzing interdependent variables	Varies widely, often nonexistent

4 HISTORY

A BRIEF PRE-HISTORY OF VIDEO GAMES/DOES HISTORY MATTER?/A HISTORY OF VIDEO GAMES/THE 1970s/THE 1980s/THE 1990s/THE 2000s/PERSPECTIVES

The history of video games, as we have seen, may have begun with the launching of a tiny white torpedo in an MIT basement. However, while the three creators of the torpedo launch—more on them later—did inspire many a programmer of the time, these three were, perhaps needless to say, standing on the shoulders of giants.

A BRIEF PRE-HISTORY OF VIDEO GAMES

In fact, the history of video games is merely the latest chapter in the fascinating and much lengthier history of games. If we hope to come anywhere near the roots of this history, we must travel several thousand miles south-east from Cambridge, Massachusetts, and some 4,600 years back in time. This will place us in ancient Egypt during the Third Dynasty (2686–2613 B.C.); here we should be able to observe people playing the game of Senet. As far as scholars can surmise, Senet was a game of skill and chance not unlike present-day backgammon. Some speculate that Senet's status changed over time, from a purely recreational pastime to an activity with potent symbolism and religious significance. But even more remarkable is that in a culture and an era utterly foreign from our own, we find a form of game that maintains its appeal four millennia later. Even with the omnipresence of computers today, and their astoundingly complex technological possibilities, we still choose to play old-fashioned board games that ancient Egyptians would have quite an easy time learning.

Around the time of Senet, although somewhat to the East, Mesopotamians played what is known as the royal game of Ur, an elaborate board game with an element of chance determined by dice. Although games at various times may have served ritual functions, it is clear that they also served the functions familiar to us—to entertain, to delight, to create social interactions.

Nor were these two games alone. The oriental game of go was played since at least 2000 B.C. Dice were used as game of chance from the seventh century B.C., about 1,400 years prior to the first mention—in a Persian romance—of chess. This period also marks the beginning of the Olympic Games in Greece (the first documented games were held in 776 B.C.). Like board games, sports are activities carefully framed by rules, to assign scores to the performance of participants. The Olympic Games, then, like early known board and dice games, are testament to a fundamental human tendency: we create games. Indeed, we even adapt most non-recreational activities into games. Think only of how many non-game activities we have assimilated from our own lives—or the lives of those people we dream of being—into games: we cook and run and swim; we shoot and sail and fly.