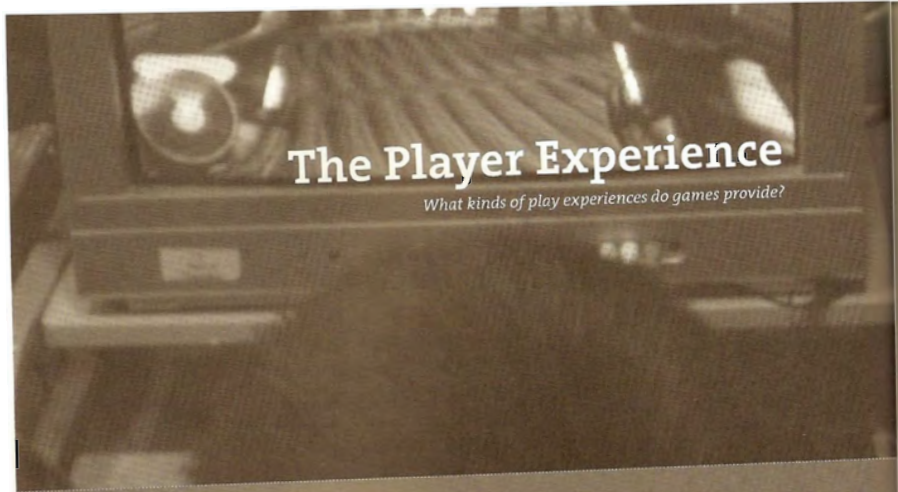
The Game Design Reader

A Rules of Play Anthology

edited by Katie Salen and Eric Zimmerman

Topic Essays

Katie Salen and Eric Zimmerman



The Player Experience

What kinds of play experiences do games provide?

GAMEING is an enchanting witchery, gotten betwixt Idleness and Avarice: An itching Disease, that makes some scratch the Head, whilst others, as if they were bitten by a Tarantula, are laughing themselves to death....—Charles Cotton

Games have long been hardwired to the pleasure center of a gamer's brain, turning play into an act of nearly religious devotion. Who among us has not been snared in the spell of a Tetris, Zelda, or Snood? Yet, when it comes to describing just how games make us feel, even magical words fall short. How does one describe the joy of mastering a six-finger controller scheme in less than an hour, or the thrill of spinning out of control down a virtual race track, brakes shot and the engine running wide open? What words characterize the social and strategic flow of *Texas Hold'em* or the feeling of envy and pride when your Starcraft clanmate bumps you down on the leader boards? How does one capture such itchy witchery?

Understanding the variety and intensities of player experiences produced by games is of great import to both game designers and those studying player behavior. What aspects of a game produce particular forms of experience? How do game mechanics influence player behavior? What constitutes an aesthetic of player pleasure? Of conflict? Or drama? The essays in this Topic begin to address these questions, each offering a unique rumination on what we feel when we play.

David Sudnow's spellbinding descriptions in *Eyeball* and *Cathexis* launch us directly into the eye of the pleasure storm. Writing from the perspective of his own addiction to the game Breakout, Sudnow focuses on the physiological and psychological pleasures of play.

> Forget about placement, a score, elegance as an end in its own right. Forget about a model of good play to motivate practice. Here's all the motivation you'd ever want: get that action again, those last few bricks left and that eerie lobbing interim as the ball floats about so you never know when it'll hit and you don't dare try placing a shot because you're more than happy just to hold on with your eyes glued to the ball.

Sudnow is lost in the pattern of play, held hostage by three bricks of light snuggled tightly against the uppermost edge of a TV screen. Each move takes place within the context of an unfolding drama fueled by an uncertain outcome.

Richard Rouse III picks up on the pleasure found in such situations in his analysis of the classic arcade game Centipede. While Sudnow writes in the spirit of a case study—a journalist visiting the world of games—game designer Rouse is truly a native practitioner. Particularly incisive is his analysis of how the formal mechanics of Centipede create waves of escalating tension.

> Many waves into the game, the increased mushroom density makes shooting poisoned mushrooms all but impossible, and with these poisoned mushrooms in place, the player is bombarded by centipedes hurtling toward him in every single wave. Thus, a player is almost relieved when his shooter is destroyed and all these poisoned mushrooms are removed from the top of the screen. This causes the player's game to be much more relaxed, at least for the time being.

These moments of rhythmic flow—the escalating tension of *Centipede*, or the hypnotic pulse of *Breakout*—contribute to a feeling of drama and tension within a game, and are never accidental. They arise as the result of careful decisions made by the game's designer. Attention to drama is precisely the subject of Marc LeBlanc's essay, "Tools for Creating Dramatic Game Dynamics." LeBlanc is a game designer who has long been concerned with developing a conceptual toolkit to help designers build better, more engaging games. An advocate of games imbued with a sense of drama, LeBlanc outlines how the *dynamics* of a game—its patterns of play—result in the game's *aesthetics*—its experience of fun:

> A game's aesthetics are its "emotional content," the desirable emotional responses we have when we play—all the kinds of "fun" that result from playing the game.... A game's aesthetics emerge from its dynamics; how the game behaves determines how it makes the player feel.

LeBlanc's essay links particular design choices on the level of game rules and mechanics with the experiences those dynamics create for the player. The bottom line is that designers have it within their control to determine the dramatic quality of the game experiences they produce. Knowing how to trigger specific kinds of "fun"—from social camaraderie to physical challenges to improvisational narrative play—is one of the great challenges game designers face.

Drama, uncertainty, and the visceral engagement of play are just some of the many experiences generated by games. What other kinds exist? "Shoot Club: The DOOM 3 Review," is a gem of reporting from the player trenches, in which writer Tom Chick takes aim at the purported pleasures offered by the overhyped and underwhelming PC game DOOM 3. The essay broadens traditional concepts of what constitutes the player experience, by expanding it to include all of the experiences that take place around the game itself. For players, this might mean obsessively scouring John Carmack's .plan, waiting in line for hours to buy the game on the day of its launch, and seeking clues as to yet unreleased details and features. For Trevor, the hapless subject of Chick's essay, this meant rifling through a world exclusive first interview in a coveted copy of *PC Gamer*:

> He thumbed through the six pages repeatedly, holding the screenshots close to his face and peering at them as if looking for clues. "I think there are some new kinds of monsters," he noted.

New monsters or not, the game ultimately failed to live up to expectations. But even if the game itself was disappointing, "Shoot Club" points out that player experience can begin far in advance of a game's release, and be deeply satisfying on its own. Recognizing the numerous moments of player engagement, whether it is reading about, purchasing, or exchanging information about a game, can extend the game experience. These are spaces, too, that can be made meaningful for players.

No exploration of player experience would be complete without a nod to Roger Caillois, one of the first scholars to identify the forms of experience produced through play. "The Definition of Play: The Classification of Games" contains Caillois's typology of play forms. He identifies four elemental play rubrics—*agôn, alea, mimicry,* and *illinx*—each based on a different kind of player pleasure. The pleasure of agônistic (competitive) play is the feeling of superiority, as when a boxer vanquishes his opponent in record time. In alea (chance-based) play such as dice games, pleasure is discovered in a player's surrender to destiny and fate. Within mimicry (make-believe) play, there is pleasure in pretending to be another, while the pleasure of illinx (vertigo) is located in the physical sensation of spinning and whirling.

Caillois doesn't argue that one rubric presents more pleasurable play than any other, and game designers should take this lesson to heart. More than the scientific accuracy of his four categories, Caillois's contribution is found in his celebration of the diversity of forms that

play experience can take. Richard Bartle takes on a parallel project in his now-classic essay "Hearts, Clubs, Diamonds, Spades: Players Who Suit MUDs." As a pioneering game designer, Bartle is interested in creating well-balanced player communities. His insight is that what people enjoy doing in a MUD—the kinds of pleasure they seek—is embodied in the way they play. Bartle designates four main player types:

> Achievers are proud of their formal status in the game's built-in level hierarchy, and how short a time they took to reach it;
>
> Explorers are proud of their knowledge of the game's finer points, especially if new players treat them as founts of all knowledge;
>
> Socializers are proud of their friendships, their contacts and their influence;
>
> Killers are proud of their reputation and of their oft-practiced fighting skills.

As Bartle makes clear, *how* players interact with a game world, be it with spaces, objects, rules, or other players, offers insight into the *kinds* of pleasures they seek. Understanding more about possible modes of interaction, styles of play, and their associated rewards can lead to innovative game forms that support multiple desires and new ways of playing. Bartle's model is designed to address MUDs, but there is a wealth of work to be done in examining and classifying play styles in other kinds of games.

The final essay in this Topic takes on the crucial issues of genre and gender. While Bartle made no distinction between male and female players in his study, recent research has asked whether boys and girls play differently and therefore desire different kinds of games. Henry Jenkins contributes to this discussion in his essay "'Complete Freedom of Movement': Video Games as Gendered Play Spaces" by focusing on the kinds of play traditionally associated with "boy culture" and "girl culture," as well as those pleasures enjoyed by both, including freedom of movement, intensity of experience, escape from adult regulation, and spaces on which to map fantasies of empowerment and escape. Jenkins is a proponent of videogames as places that offer children rich contexts in which to exert developmental and social mastery. He argues that mastery for boys and girls often takes very different forms, and is reflective of what a child likes to do when given the simple freedom to play. Ultimately, Jenkins makes a point that is echoed in many of the readings in this Topic: game designers craft particular kinds of experiences for particular kinds of players, experiences that emerge from the design choices they make.

Player experience can take many forms, be framed in many guises, and is always expressed in a diversity of social and cultural contexts. In studying player experience, we are exploring truly fundamental questions about games, play, and design. And in acknowledging the complexity of these questions, we can appreciate the many, many games still left to be created, played and ultimately, understood.

Further Reading on this Topic

Rules of Play: Game Design Fundamentals, Katie Salen and Eric Zimmerman.
Cambridge: MIT Press, 2004.

Recommended:
Chapter 23: Games as the Play of Experience
Chapter 24: Games as the Play of Pleasure

"The Conditions of Flow," Mihaly Csikszentmihalyi.
Flow: The Psychology of Optimal Experience.
New York: HarperCollins Publishers, 1991.

Creating Emotion in Games: The Craft and Art of Emotioneering, David Freeman.
Berkeley: New Riders Publishing, 2003.

A Theory of Fun, Raph Koster.
Scottsdale: Paraglyph Press, 2005.

"Videogames and Computer Holding Power," Sherry Turkle.
The Second Self: Computers and the Human Spirit.
New York: Simon & Schuster, 1984, p.64–92.

The Rules of a Game

What are rules and how do they relate to play?

Knowing the rules of the game is not nearly as simple as committing the relevant passages to memory, because memorization does not bring understanding. It is not only important to know what is written in the rules but also to perceive how the parts of the rules fit together and work in harmony with each other. This latter task is certainly achievable, but it is not easy.—Gary Gygax

Rules are a fundamental part of any game. If you purchase a board game, you are purchasing, in essence, a set of rules. It's true that you are also purchasing materials that let you play the game—a board, a pair of dice, a set of tokens—all of which have aesthetic, interactive, and narrative trappings. But to the extent that they embody the game rules and enable them to be followed, the materials are in some ways mere extensions of the rules. A game is, in this sense, nothing more and nothing less than a set of rules. In this Topic, five essays examine the nature of game rules, untangling their paradoxes and dilemmas, strategizing ways to create better rule sets, and linking rules to larger questions regarding games, play, and design.

For philosopher Bernard Suits, rules are the fundamental element of games that make play possible. As Suits outlines in his book *Grasshopper: Games, Life and Utopia*, to play a game is to follow the rules because the rules demarcate what players can and can't do to achieve the goal of the game. Rules, in this sense, define the activities players adopt in order to play, and the guidelines they obey to make the game move forward.

Suits argues that rules provide both ends and means. Rules specify the aim of the game, such as to be the first to cross the finish line. They also identify the accepted ways that the goal can be accomplished. To cross the finish line, you must line up with the other runners, begin running at the starting signal, and stay on the course for the duration of the race. The unique and frustrating pleasure of games, according to Suits, arises from the tension between the goal of the game and the "inefficient" ways that players are permitted to achieve these ends. Means are inefficient because there are often better ways of reaching the goal: a runner could make a short cut across the race course, but that—of course—would be against the rules.

Greg Costikyan's approach to rules in his essay "I Have No Words & I Must Design," is an applied version of Suits's means and ends. As a game designer, Costikyan is less concerned with defining what rules are and more concerned with explaining how they shape player experience. While rules aren't the overt subject of his essay, Costikyan implicitly explores rules by listing aspects of games and game design strategies.

> At every point, he [the player] considers the game state. That might be what he sees on the screen. Or it might be what the gamemaster has just told him. Or it might be the arrangement of the pieces on the board. Then, he considers his opposition, the forces he must struggle against. He tries to decide on the best course of action. And he makes a decision. What's key here? Goals. Opposition. Resource management. Information.

Throughout his essay, Costikyan stresses how game designers must carefully structure a game through the rules they create. For example, he makes the point that play can become more meaningful when the rules give a player multiple resource trade-offs within a given decision:

> If the game has more than one "resource," decisions suddenly become more complex. If I do this, I get money and experience, but will Lisa still love me? If I steal the food, I get to eat, but I might get caught and have my hand cut off.... These are not just complex decisions; these are interesting ones. Interesting decisions make for interesting games.

In linking rules with "interesting decisions," Costikyan emphasizes how rules cannot be considered apart from the particular moments of play they create. As his examples demonstrate, interesting decisions emerge from complex relations among rules, situations in which players are caught in cross-currents of decision-making that result from careful rule design.

Digging even deeper into the form and function of games, Staffan Björk and Jussi Holopainen undertake a detailed explication of rules in "Games and Design Patterns."

> Rules dictate the flow of the game and have been a central aspect of most definitions of games. Although rules have a distinct place in the framework, they are also embedded in every other component: there are rules that govern what the game elements are, how they behave, what actions players can perform, and so on.

In their careful cataloging of a game's essential elements, Björk and Holopainen spin out a dense web of structural relations. They describe how rules relate to other formal game elements, such as goals and subgoals, how rules enable actions by the players and result in game events, and how a game interface allows interaction between players and the form of a game. All of these structures, born out of designed rules, create moments of play for players. Rules are the "material" with which a game designer crafts a game. Björk and Holopainen's detailed taxonomy makes plain just how intricate is the task of constructing or analyzing a set of game rules.

But is every rule under the direct control of the game designer? In the essay "Unwritten Rules," we find a very different point of view. For Stephen Sniderman, the "official" rules of a game constitute only a fraction of the story. In any game, there are a host of "unwritten rules"—the normally unspoken behaviors that players adopt in order to play, such as spending a reasonable amount of time to take a turn in Tic-Tac-Toe. These unwritten rules are never explicitly stated, but players seem to agree on them nevertheless.

Sniderman lists eight things we must know and do to play the simplest game. What Bernard Suits calls the "constitutive rules"—the logical rules of play—is only one item on the list, which also includes everything from the etiquette and ethos of a game to the intuitive cultural notion about what it means to "play." For Sniderman, a game is fundamentally a social contract. He is less interested in game rules in and of themselves, instead prying open the relationships between rules and the real-life contexts that surround them.

Raph Koster, in "Declaring the Rights of Players," takes the idea of rules as a social contract to its logical extreme. Koster is a designer of massively multiplayer games, and his essay offers a set of "rules" for the social behavior of game players and the staff that administrate their virtual worlds. For example, one of the rights he asserts is that

> No avatar shall be accused, muzzled, tossed, jailed, banned, or otherwise punished except in the cases and according to the forms prescribed by the code of conduct.

Ironically mimicking an eighteenth-century political document, Koster's Declaration forcefully asserts a set of "metarules"—rules of game-playing behavior to be observed, regardless of the particular virtual world at hand. In this sense, the essay codifies Sniderman's

unwritten rules, translating implicit social behavior into explicitly stated guidelines. In his essay, Koster not only lists his rules, but also includes questions and comments submitted by readers in response to his original Declaration. By sharing the dialogue and debate generated by his document, Koster's work points to the fact that these kinds of social contracts are likely to be under constant negotiation and redesign.

Can we ever grasp all the rules of a game? It depends on your point of view. It can be said that rules are limited and knowable, the underlying mathematical structures that define a game. But perhaps game rules only come into being when they ramify into play, as the structures experienced by players as they interact with a game. Or maybe, the secret to understanding rules lies in unwritten regulations, the social codes that link the artificial worlds of games to the cultural contexts they inhabit.

Rules are, of course, all of these things. Despite the authority that game rules sometimes exude, remember that rules are never as stable as they may seem. Rules are made not only to be followed, but also to be broken, uncovered, negotiated, and refashioned into entirely new kinds of play.

Further Reading on this Topic

Rules of Play: Game Design Fundamentals, Katie Salen and Eric Zimmerman.
Cambridge: MIT Press, 2004.

Recommended:
Chapter 11: Defining Rules
Chapter 12: Rules on 3 Levels
Chapter 13: The Rules of Digital Games

Game Design Workshop: Designing, Prototyping, and Playtesting Games,
Tracy Fullerton, Steven Hoffman, and Christopher Swain.
Recommended, chapter 3: Working with Formal Elements.
San Francisco: CMP Books, 2004.

The Moral Judgment of the Child, Jean Piaget.
Recommended, "The Rules of the Game," p.13–29
New York: Free Press, 1997.

New Rules for Classic Games, R. Wayne Schmittberger.
New York: Random House, 1994.

RE:PLAY: Game Design + Game Culture, Amy Scholder and Eric Zimmerman, eds.
Recommended, Module 1: Games as Structure
New York: Walter Lang, 2004.

Gaming the Game

How and why do players bend, break, and remake rules?

If you can't play it, change it. If it helps, cheat.—Bernard DeKoven

Counterstrike mods; "home rules" for playing Monopoly; artists hacking The Sims: it's clear that playing *by* the rules and playing *with* the rules of a game go hand in hand. As anyone who has spent any time at all around games will be quick to tell you, it is impossible to predict just what a player will do once play begins. Kenneth Goldstein notes that the "official" rules of a game are merely the rules by which people *should* play, rather than the ones by which they *do* play. The "real rules" of a game, the ones actually used by players, are often something else entirely. The tension between these two kinds of rules, *ideal* and *real* rules, is at the center of this Topic: a series of essays exploring how players bend, break, and change game rules through play.

Players break rules: this is a simple fact. But instead of viewing this behavior as negative, destructive cheating, we see it as one of the most fascinating and creative aspects of play. What are the creative impulses behind rule-reinvention? What are the social codes that drive players to cheat? What is put at play when player-created rules trump the "official" ones? This is an area of inquiry drawn along both formal and social lines, encompassing notions of community, laws governing behavior in virtual worlds, and hacks and mods and cheats. Understanding the impulse for "gaming the game" can help designers harness and redirect this transgressive energy. Sometimes this means offering cheat codes or tools players can use to modify the game system; at others, designing flexible rule-sets that accommodate alteration, or making "house rules" an official feature of a game. From a design perspective, gaming the game cuts both ways.

In his essay "Unwritten Rules," Stephen Sniderman makes a distinction between explicit rules (what we generally understand to be the rules of a game) and implicit rules, the unrecorded rules that affect a player's behavior without the player being aware of them. Implicit rules include formal structures such as the amount of time players should take between turns, or social structures like an unspoken agreement to play more gently when little kids are present. Sniderman goes into detail about his own group of tennis players:

> ...the "casual" game of tennis that my buddies and I play is really based on an enormously complex set of "rules"—assumptions, traditions, and conventions—that govern our behavior on the court (whether we are consciously aware of it or not). My contention is that no one could ever "fully" describe those rules or those governing the players of any other game.

Obviously it is impossible to state every implicit and explicit rule of a game. But surprisingly, this doesn't destroy play—in fact, as Sniderman points out, "almost all games are taken very 'seriously' by almost all players almost all of the time."

If the play of a game stems not from a fixed set of logical rules, but instead from a constantly shifting, unspoken set of assumptions, how is it that we manage to play a game at all? Playing a game relies on a shared understanding between participants, an understanding that is always ripe for negotiation. Rules, as a result, are under the control of players. A game is a kind of social contract between them, maintained and modified through their ongoing interaction.

Gaming as a social contract between players is also at the heart of Linda Hughes's study of playground Foursquare. "Beyond the Rules of the Game: Why Are Rooie Rules Nice?" offers an enlightening and often comical glimpse into the difference between game rules and the rules of gaming. In her study, Hughes discovered that children modified rule sets as a way of maintaining existing social relationships on the playground. The rule sets invented by the children rarely stipulated specific game actions. Instead, the rules provided general frameworks for social interaction. As Hughes notes about a set of rule variants named after a player called "Rooie":

> Despite the fact that play regularly proceeds after a call of "Rooie Rules," no player, including Rooie and the "king" who calls them, can supply a complete list of rules encompassed by this call.... What allows the game to proceed with such apparent ambiguity concerning the precise rules of the game is the tacit understanding that Rooie Rules are "nice" and "nice" is perhaps the paramount concern among these players. It is far more important to understand "nice" play than to understand the rules.

Rooie Rules are an instance of Sniderman's implicit rules. These rules lack explicit representation yet offer an interpretive framework for player interaction that binds together game rules and player actions. The "real" rules of Foursquare (as opposed to the "ideal" rules) don't just hold the game together—they maintain the social status quo.

The playground players that Hughes studied were wonderfully inventive with their game. In her essay, she lists dozens of rule variations on Foursquare created by the children through their multileveled play. These players make up an instance of what Bernard DeKoven, in his essay "Changing the Game" calls a "play community." In his essay, DeKoven brings together ideas of rule change and social interaction. To "play well" is to play well together, to bend, break, or invent new rules that change the game in ways that strengthen the play community.

> ...we cannot even begin to explore ways of changing the game until we are certain that we share the intention to play well together... this is something not embodied in the rules but is found and maintained through the conventions of the play community.

Like Sniderman and Hughes, DeKoven sees a game as a social contract between players. "Playing well" is the result of an ongoing process of negotiation and renegotiation of the rules. Play changes as we do.

In moving from the playground to the world of digital games, we discover whole new ways of gaming the game. Mochan's "The Evil Summoner FAQ v1.0: How to be a Cheap Ass" takes the RPG game Summoner, released in 2001, as its victim. This cheeky FAQ uses the standard format of a game guide to share exploits, cheats, and degenerate strategies of play—all methods of playing a game in unintended ways.

> If you pause the game, you will notice certain commands, like Rosalind's Assess, can be used indefinitely even with time stopped! It's stupid, but that's what happens when you rip-off the Diablo system and give it a pause feature, without knowing what you're doing (shame on you Volition [the company that developed Summoner]).

Players can come to know a game even better than its designers, which is one reason why they can exploit game features in such creative and detailed ways. By sharing hints, tips, and other resources online, players game the game. In doing so, more than just cheat codes are revealed. The values, attitudes, and motivations of the players themselves also come to light. We learn what players want to be able to do and are informed about the way they were able to do so by changing the rules.

Gaming the game is not just a quaint player phenomenon, but constitutes the very heart and soul of play. Through their collective activity of gaming the game, Summoner fans and Foursquare cliques create their own player communities—socially-rich subcultural groups that express themselves through the ways they play with their chosen games.

Sometimes players choose to transgress rules just because the rules are there. Understanding and predicting player behavior can often feel like a lost cause, especially in massively multiplayer online systems where players spend large chunks of time playing in (and with) the world. In the case of the Habitat project, wonderfully chronicled in Randall Farmer and Chip Morningstar's essay "The Lessons of Lucasfilm's *Habitat*," players never behaved in the way their designers expected:

> It was clear we were not in control. The more people we involved in something, the less in control we were. We could influence things, we could set up interesting situations, we could provide opportunities for things to happen, but we could not dictate the outcome. Social engineering is, at best, an inexact science (or, as some wag once said, "in the most carefully constructed experiment under the most carefully controlled conditions, the organism will do whatever it damn well pleases").

Rather than take this seemingly inherent desire to game the system as an obstacle, the designers of Habitat allowed this behavior to drive the ongoing design of the world. The example of Habitat points to a new paradigm for game design, one in which gaming the game is part of the process of game creation, in which players are encouraged to play well together by deconstructing and reconstructing the very games that they play. It is a remarkable shift in thinking to see rule-breaking as just another form of iterative design. Who better to tweak and tune a system than those for whom the game was made?

Further Reading on this Topic

Rules of Play: Game Design Fundamentals, Katie Salen and Eric Zimmerman. Cambridge: MIT Press, 2004.

Recommended:

Chapter 21: Breaking the Rules

Chapter 28: Social Play

Chapter 31: Games as Open Culture

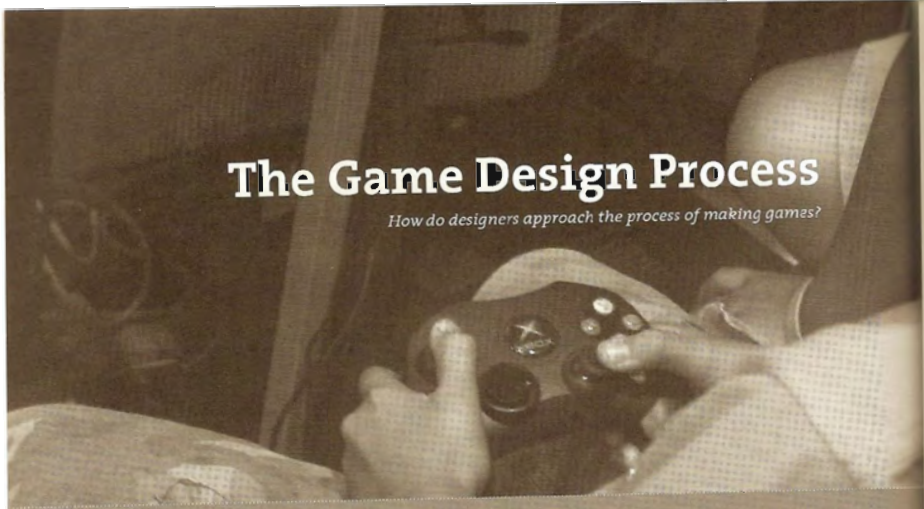
Chapter 32: Games as Cultural Resistance

"Strategies in Counting Out," Kenneth Goldstein. *The Study of Games*, ed. Elliott Avedon and Brian Sutton-Smith. New York: John Wiley & Sons Inc., 1971, p. 172–77.

"Gaming the System: Multi-player Worlds Online," J. C. Herz. *Game On: The History and Culture of Video Games*, ed. Lucien King. London: Laurence Ling Publishing Ltd., 2002.

"Game Patch: the Son of Scratch?" Eric Huhtamo. Cracking the Maze, curator Anne-Marie Schleiner, July 16, 1999. www.switch.sjsu.edu/CrackingtheMaze.

"Telefragging Monster Movies," Katie Salen. *Game On: The History and Culture of Video Games*, ed. Lucien King. London: Laurence Ling Publishing Ltd., 2002.



The Game Design Process

How do designers approach the process of making games?

Much good design evolves: the design is tested, problem areas are discovered and modified, and then it is continually retested and re-modified...—Donald Norman

Many people play games. But how many know anything about how games actually *get made*? By exploring the game design process, we can better know how game designers work, how play emerges out of designed structures, the complex relationships between player and designer, and the culture of game development itself.

While every game designer or design team has a unique process, all five essays in this Topic stress the importance of *iterative design*, a methodology based in playtesting. The game is prototyped during its development, and then played by the designers, as well as by outside testers. Design decisions are based on the results of the playtests, and a new prototype is created, which is playtested again. As board game designer Renier Knizia has written, "The fun and excitement of playing cannot be calculated in an abstract fashion: it must be experienced." A game must be played as it is created.

Iterative design and testing is more than just informal play—it is a rigorous design process. Knizia writes about the design process of The Lord of the Rings Boardgame, in the following excerpt from a case study he wrote about the game for our book *Rules of Play*:

> I prepare each of my playtest sessions in great detail—I plan the exact issues I want to monitor and test. During play, I record relevant data about the game flow. Afterwards, I analyze the results and then make necessary or exploratory changes. This becomes the preparation for the next playtest session, during which I can find out how the changes will affect the game. The revolving process usually continues for many months, sometimes years. With experienced playtesters, we spend much time after each test discussing how it went—what worked and what didn't. Often we make changes on the spot and play again.

Most of the essays included in this Topic are game design case studies, in which designers write about and reflect on their own process. Case studies offer critical insights into the challenges, solutions, and strategies that led to the design of a successful—or unsuccess-

ful—game. (What doesn't work properly in a game is often more illuminating than what does.) For those who both make and study games, case studies are one of the most valuable forms of game design writing.

Inspiration for a game can come from anywhere. In the case of Chris Crawford's title Eastern Front (1941), the technology of a scrolling map guided much of his initial thinking. Crawford's first playable prototype was not very enjoyable—a common occurrence with early versions of new kinds of games. However, Crawford responds by clearly identifying problems in the design and making necessary adjustments. He solicits feedback from playtesters, but is careful to filter their ideas into categories that make sense for his process: "Most suggestions are additions; some are embellishments, some are corrections, and some are consolidations."

One danger of an iterative process is that it can lead to a never-ending list of tweaks and adjustments. Particularly in commercial videogames, the time and effort required to implement changes must always be taken into account. Smaller embellishments are more easily considered than wholesale overhauls. Too much iteration and the entire process can run amok. In the course of his essay, Crawford finds a balance between accepting outside input and following his internal design sense.

In his case study "The Design Evolution of Magic: The Gathering," game designer Richard Garfield also begins with an idea for a new game form. But in this case, the technology is paper, not software. From his initial inspiration (games like Cosmic Encounter), to game balancing and rule-writing early prototypes, through the final commercial release, Garfield keeps a sharp focus on the players' experience. Focusing on a consistent design goal—giving the game "a feeling of infinite size and possibility"—allows him to successfully navigate the trials and tribulations of the iterative process.

Magic was the first trading card game, in which players trade, wager, and win new cards in between matches. Thus Garfield had to design not just the core dueling mechanics of Magic, but also the surrounding metagame. As his case study reveals, sometimes he directly guided the evolution of the card economy, by banning cards that could overbalance the game. Other times, he let the players police themselves. An important aspect of the iterative process is releasing control of the game design just enough to let the players surprise you.

However, sometimes the process itself provides the surprise. Ken Birdwell's case study for the blockbuster first-person shooter Half-Life begins at a crisis point in the game's development. As with Crawford's initial prototype, the game just wasn't enjoyable:

> By late September 1997, nearing the end of our original schedule, a whole lot of work had been done, but there was one major problem—the game wasn't any fun.... There were some really wonderful individual pieces, but as a whole the game just wasn't working.
>
> The obvious answer was to work a few more months, gloss over the worst of the problems and ship what we had. For companies who live and die at the whim of their publishers, this is usually the route taken—with predictable results.... At this point we had to make a very painful decision—we decided to start over and rework every stage of the game.

In response, the *Half-Life* team had to invent new ways of thinking about game design, as well as a new methodology for game development, which they called the "Cabal" process. The team also generated their own player-centric game design theories and methods, such as how to measure the experience of the player and how to arrange and structure events for maximum enjoyment. Throughout, playtesting and iterative design were central. Playtesting served a number of purposes for the *Half-Life* team, such as providing an "objective" way of resolving differences of opinion among team members about how the design should proceed.

In contrast to the processes of Crawford and Garfield, the *Half-Life* team lacked a single "game designer" figure. Instead, the role of the game designer was distributed among the team of level designers, visual designers, and programmers, resulting in a process in which everyone was, as Birdwell puts it, "invested in the design as a whole." (Game design work need not be limited to just "official" game designers.)

Because iterative design is an open-ended process, a strong vision for the player's experience helps to structure the process. At any moment in the cycle of iteration, a game designer might try out thousands of different rule tweaks and variations—why choose *this* modification over *that* one? In Half-Life, the notion of a thrilling, single-player experience guided the development team through the thicket of possible design directions. In the case of Magic, Richard Garfield pushed his initial idea about a game of infinite possibilities through to the very end.

Randy Farmer and Chip Morningstar, in their case study of the online community game Habitat, also maintained a strong design focus throughout their iterative process. Engendering social play and interaction was their goal: as they note, the idea of "a multiuser environment is central." Similar to Magic, the Habitat designers released the game and let the design evolve, using the initial play experience as a playtest for the design as a whole.

> Instead of trying to push the community in the direction we thought it should go, an exercise rather like herding mice, we tried to observe what people were doing and aid them in it. We became facilitators as much as we were designers and implementers.

This approach pushes the experimentation of iterative design to greater heights. Rather than going through cycles of testing prior to launch, Farmer and Morningstar relied on player input. In so doing, they relaxed their roles as the sole authors of the world, letting player activity guide the design process.

A more extreme proponent of exploration through iteration is designer and philosopher Bernard DeKoven. In "Changing the Game," a chapter from his book *The Well-Played Game*, DeKoven outlines his ideas about the design process, in which players directly control the evolution of a game. For DeKoven, play itself is a form of iteration. Why keep players under the thumb of professional game designers? Let them create the games they want to play! Although DeKoven's essay isn't a case study of a single game, it does offer concrete playtesting tips. For example, DeKoven advises his player/designers to make only small modifications in each iteration, so that it is easier to see how the changes affected play.

In some measure, all iterative design partakes of this spirit, of sharing design decisions with an engaged audience, of mixing play and design. For example, the design processes of Magic and Habitat gave players tremendous power over the way the game designs evolved—in a very DeKovian fashion. But, as a clear advocate of blurring the roles of player and designer, DeKoven certainly assumes the most radical stance.

Perhaps DeKoven can take this position because he has the luxury of not shipping a product for a publisher on a limited budget and schedule. As Crawford and Birdwell both point out, the restrictions of commercial development play a very strong role in determining what direction a game design takes. We'd be hard pressed to find a working game designer who would disagree.

But we wonder: how might DeKoven's ideas translate to a commercial context? What if a game could perpetually evolve, giving players the role of designers, a game in which the iterative design process was simply *how the game was played?* Perhaps, considering the cutthroat game industry, this is a vision of starry-eyed optimism. Or a game design impossibility. Or maybe, just maybe, it's that no game designer has been brave enough to fully live up to DeKoven's utopian vision for the future of play.

Further Reading on this Topic

Rules of Play: Game Design Fundamentals, Katie Salen and Eric Zimmerman.
Cambridge: MIT Press, 2004.

Recommended:
Chapter 2: The Design Process
Commissioned Essay: Renier Knizia
Commissioned Games: Richard Garfield, Frank Lantz, Kira Snyder, James Ernest

Designing Virtual Worlds, Richard Bartle.
Berkeley: New Riders Games, 2003.
Recommended, chapter 2: How to Make Virtual Worlds.

"Chapter 5: The Game Design Sequence," Chris Crawford.
The Art of Computer Game Design.
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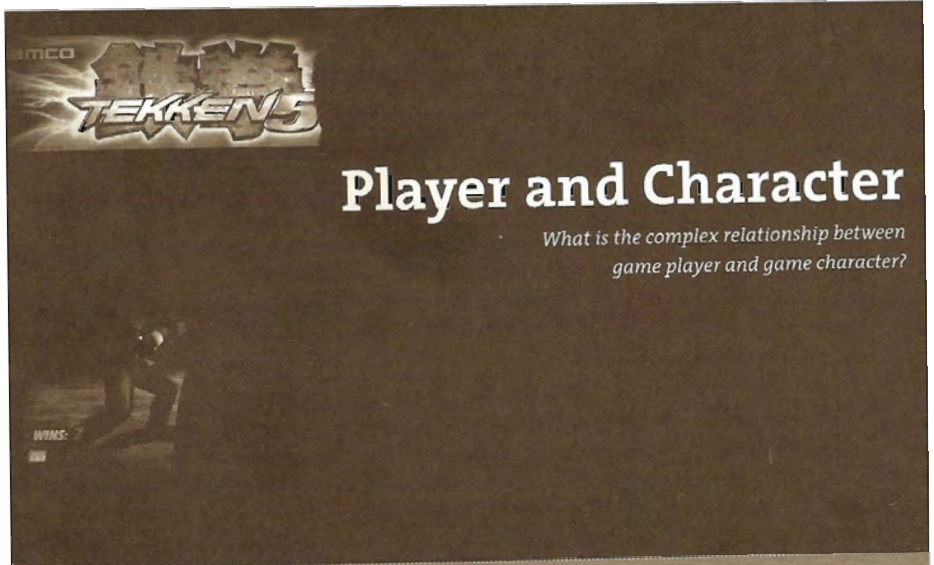
Game Design Workshop: Designing, Prototyping, and Playtesting Games,
Tracy Fullerton, Steven Hoffman, and Christopher Swain.
Recommended, *chapter 7: Prototyping; chapter 8: Playtesting.*
San Francisco: CMP Books, 2004.

Postmortems from Game Developer: Insights from the Developers of Unreal Tournament, Black and White, Age of Empires, and Other Top-Selling Games,
Austin Grossman, ed.
San Francisco: CMP Books, 2003.

Masters of Doom: How Two Guys Created an Empire and Transformed Pop Culture,
David Kushner.
New York: Random House, 2003.

"Play as Research," Eric Zimmerman.
Design Research: Methods and Perspectives, ed. Brenda Laurel.
Cambridge: MIT Press, 2003.



Player and Character

What is the complex relationship between game player and game character?

What is the transaction that takes place between the player and the character that they inhabit to play the game?.... How are identities absorbed and played out? What skins do we take with us when play ends? If you could exchange your current world to become any character in your lexicon of game identities, who would you be?
—Sara Diamond

Power up a videogame and prepare to enter a realm of false idols. Who has not relinquished their soul to a mustachioed hero named Mario, or lain quietly in wait for a chance encounter with the White Mage? Games are identity factories where characters are constructed and put to work, often with little more fanfare than the choice of a name, or the selection of an outfit, vehicle, or weapon. From Pac-Man to Donkey Kong, Max Payne to Solid Snake, UuLaLa to Jak and Daxter, there is no shortage of opportunities to wear the skin of another. Who will you become—Human, Elf, Dwarf, Orc—when the game begins? Better yet, who will you be when given the chance to play again?

The relationship between game player and game character is immensely complex, despite the ease with which each identity is assumed. We think nothing of picking up a controller, toggling through a few menu screens, and pretending to be another. We might be a plastic token on a game board, a 3D figure blowing up enemies on a PC, or an imagined persona taken up and acted out in a tabletop role-playing game. In every case, games give us permission to play with identity because they give us *characters to play*. No other medium can make the same claim. Television, film, and books can't, despite their narrative richness. Games can and do—which is one reason why the territory of player and character is such an important topic of study. How do players relate to their game characters? How are identities absorbed and played out? What skins do we take with us when play ends?

These questions point to important lines of inquiry regarding how players relate to games, how games are experienced on cognitive, psychological, and emotional levels, and how designers can tap into these relationships to produce deeper and more engaging play. The essays in this Topic focus on the point of intersection between player and character, that fulcrum of self upon which game identity hinges.

These issues of player and character echo concepts developed by play theorist Roger Caillois in "The Definition of Play: The Classification of Games." Caillois' famous taxonomy includes the category of *mimicry*—play activities that center on make-believe. According to Caillois, the player's relationship to the activity of making believe is more than simple faith in the game's story. It also embodies a complex play of truth and fiction:

> The pleasure [of mimicry] lies in being or passing for another. But in games the basic intention is not that of deceiving the spectators. The child who is playing train may well refuse to kiss his father while saying to him that one does not embrace locomotives, but he is not trying to persuade his father that he is a real locomotive.

More than just casually miming a representation, players actively shape their status as game characters as they become caught up in a game. Only when players give themselves over to the give-and-take flow of game play can the representation of character most effectively take place. Games not only allow players to pretend at being another, but also support their engagement in the illusion by encouraging players to work at moving deeply into the fiction of play.

But what is the nature of this work? Significantly, Caillois notes that games are *not* about deceiving spectators. A father watching his son play at being a locomotive is in no way convinced that the boy is a train. What he does know, however, is that the boy is *playing* at being a train, and is engaged in the fiction of this effort. The father and the boy both recognize the truth and the fiction of the play activity. This same idea is at the heart of the essay "A Theory of Play and Fantasy," in which anthropologist Gregory Bateson explores play as a complex and double-edged act of communication.

Play, argues Bateson, is part of our developmental history, not just from the perspective of biology, but also from that of language. Someone at play is constantly signaling the fact that that he or she is "just playing," so that playful actions won't be taken as "real." (A dog that wags its tail as it barks communicates play, not aggression.) Bateson calls this signaling of play "metacommunication," a special kind of communication *about communication*—or, as Bateson explains, when "the subject of the discourse is the relationship between speakers." In Caillois's example, the child playing at being a train and refusing to kiss his father is not just miming a train, but is taking part in a complex conversation *about* the act of make-believe—and at the very same time, both participants enjoy the fictional play itself.

In *Rules of Play*, we took a stand against what we call the "immersive fallacy": the idea that the primary or sole pleasure of a game is its ability to deceive players into believing that what they are experiencing is real. While sensory illusion is part of the experience of some games, it is certainly not how all people relate to every game. Games are *not* merely watered-down versions of the Star Trek holodeck. To play a game is also to enjoy the artifice, to engage with the game through the frame of metacommunication.

Michael Mateas and Andrew Stern, in "Interaction and Narrative," tie these concepts to a larger history of ideas. Within a broad analysis of several theoretical approaches to narrative and interactivity, Mateas and Stern discuss the relationship between *agency* and *immersion*, two terms borrowed from interactive narrative theorist Janet Murray. By "agency," they refer to the player's sense of being able to make meaningful actions in a fictional world. By "immersion," Mateas and Stern mean the feeling of being taken up into the narrative world: "when a participant is immersed in an experience, they are willing to accept the internal logic of the experience, even though this logic deviates from the logic of the real world." This willing suspension of disbelief feeds a player's ability to immerse him- or herself in a character, and to take meaningful action through character agency. Triangulating the ideas of Brenda Laurel, Janet Murray, and Aristotle, Mateas and Stern emphasize how designers must find a balance between agency and immersion, a balance between passively accepting a fictional world and actively gaming it in order to advance the story.

When metacommunication, immersion, and agency collide, the result is a complex lamination of player and character identity, clearly evident in a genre of games known as "RPGs," or role-playing games. In an RPG, a player literally assumes the identity of a game character in a narrative world, and performs as that character throughout the game. *Shared Fantasies*, a book by folklorist Gary Allen Fine, is a thoughtful ethnography of tabletop role-players. The centerpiece of his analysis, outlined in "Frames and Games" is a three-layer model of player identity:

> First, is the *person:* the real-world social being as defined by outside contexts.
>
> Next, the *player:* the participant as someone who is playing a game.
>
> Finally, the *character:* the fictional persona depicted by the player through the mechanisms of the game.

These three layers all coexist simultaneously. Thus Caillois's child, playing with his daddy at being a train, is at once the *character* of the locomotive, the giggly *player* taking on a fictional identity, and a *person* in a real-world family. To take another example: booting up World of Warcraft, a player is simultaneously the orc warrior *character* named Scarzan, an experienced World of Warcraft *player* with several characters and a set of online game-playing buddies, as well as a *person* in the real world, with values, ideas, and knowledge that comes from outside the game—such as the pop cultural intuition about what makes an orc different from an elf.

Moving through and among this lamination of identity is part of what it means to play a game. When Fine describes players trying to role-play medieval characters *as if* they did not know about twentieth-century science and technology, or mocking each other *in character* for slipping into contemporary slang, what he is really observing are instances of this playfully layered negotiation.

The final essay in this Topic, "Bow, Nigger," is a marvelously detailed case study of player-character engagement. always_black, playing Jedi Knights II: Jedi Outcast, writes from a player's perspective, recounting the emotional roller coaster of a particularly memorable duel. always_black's account exemplifies many of the concepts developed by Caillois, Mateas, and Fine:

> He has agency: *You can swing away in one of three "styles," fast, medium and heavy, all of which allow you to wrestle mouse movement and direction key presses to produce jaw-dropping combinations of slashes, chops, and stabs...*
>
> He is immersed: *My concentration was absolutely intense and never before have I tried so hard to "be the mouse." I felt a trickle of wet run down from my under my right armpit.*
>
> He is a character: *I crouch and duck my head, a "bow."*
>
> A player: *Five health points remain and I know I haven't hit him yet.*
>
> And a person: *I'm a big boy now and I don't want to be a Jedi when I grow up.*

always_black paints a complex picture of the player-character construct as he weaves and shifts identities through his avatar name and appearance, style of game play and communication, observance and breach of game etiquette, immersive projection into the game, and identification with the larger *Star Wars* universe.

The player-character construct is one of the most complicated aspects of studying games, partly because a game does not define the relationship so much as *mediate* it. Players are ultimately the ones in control of their status as characters, and the degree to which they engage in this complex choreography of truth and fiction. The special status of players as both active and willing participants in character creation and recreation makes them ideal subjects for design. Who could ask for a more captive audience?

Further Reading on this Topic

Rules of Play: Game Design Fundamentals, Katie Salen and Eric Zimmerman.
Cambridge: MIT Press, 2004.

Recommended:
Chapter 25: Games as the Play of Meaning
Chapter 27: Games as the Play of Simulation

Remediation: Understanding New Media, Jay David Bolter and Richard Grusin.
Recommended, Introduction; Immediacy, Hypermediacy, and Remediation; Computer Games.
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The Fantasy Role-Playing Game: A New Performing Art, Daniel Mackay.
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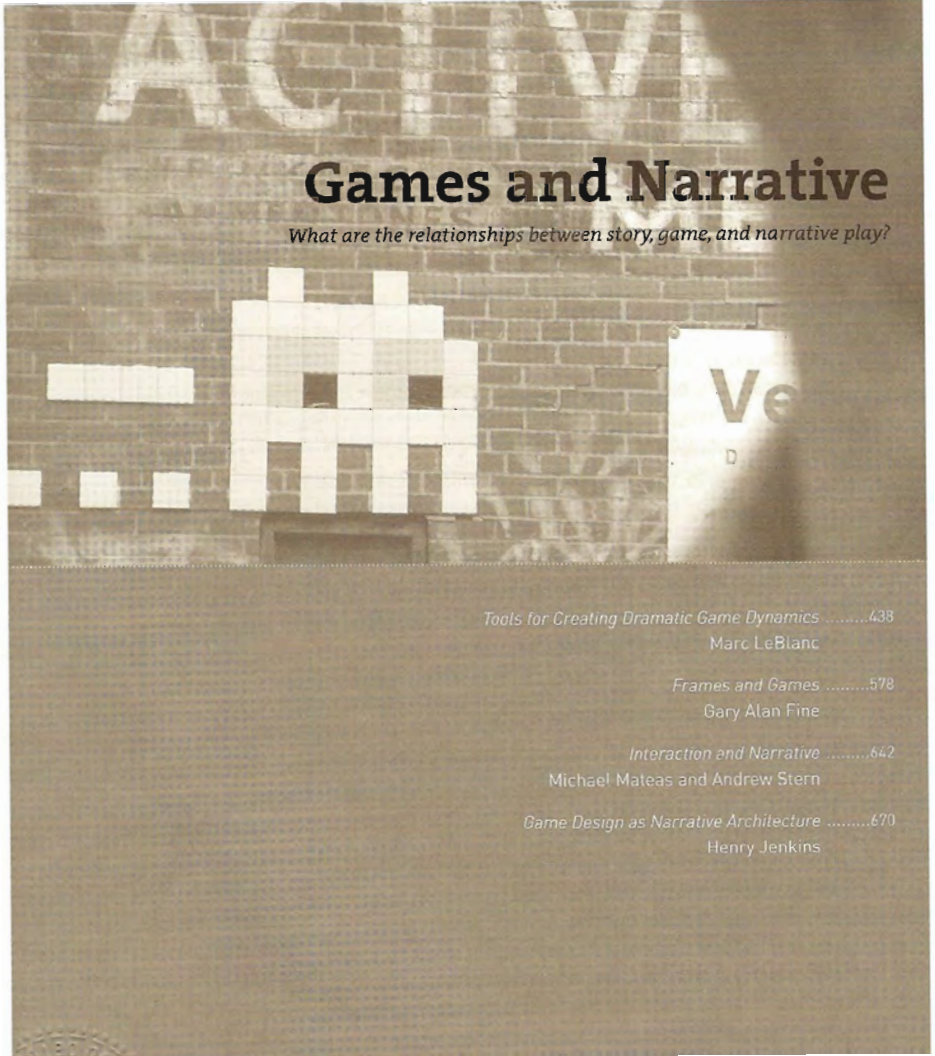
Life on the Screen: Identity in the Age of the Internet, Sherry Turkle.
Recommended, chapter 7: Aspects of the Self.
New York: Simon & Schuster, 1995.



As questions go, this is not a bad one: Do games tell stories?

—Jesper Juul

One of the most contested terrains in the study of games is that of games and narrative. For the past decade or more, the debate has been sometimes fiery, other times pleasantly cordial. Today, however, the situation can only be characterized as a tangled mess of intersecting positions, counterpositions, retractions, qualifications, sidesteps, and reframings. Which is all to say that while there is much to be said regarding the narrative possibilities (or impossibilities!) of games, it will be some time before it is all sorted out.

Each of the four texts included in this Topic is a stellar example of writing being done on the subject of games and stories. There are many aspects of the larger debate left untouched—the territory is simply too vast for such a small collection to cover. Instead, each of the included texts occupies a particular, strategic niche. Michael Mateas and Andrew Stern's essay, for example, includes a terrific summary of several major figures—Brenda Laurel, Janet Murray, Jesper Juul, Gonzalo Frasca, Marie-Laure Ryan, and Henry Jenkins. For his part, Henry Jenkins gives a concise and highly diplomatic description of the Narratology vs. Ludology debate, which alone makes his essay worth reading.

Although many approaches to narrative and games, including those of Mateas and Jenkins, take a strongly theoretical stance, game designer Marc LeBlanc offers a refreshingly practical slant on the subject. In "Tools for Creating Dramatic Game Dynamics," he presents a handful of specific game design strategies for producing "dramatic uncertainty." For LeBlanc, a model of the dramatic arc (conflict, climax, resolution) is the foundation for crafting drama in games.

LeBlanc's dramatic arc is a formal model of game behavior, where dramatic tension is defined as "a kind of quality that can accumulate and discharge, increase or decrease as time passes." While dramatic tension cannot be exactly measured, games can be designed to increase or decrease its value at different moments, by manipulating uncertainty and inevitability. LeBlanc goes on to describe in detail several conceptual tools available to game designers, tools with names like "the fog of war," "hidden energy," and "cashing out." Each tool represents a formal game dynamic that can be tuned to manipulate and control the drama of a game.

This conceptualization of game drama is not a typical way of framing games and narrative. Rather than the certain trajectory of a three-act story, Leblanc's model embraces uncertainty as a catalyst for ongoing moments of drama, which end up being resolved in a number of different ways.

"Interaction and Narrative," an excerpt taken from Michael Mateas and Andrew Stern's paper "Interactive Drama, Art, and Artificial Intelligence," presents a more story-centric approach. Their theoretical work on the subject stems from *Façade*, an interactive drama driven by natural language recognition. Because of this, rather than trying to develop an overall theory of interactive drama, Mateas and Stern are here primarily interested in providing an approach to the design of emergent and player-constructed narrative, "a rich framework within which individual players can construct their own narratives, or groups of players can engage in the shared social construction of narratives."

As programmers, Mateas and Stern took a high-level approach to the operation of narrative within an interactive space, and translated it into working algorithms that model this behavior. "Interaction and Narrative" offers insight into how this was accomplished and leaves open the door for continued research in this area. If you find these ideas of interest, we recommend you read the rest of their original paper, which contains a further elaboration on their approach to game design and technology.

In "Game Design as Narrative Architecture," Henry Jenkins makes an important conceptual leap: game designers, he argues, are less storytellers than narrative architects. In taking this position, Jenkins shifts the debate about games and narrative into the realm of spatiality. Connecting games to the historical tradition of spatial storytelling, he defines four approaches to creating immersive narrative experiences:

> ...spatial stories can evoke pre-existing narrative associations (evocative spaces); they can provide a staging ground where narrative events are enacted (enacting stories); they may embed narrative information within their mise-en-scène (embedded narratives); or they provide resources for emergent narrative (emergent narratives).

Although not a designer himself, Jenkins is a forceful and thoughtful advocate of design. His theoretical work on games offers conceptual tools to strengthen the craft of game design. Jenkins's work also demonstrates that there is more than one way to skin the cat of games and narrative. By questioning long-held assumptions he is able to make new inroads into that well-trod territory.

Gary Alan Fine's essay "Frames and Games" takes a theoretical leap of another sort, into the complex realm of fantasy role-playing games, chronicled in his book *Shared Fantasy: Role-Playing Games as Social Worlds*. Tabletop RPGs are inherently narrative, as players interact with one another inside fantasy worlds they help to build and maintain. An RPG gamemaster must carefully craft the narrative dimensions of these worlds to accommodate and respond to unexpected player action. Developing a narrative structure that is episodic, open to change, supportive of emergent possibilities, and engaging for everyone involved is no simple task. It requires a tremendously sophisticated understanding of game rules and mechanics, dramatic structure, and player behavior. It is no wonder that researchers like Fine find fantasy role-playing a rich context for study.

Fine's method differs from that of the other authors included in this Topic. Trained as a folklorist, Fine closely *observes* the way that game players act and interact, constructing his theory in retrospect as a way to explain his observations. His focus is primarily on the construction of player identity in a game, the way that role-players constantly shift between frames of experience. A player of Dungeons & Dragons is simultaneously a person in the real world, a player in the game space, and a character in the fictional world of the game. In each of these frames a person/player/character must manage information known to some, but not others, in the frame, all the while remaining engrossed in the fantasy experience.

Players must not only know what their character should (or shouldn't) know, but must also discern *who* they are dealing with (a real person or a character?) in each exchange of the game. Fine offers an example of the potential confusions such a situation evokes:

> Jerry said that "I" [my character] had gone over to the king's capital city, and on the docks "I" [my character] had met "Barry" [Barry's character]. "Barry" [the person] shakes my hand [my real hand] and says, "Nice to meet you [the character]." "I" [in character] say, "Nice to meet you [Barry's character] to him. Jerry seems surprised and asks, "Don't the two of you know each other?" Barry comments, "Not in this game." [Field notes]

Maintaining the narrative of the game is contingent on the players' abilities to manage this frame complexity. While this process seems complicated, Fine discovers that players achieve the transition between frames quite easily. As Bateson's work on play and fantasy in *Steps to an Ecology of Mind* has shown us, knowing that one is at play is all part of the game. Metacommunication clearly plays an important role in fantasy role-playing games: without it, access

into and out of the fictionalized worlds created by players would be impossible. Fine's essay is a delightful report on what it *means to play* a character in a narrative game.

In this Topic, we find a game designer inventing formal tools for game creation, a pair of programmer-theorists designing emergent player narratives, a media studies scholar reframing game design as narrative architecture, and an ethnographer recording the metacommunicative aspects of role-playing games. This wealth of perspectives helps us to see some, but not all, of the ways to tackle the question posed by ludologist Jesper Juul in the epigraph to this Topic essay.

As with many complicated questions, discovering answers to the slew of uncertainties surrounding games and narrative is very much a function of what questions are asked. Perhaps it is time to invent new ways of looking at the problem by asking new kinds of questions. Rather than "Do games tell stories?" we might ask, "*How* do games tell stories?" Or, "What kinds of stories can *only* be told in a game?" There's no limit to the questions we might ask, once we are willing to change our own perspective.

Further Reading on this Topic

Rules of Play: Game Design Fundamentals, Katie Salen and Eric Zimmerman.
Cambridge: MIT Press, 2004.

Recommended:
Chapter 26: Games as the Play of Meaning
Chapter 26: Games as Narrative Play
Chapter 27: Games as the Play of Simulation

Cybertext: Perspectives on Ergodic Literature, Espen Aarseth.
Baltimore: The Johns Hopkins University Press, 1997.
Recommended, chapter 5: Intrigue and Discourse in the Adventure Game.

Half-Real: Video Games between Real Rules and Fictional Worlds, Jesper Juul.
Cambridge: MIT Press, 2005.
Recommended, chapter 4: Fiction; chapter 5: Rules and Fiction.

Computers as Theater, Brenda Laurel.
Reading, MA: Addison-Wesley Publishing Company, 1993.

Hamlet on the Holodeck: The Future of Narrative in Cyberspace, Janet Murray.
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Possible Worlds, Artificial Intelligence, and Narrative Theory, Marie-Laure Ryan.
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First Person: New Media as Story, Performance, and Game, Noah Wardrip-Fruin and Pat Harrigan, eds.
Cambridge: MIT Press, 2004.

Game Communities

What are the forms and meanings of social interaction in a game?

I thought it was silly, the first time I saw it. Then I saw everybody was doing it. And then I felt silly not doing it. It's strange how much weight the actions of your peers can bring to bear, even when your social medium is only a bunch of maths on a German server.

—always_black

Game behavior is impossible to predict. Players do things they are not supposed to do. They are transgressive. They break rules, cause grief, and often behave very, very badly. But they also are wonderfully inventive and surprisingly generous. They share knowledge with new players. They build tools for each other, create forums, and often compete in fair and honorable ways. Usually, players do all of this without rules explicitly demanding that they do so. These collective actions occur because the players are part of a *game community*, a group of individuals who all buy into a shared desire to play together.

Each of the six essays included in this Topic on game communities shares a strong emphasis on player behavior. This is not a coincidence: players are a key in understanding how community operates in games. While this may seem obvious, it reminds us that player communities are not abstract entities with generalized behavior, but are instead heterogeneous groups composed of individuals with their own unique motivations and desires.

Take Tom Chick, who chronicles his experience in "Shoot Club: The DOOM 3 Review." Chick stands in line for seven hours to buy a copy of a game he's already played (and hated) because his friend hasn't (but will).

> ...I've long since learned that what we're waiting for doesn't matter. We're in it for the thrill of the communal wait, that shared moment where fellow victims of hype come together for the moment of truth.

Standing in line with eighty-six other guys at midnight outside the neighborhood Best Buy is reason enough to cause Chick to wax poetic about the power of shared experience. Game communities need not form only around online virtual worlds. Membership in the hallowed clan of DOOM addicts and hardcore gamers represents its own distinctive kind of player

Joining a game community means entering into a shared social culture. In games like Jedi Knights II, Lineage, and EverQuest, not to mention staples of the playground like Dodgeball and Foursquare, playing well means playing well together. Membership in a community requires that players know not only what the game rules allow, but also what the etiquette of the play community requires. Newbies to any multiplayer game are quick to discover that the best way to learn about what is going on is to watch what other players are doing, and to not take things too personally the first few times they slip up.

In "Virtual Worlds: A First-hand Account of Market and Society on the Cyberian Frontier," Ed Castronova writes about his entry into EverQuest:

> Suddenly my chat box lights up with [a] message from a Being named "Deathfist Pawn" to the effect that I will not be allowed to ruin this land. Then: *"Deathfist Pawn hits YOU for 2 points of damage."* I hear myself grunt in pain. Flustered, I peer out and see no one. *"Deathfist Pawn hits YOU for 3 points of damage."* He is behind me of course. I learn that you can be attacked here. Why is this person attacking me? What have I done? I guess I have to fight... I fumble for my sword. The chat box reports *"You have been slain by Deathfist Pawn."* The screen freezes. I am dead.

Castronova is primarily interested in studying the economy of Norrath, one of the worlds that make up the MMORPG (massively multiplayer online role-playing game) EverQuest. He does so by becoming one of its citizens, observing how and why people (including himself) spend their time there. By documenting actual player behaviors, Castronova is able to make judgments about what is socially valuable and meaningful in Norrath, as well as to explore the implications of these values and meanings.

What Castronova discovers is rather remarkable. Norrath is not only a world in which a player "faces the same sort of social reward systems as are found in Earth Society," but it is one that a surprising number of people call "home":

> Perhaps the most striking finding is that a significant fraction, 20 percent, view themselves as people who "live" in Norrath. A similar fraction, 22 percent, express the desire to spend all of their time there.

A game community, in other words, can transcend its status as a play space to become a human community in its own right. One of the earliest documents from such communities comes from F. Randall Farmer and Chip Morningstar's classic case study "The Lessons of Lucasfilm's Habitat." Designed in the late 1980s for the Commodore 64 (!), Habitat was a large-scale, multiplayer environment, considered a precursor to virtual worlds like The Sims, Habbo Hotel, and Second Life. Habitat was a self-governing community that allowed players to chat, play games, go on scavenger hunts, build businesses, collect and exchange goods, and experiment with a range of social practices.

Farmer and Morningstar were on the design team of Habitat and focus their case study on lessons they learned from the experience of building the world. Some of these lessons concern approaches to platform and technology; others address administrating and managing the world. But the following lesson is one all game developers should take to heart: Habitat, as a designed experience, was primarily defined by the interactions among the players, rather than by the technology with which it was implemented. Time and again Farmer and Morningstar point out that, despite their best efforts to speculate on possible new features, it was only when they focused on players and player interaction that Habitat truly came alive.

> It seems to us that the things that are important to the inhabitants of such an environment are the capabilities available to them, the characteristics of the other people they encounter there, and the ways these various participants can affect one another.

Community emerges from relationships between people, places, and activities. By designing a range of player spaces and actions into Habitat, Farmer and Morningstar were simultaneously fostering the growth of community. Good community design comes from understanding how the elements within the system of a game are valued and made meaningful by its participants. Richard Bartle expands on this premise in "Hearts, Clubs, Diamonds, Spades: Players Who Suit MUDs." Bartle is well known for his classification of player types, developed as a tool to help designers of text-based virtual worlds (called "multiuser domains," or "MUDs") balance the dynamics of player population.

Any community consists of players with a range of playing styles. Bartle's simple taxonomy equates player interest in four primary activities (achieving, exploring, socializing, and player-killing) with player categories (Achiever, Explorer, Socializer, and Killer). The taxonomy itself is an extremely useful design tool for thinking about how any particular game experience might support one or more player type. But Bartle's further contribution is in

arguing that player styles represent parts within the system of a community, a system that can be carefully balanced and manipulated. Having more or fewer of one type of player has a ripple effect among the others:

> The most volatile group of people is that of the socialisers. Not only is it highly sensitive to the number of killers, but it has both positive and negative feedback on itself, which amplifies any changes. An increase in the number of socialisers will lead to yet more socialisers, but it will also increase the number of killers; this, in turn, will reduce the number of socialisers drastically, which will feed back into a yet greater reduction.

Ultimately, game communities live or die, grow or change based on the people who take part in them. Who are these players? What do they want? And what "rights" do they have? Massively multiplayer game designer Raph Koster meditates on these questions in a mock Bill of Rights known as "A Declaration of the Rights of Avatars." A provocation aimed at virtual world players and game administrators, the essay takes on the critical debate over who really should have control over a player's rights.

> There's at least one theory of rights, which says that rights aren't "granted" by anyone. They arise because the populace decides to grant them to themselves. On the other hand, the *creators* of game communities often feel differently: Many MUD admins are of the belief that their MUDs are their private playgrounds. That they have discretion on who enters and who gets to stay...can delete a character at a whim, can play favorites and choose to grant administrative favors to their friends.

Koster cleverly find the common ground between these two groups by focusing his Bill of Rights not on players, or on game administrators, but on game *avatars*, the player-controlled game characters that link the two groups. While Farmer and Morningstar concentrate on designing player actions for Habitat, Koster proposes a set of metarules, guidelines for game design and player behavior that could be carried across games. In this way, Koster reminds us to look beyond the bounds of any individual game when considering the nature of a play community. His essay is an attempt to reformulate the "rules" by which online community games are played.

As long as there have been games, there have been communities of players making the games their own. And as they do so, they strengthen the bonds of the group. One of the most well-documented examples of such player behavior comes from "Beyond the Rules of the Game: Why Are Rooie Rules Nice?" In this essay, folklorist Linda Hughes looks at the way children manipulate the game rules of Foursquare as a means of maintaining the subtle social order of a playground community.

Hughes argues that the rules of any game are subject to constant negotiation and reinterpretation. The set of rules that results from this process of negotiation describes more than a list of allowable actions. Instead, it represents a "framework for player interaction, and encompasses a complex matrix of social rights and obligations." In Foursquare, for example, "Hitting the ball into a competitor's square" merely describes an action. Hitting the ball "nicely" is the social rule that *really* matters when it comes time to play.

In playing with others, game rules only go so far in determining the nature of this participation. As Hughes points out, game play is often predicated on the social exclusion of non-players. And we know that any game that pits player against player in unproductive ways has the potential for negative conflict. Yet despite these tendencies, game communities continue to thrive, grow, and teach us new ways of playing and being with one another. Maybe in playing together, we learn to play well after all.

Further Reading on this Topic

Rules of Play: Game Design Fundamentals, Katie Salen and Eric Zimmerman.
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Recommended:
Chapter 20: Games as Systems of Conflict
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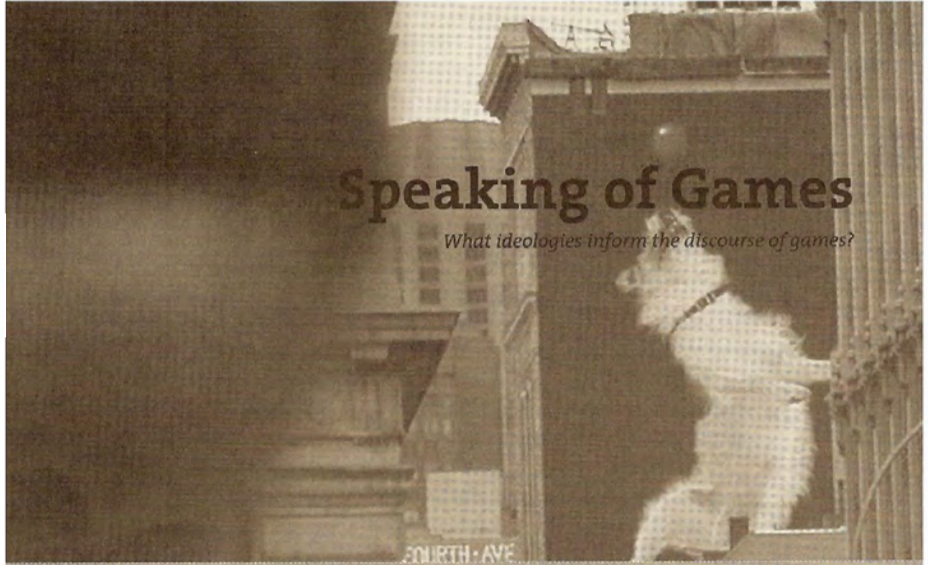

Speaking of Games

What ideologies inform the discourse of games?

As extensions of the popular response to the workaday stress, games become faithful models of a culture. They incorporate both the actions and the reactions of whole populations in a single dynamic image.
—Marshall McLuhan

How do we speak of games? What hopes and fears color our descriptions? What images are evoked, what ideologies are uncovered, as we act and react to games? The language of the American political right is replete with references to the devil (and heavy metal) when it comes to the ill-found virtues of videogames, while a growing movement in K-12 education casts them as a Holy Grail in the uphill battle to keep kids learning. Games "empower" players, say some; games "waste time," say others. Are games "frivolous," "vital," "safe" or "dangerous?" It all depends on whom and how you ask.

Games are expressions of culture. As a result they embody ideas, narratives, and ideologies that, as part of a larger cultural landscape, shape our understanding of games and give us a language with which to speak about them. This Topic engages this rich cultural terrain to address the varied perspectives, vocabularies, and rhetorics that underlie and inform the way we speak about games.

According to James Gee, linguist by profession and gamer at heart, games take part in what he calls "cultural models," sets of values embodied in "images, story lines, principles, or metaphors that capture what a particular group finds 'normal' or 'typical' in regard to a given phenomenon." As Gee notes in "Cultural Models: Do You Want to Be the Blue Sonic or the Dark Sonic?"

> ...if someone thinks war is heroic, *Return to Castle Wolfenstein* will not disabuse him or her of this viewpoint. If someone thinks that the quality of life is integrally tied to one's possessions, *The Sims* [a best-selling game where you build and maintain whole families and neighborhoods] will not disabuse him or her of this perspective, either.

Cultural models capture the ways people see the world. Because games are part and parcel of larger cultural models, understanding how games get caught up in cultural structures—the words used, the arguments employed, and the cultural values subsequently

granted—can shed light on the diversity of meanings attributed to games and play. Doing so is incredibly important both to those who make games and to those who are working to make an argument *for* games. The debate surrounding violence in videogames, for example, employs a range of competing cultural models around the effects of interactivity, "good" vs. "bad" content, and the inherent value of play. When we write and speak about games, we are not simply describing them; we are also making a case for how and why they should or shouldn't be played.

Prolific and polydisciplinary scholar Brian Sutton-Smith also engages play in a cultural context. In *The Ambiguity of Play*, Sutton-Smith doesn't study play in and of itself, but instead explores the differences in perspective which define what play means, how it is valued, and who should (and should not) play. In "Play and Ambiguity," the introductory chapter of his book, he identifies seven "rhetorics of play," each rhetoric a different way that play is represented and re-presented within culture.

> What is talked about here as rhetoric [is] the way in which the underlying ideological values attributed to these matters are both subsumed by the theorists and presented persuasively to the rest of us.

The rhetorics include both ancient and modern forms: the rhetoric of play as progress, as fate, as power, as identity, as the imaginary, as self, and as frivolous. Although similar in intent, Sutton-Smith and Gee take inverse approaches. Gee's cultural models represent broad sets of cultural values that end up affecting how games are made, played, and interpreted. Sutton-Smith, on the other hand, looks first at instances of play and extrapolates outward in order to understand how particular conceptions of play reside within culture at large. Significantly, Sutton-Smith focuses not just on these ideological constructs as representations of underlying values, but also on how they are *spoken*—rhetorics are embodied in game forms, in game scholarship, and in popular discourse. As distillations of culture's ideas about play, his seven rhetorics are tremendously useful, helping us see often hidden ideological grammars in games and the discourse around them.

Brian Sutton-Smith and James Gee are both working out of a contemporary, comparative approach to cultural analysis. Earlier writers seem less self-conscious about making bold statements regarding play. Case in point: historian and philosopher Johan Huizinga, who doesn't just write about what play is, but who also makes a passionate argument that play is central to culture.

> In play as we conceive it the distinction between belief and make-believe breaks down. The concept of play merges quite naturally with that of holiness. Any Prelude of Bach, any line of tragedy proves it.

To speak of games is to speak in a particular way. Knowing how to decode the discourse can offer clues about the cultural models being employed. Recognizing that Johan Huizinga formulated his argument for play in the midst of a work-oriented, Marxist intellectual climate is critical to understanding the new perspective he introduced. Rather than framing play as a wasteful pastime, Huizinga saw it as essential to key components of culture, from religion and art to law and war. Significantly, unlike Gee and Sutton-Smith, Huizinga does not see play as something that partakes in cultural values: "Play lies outside the antithesis of wisdom and folly, and equally outside those of truth and falsehood, good and evil...it has no moral function." Rather than treating play as part and parcel of cultural values, Huizinga sees it as ultimately transcendent. But this perspective, of course, expresses its own set of particular cultural values.

It is one thing to make grand statements about culture. But how can we connect the way we speak about games to the practice of designing them? In "Semiotic Domains: Is Playing Video Games a 'Waste of Time?'" James Gee demonstrates that videogames offer deep learning spaces that require their own form of literacy to decode and design. Like Stephen Sniderman, he achieves this agenda by looking not at play per se, but instead at what is required *in order to play*. Rather than employing the term *rhetoric*, Gee introduces the concept of semiotic domains:

> By semiotic domain I mean any set of practices that recruits one or more modalities (e.g., oral or written language, images, equations, symbols, sounds, gestures, graphs, artifacts, etc.) to communicate distinctive types of meanings.

Gee articulates two crucial aspects of a semiotic domain. The first is that individuals can become *literate* in a domain, whether it be physics, Hip-Hop, organic gardening, or videogames, by learning to read the signs of that domain, to become fluent in its meanings. Players become literate within a game when they "learn the rules" that make actions meaningful in that system, and not necessarily in any other.

The second crucial aspect of a semiotic domain is that it is, in fact, *designed*. As Gee notes, "I want us to think about the fact that for any semiotic domain, whether it is first-person shooter games or theoretical linguistics, that domain, internally and externally, was and is designed by someone." Each domain, like any game, is composed of a set of rules, or what Gee calls "design grammars," which organize elements within the system in specific ways. These grammars allow participants to act within the domain ("read") as well as produce ("write"). This ability to produce meaning within a domain is one of the keys connecting literacy to learning.

> Therefore, if we are concerned with whether something is worth learning or not, whether it is a waste of time or not—videogames or anything else—we should start with questions like the following: What semiotic domain is being entered through this learning? Is it a valuable domain or not? In what sense? Is the learner learning simply to understand ("read") parts of the domain or also to participate more fully in the domain by learning to produce ("write") meanings in the domain?

Ultimately Gee is making a case against those who consider videogame play a waste of time. By framing games as semiotic spaces that can be acted within and produced by participants, he forces us to see play in an entirely different light. But his concepts have broader relevance. What exactly does it mean to "write" game meanings in a cultural space? How do the rules of games intersect with their cultural values? This is a largely unexplored area of inquiry, but a clue to how such questions might be answered is found in philosopher Stephen Sniderman's essay "Unwritten Rules."

Sniderman looks at the structures that make play possible: not just the designed structures of rules, but also the social structures that determine what it means to play. Unwritten rules are the implicit rules that often emerge out of respect for social convention. These rules of "etiquette or ethos" are generally hidden from us, in the same way that our feelings about the value of games or play are camouflaged by the cultural models we employ. In identifying these "unwritten rules," Sniderman finds a missing link between formal and cultural aspects of games: the cultural codes manifest in the actual regulations of play.

Unwritten rules gain their potency because of their connection to the world outside the game. As Sniderman notes, "All play activities exist in a 'real-world' context, so that to play the game is to immerse yourself in that context, whether you want to or not. In fact, it is impossible to determine where the 'game' ends and 'real life' begins." In other words, any game is tied up in knots of convention that govern not only what may be done in the game (kill monsters) but also how one is to behave while doing so (trash-talking is okay; racial slurs are not). The need to "play fair," for example, is rarely stated explicitly at the beginning of a game, but it is a rule followed by all who would invest it with a spirit of honorable competition. In looking closely at the cultural end of Gee's "design grammars," Sniderman points out how speaking of games never occurs in a vacuum. Belief systems are always bubbling up, informing our grammars and coloring our actions.

These kinds of belief systems are always with us when we speak about, write about, create, and even play games. Ideologies appear where we least expect them. Take game journalism. Popular writing on games is perhaps the most dominant way that games—especially computer games—are spoken about today. Game magazines like *Edge*, *PC Gamer*, *Game Developer* and online sites like Gamespot, Gamasutra, Planetquake, and Old Man Murray spawn thousands of words daily about historical, newly released, and upcoming games.

But despite the wealth of coverage, even professional writers struggle with what it means to speak about games. According to independent journalist Kieron Gillen in his manifesto "The New Games Journalism," most industry writing has too narrow an agenda, spinning a tradition that takes the mechanics of the form as its focus:

> No matter what the precise form this tradition takes, it works of a single assumption: that the worth of a videogame lies in the videogame, and by examining it like a twitching insect fixed on a slide, we can understand it.

Gillen points out that the underlying cultural model of such writing places value on the game, not the gamer. Conventional game journalism often overlooks the experience of the player, focusing on the mechanics of the game, on features, polygon counts, and rating systems designed to pique player purchases. If there is an ideology at work in mainstream writing on games, it is the sheer power of consumerism.

What gets lost in all this is a more personal, often critical, voice: the voice of the player. Players are not concerned with what a game is *supposed* to do based on technological wizardry or radical new game features. Their focus is on the actual experience of the game, on what they feel when they play. So why not create a new way of speaking about games within games journalism? It's hard to fight entrenched voices of the establishment, but it can

be done. One benefit to identifying the ideologies implicit in the ways we write about games is that it helps us to incorporate new kinds of actions and reactions into the games, criticism, and scholarship we make.

It is time to reinvent the language of play. As this book demonstrates, writing on games has hit critical mass. Is there something in and among this Topic's essays--each speaking about games in a different way—which points to a larger movement, a new strategy for dialogue and discussion? Perhaps. We don't know what it is, but we believe it's out there. So plug in, play on, and speak up!

Further Reading on this Topic

Rules of Play: Game Design Fundamentals, Katie Salen and Eric Zimmerman.
Cambridge: MIT Press, 2004.

Recommended:
Chapter 29: Defining Culture
Chapter 30: Games as Cultural Rhetoric

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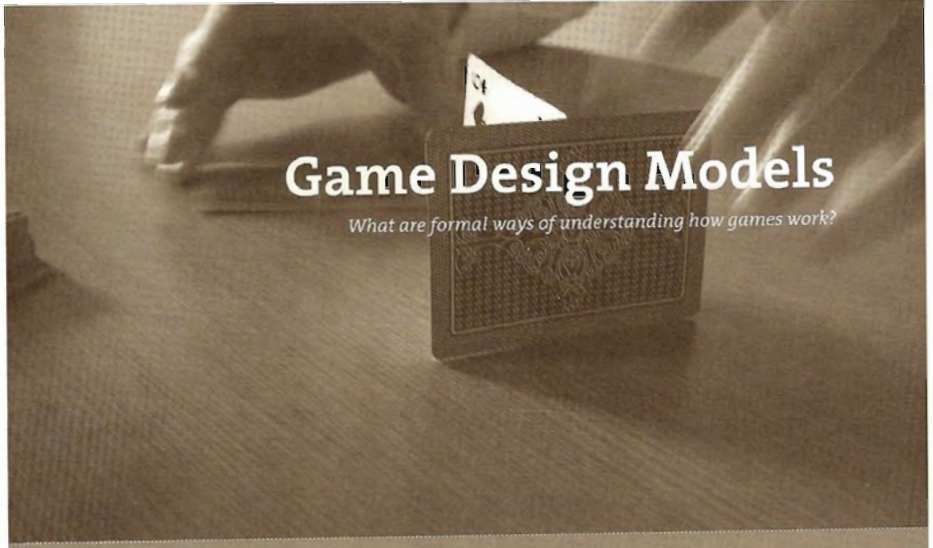

Game Design Models

What are formal ways of understanding how games work?

Videogames are nerd poetry.—Ernest Adams
Games are mathsex.—Frank Lantz

If you want to understand something, try building a model. It could be a model of the solar system, of brain cognition, or of presidential election voting patterns. Respectively, astronomers, neuroscientists, or political analysts might use these models. Designers use models, too—as tools for analysis, modification, and design. An architectural model, for instance, might be a small-scale cardboard version of a building that helps to visualize the way it will look in context. Certainly, design models don't have to be physical: the same architectural project might use an algorithmic model of pedestrian flow to determine the size and location of doorways inside the building.

Designers create systems. Games, when we consider them in all their mathematical, psychological, and cultural intricacy, are infinitely complicated systems. Models are abstractions—simplified representations—that isolate a particular facet of a game system so that a designer can focus on solving one part of a much bigger problem. Why are game design models important? Models provide a vocabulary and set of concepts for thinking about games and for solving problems as they emerge in the design process. As game designer Doug Church writes, models give us a way to

> talk about the underlying components of a game. Instead of just saying, "That was fun," or "I don't know, that wasn't much fun," we could dissect a game into its components, and attempt to understand how these parts balance and fit together.

Over the last few years, a significant amount of attention has been given to game design models. Ludology theorist Steffen P. Walz has elaborated a model that compares game structures to classical forms of rhetoric. Veteran game designers Hal Barwood and Noah Falstein have undertaken the 400 Rules Project, which seeks to define the underlying mechanisms by which games operate. Both initiatives share a focus on developing models for how rules and game structures function.

Game designer Doug Church is a progenitor of this formal tradition. The first section of his essay "Formal Abstract Design Tools" is a call to arms that eloquently articulates

a need for game design concepts and a model based in a shared vocabulary. Such a model would be a "tool kit to pick apart games and take the parts which resonate with us to realize our own game vision, or refine how our own games work." The "Formal" part in "Formal Abstract Design Tools" refers to the fact that Church's is a rigorous analytical model, one that has been *formalized* into a set of ideas and methods, and one that looks at the essential, inner *forms* of games.

His model takes the form of a set of "design tools," modular concepts that can be used to analyze a game. In his essay, Church takes a stab at identifying some of these concepts, such as *intention, perceivable consequence,* and *story*. Church intended other designers to pick up where he left off, adding more formal abstract design tools and eventually building a complete language for understanding games.

A different approach is taken by game theory, a branch of economics born in the 1940s that looks at decision-making in gamelike situations. The reading included here comes from "Prisoners Dilemma," a nontechnical introduction to the subject written by William Poundstone. While Church's model abstracts simple features from complex computer and video games, game theory uses an inverse approach. It takes as its subject extremely simple two-player games, analyzing these limited games to a high level of detail.

Does game theory represent a game design model? Yes and no. On one hand, game theory was not developed for game designers, and, truth be told, the kinds of games it analyzes are not that much fun to play. Yet game theory is fantastically useful for analyzing certain kinds of player decisions. It is the source of many commonly used game design concepts, including decision trees, minimax strategies, and zero-sum games. And the rigor of game theory analysis reminds us that designing and balancing games often comes down to math.

Two writers working in the spirit, though not the letter, of game theory, are Staffan Björk and Jussi Holopainen. For several years, inspired by the design patterns work of architect Christopher Alexander, they have pursued a project they call "game design patterns," a systematic examination of the "commonly reoccurring parts of the design of a game that concern gameplay." According to Björk and Holopainen, game design patterns can be used to identify and classify games, to analyze how they function, to diagnose problems in a game design, and to solve those problems as well.

For example, the game design pattern "Producer-Consumer" occurs when resources in a game are produced by one game element and consumed by another. New units in the computer game Civilization are *produced* in cities, only to be *consumed* at a later time in battle. While game design patterns may seem abstract, there is no doubt that the work of Björk and Holopainen represents some of the most rigorous formal modeling of games. Game design patterns are, in many ways, the best example we have found of Church's formal abstract design tools.

A major challenge in creating a game design model is to conceptualize games on an abstract level, while also providing more specific rubrics for solving concrete game design problems. Game designer Marc LeBlanc, in his essay "Tools for Creating Dramatic Game Dynamics," has his cake and eats it, too. He offers a general theory for understanding the operation of games, and provides highly specific ways to implement his theory in design practice. LeBlanc elegantly embeds model within model: his model of *dramatic tension* (between *uncertainty* and *inevitability*) itself resides within a larger framework of *mechanics/dynamics/aesthetics*. And within his model of dramatic tension, LeBlanc provides concepts like *escalation, fog of war,* and *the decelerator,* game design tools that model particular game dynamics.

Because the design process is iterative, models are useful as a first step for understanding a game design problem. But they can never provide a complete solution. In practice, game designers rarely utilize a design model in an orthodox fashion. Instead, they use models in a more general sense, to dissect their game as a system, taking it apart to figure out why some aspect is or isn't working. That's why we included two formal case studies in this Topic. Each case study analyzes a game by describing the rule-structures unique to the game, creating a formal model specific to the individual game at hand.

The first is an analysis of the Atari 2600 game Adventure, written by its designer Warren Robinett. Because Adventure is somewhat simpler than contemporary video games, the structures that constitute its formal system can be rigorously mapped. For example, Robinett describes the relations among the parts that create the game's goals:

> One single treasure, the Enchanted Chalice, must be located and brought home. Thus, the tool-objects must contribute somehow to the overall goal of the quest. For example, if the chalice is locked inside the Black Castle, then finding the Black Key becomes a

> subgoal, subordinated to the primary goal of getting to the chalice. If the Black Key is found, but is inaccessible because of the dragon guarding it, then another subgoal is spawned—find the sword so as to get past the dragon. Each tool-object is a means of getting past a certain kind of barrier. Since needed objects may be behind barriers, which, in turn, require other objects, a hierarchy is created of goals and subgoals.

From the player's point of view, Adventure's formal system of goals and barriers becomes a flow of tasks that must be completed in order to finish a game. Robinett's incisive analysis shows that these structures are embedded within other structures—each of the game objects is, itself, a yet smaller system. The "barrier" object of the dragon, for example, is a structure composed of smaller subsets of behavioral states. As Robinett reports in his essay, these states and their relationships were tweaked many times until the timing of the dragon's behavior turned out just right.

Game designer Richard Rouse similarly undertakes a systemic analysis of Centipede, looking at how its many elements interrelate:

> Though not a very complex game by today's standards, the marvel of Centipede is how all of the different gameplay elements work together to create a uniquely challenging game. Nothing in Centipede is out of place, nothing is inconsistent, nothing is unbalanced.

He concludes that the appeal of Centipede lies in the way that the centipede, mushrooms, spiders, scorpions, fleas, and other elements relate to each other within the system of the game, a situation he terms "interconnectedness." Spiders, for example, present a dangerous threat to the player. But they also eat the mushroom obstacles, forcing the player into a difficult choice about whether or not to keep the spider onscreen. Like a word in a sentence, each part gains its meaning and significance by virtue of its relationships to the others. When this kind of systemic thinking is generalized to cover many games—or all games—it becomes a game design model.

In a certain sense, all of the essays in this book represent some model or another. There are narrative game models, models of player experience, even models for games as agents of social change. Every model builds a solid understanding of some aspect of games, even while leaving others out. Building models—creating a representation of a particular aspect of a game—remains one of the most important tools we have for understanding them.

Further Reading on this Topic

Rules of Play: Game Design Fundamentals, Katie Salen and Eric Zimmerman.
Cambridge: MIT Press, 2004.

Recommended:

Chapter 14: Games as Emergent Systems
Chapter 15: Games as Systems of Uncertainty
Chapter 16: Games as Information Theory Systems
Chapter 17: Games as Systems of Information
Chapter 18: Games as Cybernetic Systems
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Game Economies

How do game experiences emerge through systems of exchange?

The way to make choices meaningful is to give players resources to manage. "Resources" can be anything: Panzer divisions. Supply points. Cards. Experience points. Knowledge of spells. Ownership of fiefs. The love of a good woman. Favors from the boss. The good will of an NPC. Money. Food. Sex. Fame. Information.—Greg Costikyan

We (Katie and Eric) once designed a social card game for an academic conference. The game was called "Buzzwords," and was played during and between sessions at the first DiGRA conference, at the University of Utrecht. Each Buzzwords game card featured a keyword from the title of a paper presented at the conference. At the opening session of the conference, each attendee was given three cards. When a player heard someone say a buzzword that corresponded to one of that player's cards, he or she could say "Sting!" and hand the card over to whoever had said the word. The goal for each player was to get rid of all their game cards by the end of the conference.

Even though money never changed hands in the game of Buzzwords, it created a *game economy*. The word *economy* does not necessarily refer to currency, but to any collection of pieces, points, cards, creatures, or other items that form the system of a game. An economy is a set of parts that are won and lost, traded and brokered, hidden and revealed, hoarded and stolen away by players as they play. In *Buzzwords*, we created an economy of language, facilitated via another economy of cards, circulated among the economy of conference attendee players.

Economies are an important way to think about games that grows directly from considering games as *systems*. A system is a set of parts that interrelate to form a whole. A systems-based approach to games is absolutely essential for any kind of deep analysis, whether it is a designer struggling with a game in development, a scholar comparing aspects of different games across genres, or a journalist dissecting a recently published game to figure out why it isn't as fun as it ought to be.

In thinking about systems of game economies, we have to consider both the formal makeup of the economy and how players interact with it. Are the unused Scrabble tiles visible to both players, or hidden? Do monsters respawn every hour, or only when they are killed? Can players customize their decks or units before the game starts, or does each player have an identical starting state? And in each case, how do players come to know how the game economy works? These kinds of questions have a direct impact on the experience and operation of a game, as well as on the way the game relates to outside contexts.

The subject of Richard Garfield's essay "The Design Evolution of Magic: The Gathering" is a game in which economies are utterly central. Magic is constituted as a vast and complex economy of cards. There are thousands of different cards that can be collected, exchanged, played, and wagered by players. From a personal collection of dozens, hundreds, or thousands of these cards, a player creates a "deck" of about 60—a designed subset of his or her overall collection. In a Magic duel, each player pits his or her own deck against an opponent's.

Any card game automatically has some kind of economy (the set of cards and the game actions they afford), but in Magic, Garfield took the notion of cards as an economy and extended it to its logical extreme. Magic has an economy that is far larger than any individual player's own set of cards. As Garfield puts it, in Magic "players are exploring a world rather than knowing all the details to start. I view Magic as a vast game played among all the people who buy decks, rather than just a series of little duels. It is a game for tens of thousands in which the designer acts as the gamemaster." Magic's game economy is utterly central to its play.

To collect cards, design decks, and duel Magic is to explore the game's economy. In his essay, Garfield highlights how the game design achieves this result. The variable rarity of cards, the relation of a card's scarcity to its game play power, special cards that undermine dominant strategies, "colors" that encourage players to specialize their decks—all are ways that Magic celebrates the idea of game *as economy*. To say nothing of the real-world economics of buying and selling the cards in hobby stores and online auction sites.

The growing sophistication of digital and electronic games has ushered in an era of increasingly complex game economies. It only makes sense that eventually these economies would come to the attention of bona fide economists. Edward Castronova is one such economist who studies the economics of multiplayer persistent-world games, a game genre he calls "virtual worlds" (also known as "massively multiplayer online role-playing games" or "MMORPGs"). Castronova applies economic ideas and theories to games—such as determining a virtual world's GNP or calculating the value of a virtual unit of money relative to real-world currencies.

In addition to his purely economic observations, Castronova has some wonderful insights about designing game economies. For example, he points out that "somewhat shockingly, scarcity is what makes the VW [virtual world] so fun," naming three ways in which virtual world games have scarcity. There is scarcity in deciding how to create and evolve an avatar's skills, abilities, and appearance; there is the scarcity and difficulty of acquiring goods and services; and lastly, there is scarcity and competition for social roles. The reason Castronova finds this "shocking" is that many economists assume that the most pleasurable world is one in which resources are plentiful, so that everyone can partake of whatever they want. However, Castronova finds that such worlds (usually less game-oriented social worlds) do not command the same degree of participation as games in which scarcity and inequality run rampant.

Castranova's writing details how he, playing an EverQuest character, was able to get involved in the game economy. In the course of playing the game, Castronova and players he observed slew rats to sell their furs, foraged for acorns and sold them at a profit, killed and looted other players, and even went online to buy and sell virtual currency on eBay. Part of the richness of a game economy comes not just from its scale and activity, but also from the numerous ways to engage with it.

The ways that players interact with the system of a game is exactly the subject of Richard Bartle's essay, "Why Players Suit MUDS." MUDS, or multi-user domains, are the text-based precursors of the MMORPGs that Castronova studies. But in this case, the economy that Bartle uncovers and analyzes is not virtual money, but instead the players themselves—the system of MUD player styles.

He identifies an economy of four player types: Killers, Explorers, Achievers, and Socializers. Every game has a different balance of these types, and according to Bartle, a healthy mix of all four makes for a rich player pool and a long-lived game community. But Bartle goes beyond merely listing each type. He enumerates how to grow and change the economy of players over time: How each group relates, in positive and negative effects, to the others.

To increase the number of achievers:
—reduce the number of killers, but not by too much
—if killer numbers are high, increase the number of explorers

To decrease the number of achievers:
—increase the number of killers
—if killer numbers are low, reduce the number of explorers

And so on. Bartle's complex matrix of causes and effects is an exciting articulation of a game system as interconnected economy, an economy described in practical design terms.

The three games mentioned thus far are multiplayer games. But game economies appear in single-player games as well. Mochan's "The Evil Summoner FAQ," a humorously critical player-written guide to the PC role-playing game Summoner, reveals a game bristling with economies. Skill points, hit points, damage points, skill levels, characters, monsters, items, actions, commands: Summoner is a tightly woven web of numbers and levels, parts and relationships.

Summoner isn't unusual in this regard—any detailed FAQ will reveal similar game complexities. But Mochan's essay is also evidence of game economies outside the game proper. The essay notes the timing of the release of Summoner, placing it within an economy of competing product launches. It mentions the differences between PC and console games, and between Japanese and American role-playing titles. The essay itself represents a commodity, a FAQ within a larger economy of fan-created FAQs, walkthroughs and strategy guides; of game websites, fan fiction, and online blog reviews.

Game economies and systems, whether they are actual virtual currencies, or dynamically interrelated sets of parts, present a fundamental perspective for analyzing games. This Topic, focusing on games as complex systems, opens up into many of the other Topics. Game systems that players can break and remake connects to *Gaming the Game*; games as systems of parts that can be fiddled and tweaked by designers points to *Game Design Models* and *The Game Design Process*; games as sets of cultural relationships to be created, explored, and undermined brings us to *Cultural Representation*.

Upon first glance, game economies can seem rather dry. But as several of the essays included here point out, game economies are the underlying structures that give rise to rich game experiences. From the social intrusion of Buzzwords to the customized dueling decks of Magic to the characters, commands, and creatures of EverQuest, game economies play a huge role in giving any game its particular flavor. Carefully balance the ingredients, choose just the right spice, and hungry players will keep coming back for more.

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Cambridge: MIT Press, 2004.

Recommended:
Chapter 5: Systems
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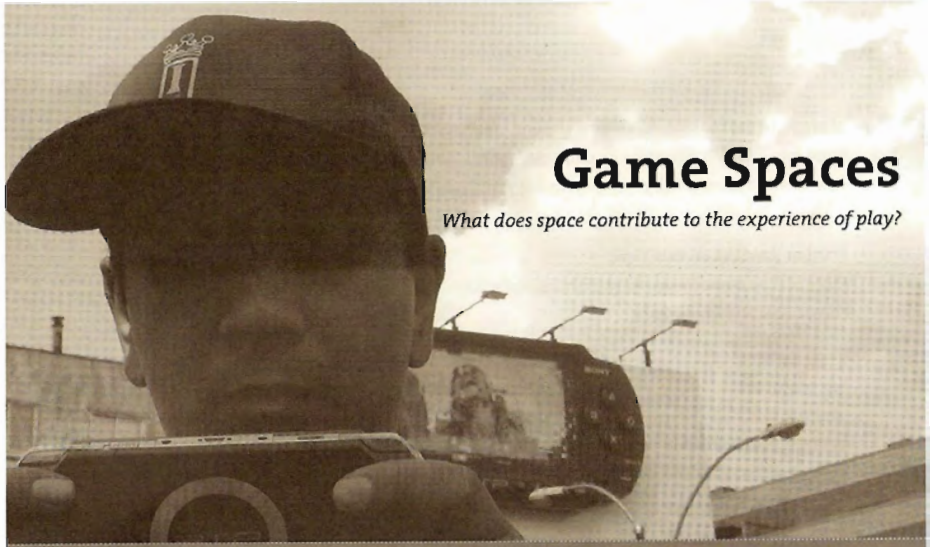

Game Spaces

What does space contribute to the experience of play?

You are in a maze of twisty little passages, all alike.—*Adventure*

The design and organization of space is a concern central not only to game designers but also to those studying player behavior. What kinds of activities and interactions does the game space encourage or discourage? Do players hang out, trade goods, or race through at break-neck speed? What strategic or storytelling opportunities does the space afford, and what forms of navigation does it support? As D.B. Weiss notes in the videogame-inspired novel *Lucky Wander Boy*, games offer an entirely new kind of spatial frontier:

> When a Pac-Man disappears into one of the off-screen mid-maze tunnels, there is a lag of about a half second before he reemerges on the other side. Assuming his speed remains constant, we can extrapolate some other-dimensional space of approximately six dots' length that the Pac-Man must traverse each time he goes through the off-screen tunnel.... In its evocation of an unseen world beyond the rectangle of the seen screen, *Pac-Man* forces us to reckon with a space that is real, yet never experienced directly, empirically

Game spaces allow for and restrict player action, whether the wide-open cityscapes of *Grand Theft Auto*, or the grooved tracks of *Frequency* and *Amplitude*. As representational systems with spatial dimensions, games give players a chance to build meaning through spatialized interaction. Pass Go, collect $200. Type "N" to move North. Use the D-Pad to control the camera. B-7. hit: You sunk my battleship! The essays included in this Topic are dedicated to understanding the narrative, interactive, informational, strategic, imaginative, and experiential qualities of the spaces found in videogames.

Technology plays a large role in determining the nature and qualities of these spaces. From text-based adventure games and vector-drawn space fields to real-time rendered, physics-enabled 3D, the affordances and limitations of technology determine a great deal about how game spaces are depicted and inhabited. Technology informs space informs design.

In the essay "Eastern Front (1941)," veteran game designer Chris Crawford discusses his use of a revolutionary new scrolling map technology (circa 1980) as the basis for his game Eastern Front (1941). Because the technology allowed Crawford to run a map offscreen, he

designed a game space that extended up to four screens in each direction, giving players the chance to scroll into these hidden areas during game play. The extension of the game map opened up many new strategic possibilities for the player, and inspired Crawford to invent a form of A.I. specifically for the kinds of spatial movement afforded by the map.

Although scrolling 2D spaces have since become extremely common in games (from Earthworm Jim to Starcraft), a tremendous amount can be learned from the ways designers originally wrestled with these new challenges. Take Adventure, for example, a game chronicled in "Adventure as a Video Game: Adventure for the Atari 2600," by Warren Robinett. The impossible spaces that make up the mazes of Adventure are remarkable pieces of networked architecture. Players use a joystick to move a cursor through a complicated series of screens connected edge to edge, doing their best not to get lost while avoiding a trio of hungry dragons. Although there are plenty of tasks to complete—finding keys, unlocking castles, and sword fighting dragons—players spend most of their time navigating, exploring, and interacting with Adventure's remarkably intricate spaces.

Unlike a scrolling map, Adventure uses a spatial configuration of discrete rooms, connected in both predictable and surprising ways. At the time, this form of videogame space was revolutionary. As Robinett notes, "The action of the game could therefore take place in a much larger and more interesting space than the single screen of most of the then-current video games."

Inspired directly by the early text adventure also called "Adventure," Robinett gave himself the task of turning textually represented space into the televised space of a videogame. The representational implications were immense:

> In a text adventure, a room is a single location. Although there are passages to other rooms, the room itself has no internal structure. A video adventure, by comparison, allows the player to have a position within a room, shown on the screen by the cursor's position.

By allowing the player to have a position within the room (depicted through graphics), an abstract space described only in words had to be made concrete, and each pixel explicitly defined. Not content with an ordinary spatial simulation, Robinett created spaces in his game that defied the logic of the real world. For example, the four mazes of Adventure rely on an inconsistent geometry that makes the topology of the map impossible to depict in flat form. Players must abandon their normal assumptions about how space works, in order to navigate the wraparound and nonretraceable paths of which Adventure's mazes were made.

Adventure's spatial design makes clear that game space is more than just the perception of pixels on a screen, pieces on a gameboard, or athletes on a field. As these spaces are perceived, entered, navigated, and inhabited by players, they grow to include the perceptual and cognitive apparatuses of the players themselves. For example, spaces that seem simple or small upon first glance can grow in complexity and size as players gain fluency in the actions such spaces afford. Space, it seems, is in the eye of the beholder. As David Sudnow notes of his experience with the 8-bit game Breakout in "Eyeball" (taken from his marvelous book *Pilgrim in a Microworld*):

> Of course size is relative, the more competent you become the more these lights take on a sort of environmental density and you're pulled by the fingertips onto a full-scale playing field whose dimensions aren't found on rulers.

Sudnow, writing from the perspective of neither a game designer nor an academic, but from that of a player, reveals the process by which players learn to read the space of a game, authoring their own responses through strategic play:

> ...I began getting off on the action, building control and precision in these gentle little calibrations. With slow shots my gaze could lift a bit off from the finer details of the ball's path to roam the court analytically, to glance at my paddle, then where the ball would hit the barricade, and then ahead to predict where it'd hit the side so I could position myself in advance.

The space of Breakout demands an instant geometry of response. Players must scrutinize the interlocking structure of bricks, learning to feel their way through them in accord with a careful timing of shots. The form of the space must be discovered through play if the player is to ever move successfully through it. Game spaces are systems, and become known only through interaction.

But the space of digital games goes beyond technology and coordinate geometry, beyond the perception and cognition of space, to include social and cultural structures as well. The final two essays in this Topic are from a series written by Henry Jenkins, director of the Comparative Media Studies program at MIT. In them, Jenkins argues that "game consoles

should be regarded as machines for generating compelling spaces...and that the core narrative behind many games centers around the struggle to explore, map, and master contested spaces." For example, in "Game Design as Narrative Architecture," Jenkins discusses the ways that game space facilitates narrative experience. More than a container for player action, the space of a game is *a space of representation* that helps a player build meaning.

Jenkins's second contribution, "'Complete Freedom of Movement': Video Games as Gendered Play Spaces" connects spaces found in videogames to traditional play areas like backyards and back lots. By their very design, such spaces empower different forms of imaginative play, which can be categorized along gendered lines. The spaces of SuperMario Bros., for example, parallel the kinds of spaces depicted in nineteenth- and early-twentieth-century boy's adventure stories, like *Treasure Island* and *The Jungle Book*. Characters in both book and game must race across unknown frontiers, encounter and vanquish enemies, and map uncharted territories. "Girl spaces," on the other hand, encourage different forms of spatial exploration:

> ...play spaces for girls adopt a slower pace, are less filled with dangers, invite gradual investigation and discovery, foster an awareness of social relations and a search for secrets, center around emotional relations between characters... [they] allow for the exploration of physical environments, but are really about the interior world of feelings and fears.

As Jenkins and others point out, digital game space needs to be understood as more than a series of polygons or pixelated images experienced on a screen. It is something bounded by technology, processed by the hand, eye, and mind, and embodied in the real and imagined identities of players. Too often, the design of digital game space is taken for granted and the results are flat-footed attempts at "realistic" 3D environments. For all of their real-time-rendered, texture-mapped geometry, there are few contemporary videogames that demonstrate the sheer spatial imagination of Adventure's mind-bending mazes.

By rediscovering the technological, experiential, and cultural possibilities of space, we can look at game design in new ways, and construct spaces undreamed of in other media. Perhaps inventive spatial models will emerge as we become tired of the same 3D game spaces. Or perhaps they will grow from mixed-reality games like I Love Bees, Majestic, or Can You See Me Now? Or from groundbreaking historical precedents like Cubism, Fluxus, or Surrealist collage. But perhaps tomorrow's game spaces simply cannot be visualized today. The limitations of one generation's game spaces may become the defining feature of another. Space is indeed a final frontier.

Further Reading on this Topic

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Chapter 27: Games as the Play of Simulation
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Cultural Representation

What aspects of culture do games model and represent?

Fanciful words can speak about make-believe places, but these words can only be spoken in the real world.—Erving Goffman

Games are not only spaces of strategic possibility—places to battle, puzzle, explore, and socialize, but are also spaces of *representation*, of things both real and make-believe. The Sims 2, for example, contains thousands of representations: of people, objects, actions, attitudes, behaviors, and emotions...you name it. Sometimes these representations depict things known to us from the real world, like hot tubs and toasters that can be put inside a house. At other times, game representations model made-up things, such as a house with walls that become invisible. In either case, the game is a complex representational system, one made meaningful through designed player interaction. Like a sheet of music sitting on a music stand, a game's potential for representation is not fully realized until it is played.

Gameplay always already operates on a level of representation. Beyond physical engagement with an input device, players also interact with the representations of a game on an interpretive level, bringing knowledge, assumptions, and expectations drawn from the real world to bear on determining what depictions in a game might *mean*. A "king" in Chess has certain meanings within the game (it is more valuable than a pawn, for example). Because the concept of a "king" also exists outside of the game, however, we bring additional real-world understanding to our reading of the representation within the game. Thus if a Chess "king" were renamed a "pimp," the meaning of that particular piece would trigger an entirely different set of symbolic associations—even if its in-game abilities remained unchanged.

A system of game representations—whether depictions of gender, race, class, power, history, religion, or politics—forms a whole "universe of discourse" that can be interpreted and read in a number of ways. The representation of "battle" in a military simulation like Battlefield 1942, for example, certainly means something different from what it would mean in a game like Pokèmon. We could go through a similar exercise by looking at representations of female game characters, or at how notions of the Other are constructed in American games about Japan. To "read" the representation of a game, we can bring whole armies of interpretive theories to bear, from Marxism and Feminism to Post-stucturalist literary criticism. Yet let's not forget that the important question is not how we understand just any cultural representation, but the specific ways that *game* representations are made, read, and played.

The idea that games are unique spaces of both representation and interpretation is at the heart of the four diverse essays included within this Topic. "Frames and Games" tackles the problems of simulation, player identity, and representation. "Cultural Models: Do You Want to Be the Blue Sonic or the Dark Sonic?" addresses the issue of player representation and the belief systems that shape game play. "'Complete Freedom of Movement': Video Games as Gendered Play Spaces" takes gender representation as its subject, discussing how certain types of game spaces express traditional notions of "boy" and "girl" culture. Finally, "Bow, Nigger" offers a compelling and sometimes uncomfortable walk through the cultural minefield of player-character representation.

In "Frames and Games," ethnographer Gary Alan Fine situates a discussion of representation and interpretation within the realm of fantasy role-playing games. In games where players must act within a fantasy world, there is a particular kind of representational ambiguity. Participants constantly shift representations of their own identities between their status as a person in the real world, a player in the game, and a character being played by that player. As Fine explains,

> In fantasy gaming, players not only manipulate characters, they are characters. The character identity is separate from the player identity. In this, fantasy gaming is distinct from other games. It makes no sense in chess to speak of "black" as being distinct from Karpov the player.... The pieces in chess ["black"] have no more or less knowledge than their animator. However, Sir Ralph the Rash, the doughty knight, lacks some information that his player has, (for example, about characteristics of other characters, and spheres of game knowledge outside his ken such as clerical miracles) and has some information that his player lacks.... To speak of a chess knight as having different knowledge from its animator might make for good fantasy but not for meaningful chess.

As players manipulate their own identities and those of their characters, they are at the same time manipulating the representational space of the game. A fantasy role-player must be aware of his or her own status as a character within the game, and model the representation of that character in an appropriate manner. If Sir Ralph the Rash were to suddenly start acting on knowledge he couldn't possibly have, confusion in the representational fidelity of the character would occur. It is this very ambiguity, spurred on by the status of players as beings in the real world that makes role-playing games so fascinating from a representational perspective.

While Fine looks at the complex way identity is created during a game, literacy and education scholar James Gee widens his lens to look at how games sit within culture at large. Gee's contribution, "Cultural Models: Do you want to be the Blue Sonic or the Dark Sonic?" uses several case studies to outline the kinds of cultural baggage players bring to the interpretation of games. In the Syrian game Under Ash, for example, the player is cast as a young Palestinian resisting Israeli soldiers and settlers. The game posits a political and cultural perspective different from that presented by many games native to the United States. As Gee writes, determining who did and did not count as a "civilian" in the game was something of a revelation.

> I was originally surprised...that settlers (since they are not in the army) didn't count as civilians. But then I realized that this game accepts a cultural model in terms of which the settlers are seen as the "advance" troops of the occupation army.

Players must understand not only the logical "rules of play," but also the cultural framework informing its representation. Knowing who does and does not constitute a civilian in a military shooter affects the ability of a player to follow the rules of the game and to play well. In a game like America's Army, designed for the U.S. military, players must interpret character action, characteristics, and game mechanics through a particular cultural lens. Players of Under Ash must also employ an interpretive lens, albeit one with a radically different political ideology.

When games model some aspect of culture, as does a first-person shooter like Under Ash or a historical simulation like Civilization III, players must be aware of the kinds of meanings the game space supports. If they are not, there is a chance that their performance in the game will be affected, for, as Gee points out, they will not understand the "rules" that guide their action in the world. At the same time, a game designer must be deeply aware of the cultural system his or her game is modeling, the degree to which it is drawing on outside references, and how much of the game depends on a player's understanding of these references. Players who are well versed in the social etiquette of elves and dwarves will do much better in a game dependent on such knowledge than players who are blind to these hidden cultural codes.

Cultural representations can be a conscious or unconscious part of a game's design. Regardless of designer intention, games can be powerful spaces for players to learn about,

play with, and even transform culture. In "'Complete Freedom of Movement': Video Games as Gendered Play Spaces," Henry Jenkins discusses the way certain games serve to support traditional notions of "boy" and "girl" culture. Connecting videogames and late-nineteenth-century children's literature, Jenkins makes a thoughtful reading of the cultural geography of videogame spaces. Rather than looking only at the images games employ, he instead turns his attention to the design of game spaces and the kinds of activities they encourage or deny. Some game spaces, such as Mario-style platform scrollers, support interactions and behaviors consistent with traditional ideas of "boy culture."

> The central virtues of the nineteenth-century "boy culture" were mastery and self-control. The boys set tasks and goals for themselves, which required discipline in order to complete. Through this process of setting and meeting challenges, they acquired the virtues of manhood.

The core of Jenkins's analysis goes against the common preconception that videogames are a form of media culture without precedent, removed from more historically traditional forms of play. At the same time, Jenkins concludes his essay by speculating on how games might evolve to engender different and more progressive play spaces. While Jenkins's essay focuses solely on the geography of space and gender, his approach to looking for representational biases within games could also be applied to research around race, class, ethnicity or other similar issues.

In an essay mined from the increasingly sophisticated body of writing authored by gamers and designers, and posted to blogs and fan forums, always_black tells us that "...my screen name has nothing to do with my ethnicity." "Bow, Nigger" is a small, sharp piece of writing, a case study in the representational twists and turns of identity online. The essay gives a blow-by-blow description of a duel between the author and another player in Jedi Knights II: Outcast. The language cuts like a knife.

> "Are you really a black nigger?" he types.
>
> "Why?" I replied.
>
> "Because it matter," he says.

What is significant about this essay—beyond the insight it offers into gamer subculture and the representational ambiguity inherent in any online interaction, particularly as performed along cultural lines—is the way the writer seamlessly shifts voice between player and character. In the spirit of Fine's essay, always_black negotiates the terrain of cultural representation as he slips on and off identities that depict his real-world persona, his status as player, his role as a Jedi in the game, and the meaning of all these in relation to the culture of *Star Wars*. It is a remarkable piece of writing that highlights the many layers of symbolic exchange that must be negotiated by players acting within fictionalized worlds.

Games reflect the values of the society in which they are played because they are part of the fabric of that society. Any game designer or game scholar who doesn't engage with games on the level of cultural representation is missing out on a very important part of the picture. As "Bow, Nigger" reminds us, hiding behind theoretical discussions of player identity and cultural representation are the very real bodies and minds of players. In representing aspects of culture—from depictions of good and evil in Black and White to representations of race and class in GTA San Andreas—games create profound and often visceral experiences for players.

Further Reading on this Topic

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Cambridge: MIT Press, 2004.

Recommended:
Chapter 31: Games as Open Culture
Chapter 32: Games as Cultural Resistance

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What Is a Game?

How can we define what makes a game a game?

Consider, for example, the proceedings that we call "games." I mean board-games, card-games, ball-games, Olympic games, and so on. What is common to them all?—Don't say: "There must be something common, or they would not be called 'games'"—but look and see whether there is anything common to all.—For if you look at them you will not see something that is common to all, but...a complicated network of similarities overlapping and criss-crossing: sometimes overall similarities, sometimes similarities of detail.

—Ludwig Wittgenstein

In *Philosophical Investigations*, the philosopher Ludwig Wittgenstein uses "games" as an example of why it is impossible to arrive at a precise definition of any real-world phenomenon. Perhaps philosophers can afford such radical skepticism. But for those of us involved with games, it is important to understand what it is we are studying, designing, or analyzing.

Definitions can be slippery creatures, and we're certainly not trying to assert that there is just one absolute definition of games, lurking out there somewhere, waiting to be found. Many great definitions exist today, illuminating concepts that can aid in research, theory, and design. A definition of "game" that helps a game designer to create a new genre of commercial product will be very different from a definition that helps a sociologist to construct a new research problem about player behavior. At the same time, both designer and sociologist might learn something unexpected by looking at their own work through the definitions of the other. This is the spirit of the Topic at hand, which brings different points of view to bear on the wonderfully troublesome task of defining games.

What is a Game? What indeed. Defining "games" is a formidable challenge, if we consider all of the activities and objects, both on and off the computer, which might be considered a game. The scope of inclusion—the range of what is and what is not considered a game—is one important feature of the four diverse definitions we examine in this Topic. Perhaps even more important is not just what each author considers a game, but the very nature of how they approach the task of constructing a definition.

Anthropologist Roger Caillois, one of the earliest authors to try and define games, casts his definitional net wide. The second chapter of *Man, Play and Games*, "The Definition of Play: The Classification of Games," attempts to typologize all of the diverse phenomena that he considers to be a game. Building on the concept of play established in the first chapter of his book, Caillois considers a wide gamut of playful behaviors. These range from rule-bound *ludus* pursuits, such as playing Chess, to free-wheeling, improvisational paida activities, like spinning around to get dizzy. Caillois adds a second axis to the ludus/paida continuum, composed of four general categories of games: *agôn* (competition), *alea* (chance), *illinx* (vertigo), and *mimicry* (make-believe).

Can such a model be understood as a definition of games? Certainly, but one presented in an atypical format. Caillois presents his definition *by taxonomy*, identifying what games are through a rigorous system of classification. The strength of his descriptive approach is that it builds directly on real-world play phenomena. However, some of the activities Caillois includes, such as ballroom dancing and mountain climbing, indicate that he may have been overly inclusive in constructing his definition of game. Perhaps this is because in French, as in many languages, the words for "play" and "game" are quite close. In French, to play a game is *"jouer à un jeu."*

Philosopher Bernard Suits, in his book *Grasshopper: Games, Life and Utopia*, takes a different approach: he offers a brief, definitional statement. In its shortest form, his definition of playing a game is "the voluntary effort to overcome unnecessary obstacles." Suits's definition differs from Caillois's not only in structure, but also in focus. Rather than identifying the *form* of a game, Suits defines the state of mind of the game player—an agenda linked to the knotty philosophical problems of playing and reality he attacks in the rest of his book. His definition is less useful for determining what is and isn't a game, but is quite helpful in identifying what is unique about playing them. Suits's concept of the game player's "lusory attitude" is a cornerstone of our own thinking about games.

Greg Costikyan, in contrast to Caillois and Suits, is a game designer, and his definition of games reflects his disciplinary point of view:

> A game is a form of art in which participants, termed players, make decisions in order to manage resources through game tokens in the pursuit of a goal.

Here is yet a different approach: the bulk of Costikyan's definition concerns itself with the way players take action in a game. Costikyan's definition reads like a laundry list of game design ingredients: players, decisions, resources, tokens, and a goal. Significantly, Costikyan considers games a form of art, and he spends the first part of his essay emphasizing what games are *not* (toys, stories, or puzzles). For Costikyan, games are a form of culture, and it is important to carve out a unique space for them, separating them from phenomena that are similar to but ultimately distinct from games. As a producer of games, Costikyan has a very real stake in defining their unique cultural status.

Staffan Björk and Jussi Holopainen have a very different point of view about definitions, and they state it quite clearly in their work on game design patterns:

> We, however, rejected the possibility to start from one specific definition in order to create tools for understanding and designing games.... We are not saying that definitions are not useful, for a definition lets us know what a game is.... However, a definition of a game does not help us make design decisions within the design space of all possible games. Just as having a definition of a house does not provide more than vague guidelines of how to build a house (it should have walls and a roof), having a definition of what a game is does not give us more than the most basic ideas of what a game should contain.[1]

This is a powerful argument against the utility of definitions. Yet Björk and Holopainen do end up creating a definition, despite what they say. Much of their work on game patterns focuses on identifying the atomic elements of games, the constituent parts that make up the form, structure, and experience of games. Their approach provides an alternate model for creating a definition—one that is not top-down, but instead arises bottom-up from an investigation of the elements common to all games. This approach may not be very useful for those engaged in a philosophical debate about what is or is not a game, but their flexible concepts are quite handy for understanding and solving game design problems. And as Björk and Holopainen make abundantly clear, this is ultimately what they aim to achieve in their work.

What makes these four essays so delightful is not only the richness of their proposed definitions, but the wide range of approaches taken. A definition does not have to assume the form of a dictionary-style sentence. For Caillois, a definition takes the shape of a grid of characteristics; for Björk and Holopainen, an open list of formal attributes. And there are other

approaches as well. In *Rules of Play*, we compare several definitions and synthesize our own. So does game designer and theorist Jesper Juul, who in his essay "The Game, the Player, the World: Looking for a Heart of Gameness" boils down several definitions into one:

> A game is a rule-based 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.

Is that *the* definition of game? Does it matter? The real question is not *what* the definition is, but *why* games require such definitions and *how* they can be utilized. For Björk and Holopainen, a definition is a design tool. For Suits, defining a game is a philosophical device for raising issues about the nature of truth, lying, and social interaction. For Costikyan, a definition justifies a creative practice. For Jesper Juul and Roger Caillois, definitions are ways to identify new fields of study. In fact, in some way, every essay in *The Game Design Reader* contains an implicit definition of the term "game."

Definitions are not perfect creatures. They have weaknesses, holes, and exceptions. And while we might know a game when we see one, the details are always open for debate. There may never be a definitive answer to the question, "What is a game?" but that's perfectly all right with us. Definitions are concepts that do work: they are, to quote MIT scientist Marvin Minsky, "things to think with." In identifying what games are and what they are not, in using definitions to refashion our preconceptions of games, we can open up new spaces to see what games are, what they should be, and what they might become.

End Note

1. *Patterns in Game Design*, Staffan Björk and Jussi Holopainen. Hingham, MA: Charles River Media, 2005.

Further Reading on this Topic

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Recommended:

Chapter 7: Defining Games

Chapter 8: Defining Digital Games

Chapter 33: Games as Cultural Environment

The Study of Games, E. M. Avedon and Brian Sutton-Smith, eds.

Recommended: "The Structural Elements of Games," E. M. Avedon and Brian Sutton-Smith. New York: Wiley, 1971.

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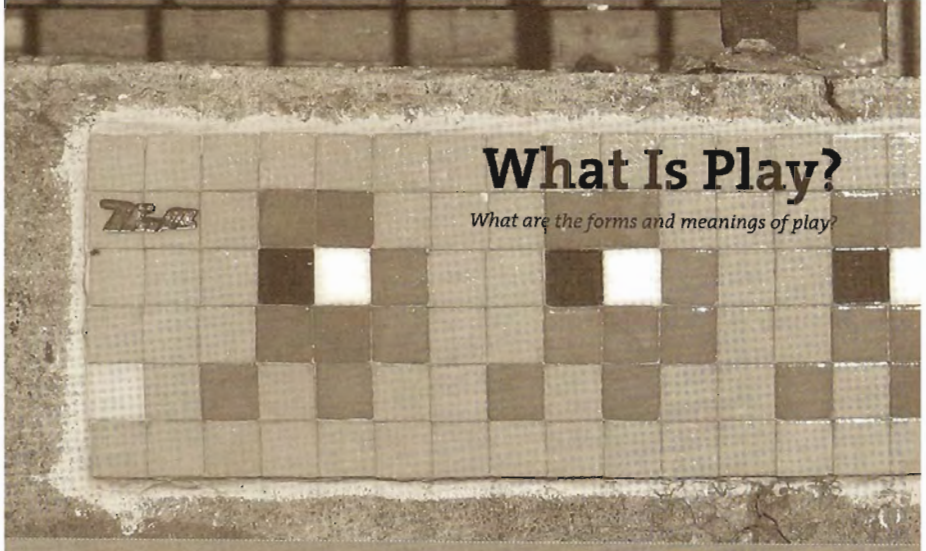

What Is Play?

What are the forms and meanings of play?

The most irritating feature of play is not the perceptual incoherence, as such, but rather that play taunts us with its in accessibility. We feel that something is behind it all, but we do not know, or have forgotten how to see it.—Robert Fagen

A woman rushing to work notices a chalk grid scrawled on the sidewalk beneath her feet: nine squares brimming with slashed Xs and wobbly Os. She smiles as she hurries past, imagining a group of young children huddled in a conspiratorial circle, strategizing their moves in what she takes as nothing more than a simple game. But to the players of the game, the experience is far less than simple. There is the psychological intensity of the conflict, the turn-based rhythm of the sidewalk choreography, the bragging rights wagered, and won—or lost. Play happens all around us. Yet truly understanding play demands something more.

Games create play: of that there is no doubt. But there is much more to this relationship, as four texts from Johan Huizinga, Roger Caillois, Gregory Bateson, and Brian Sutton-Smith point out. Navigating a web of competing definitions, this Topic asks: Where is play found? What forms does it take? And why does it matter anyway?

"Nature and Significance of Play as a Cultural Phenomenon" is the opening chapter of *Homo Ludens,* one of the most important and influential texts ever written on the study of play. Johan Huizinga looks at play, not in terms of biology or psychology, but in *social and cultural* terms, writing, "We shall not look for the natural impulses and habits conditioning play in general, but shall consider play in its manifold concrete forms as itself a social construction. We shall try to take play as the player himself takes it: in it primary significance." Huizinga chooses to deal fundamentally with "what play is *in itself* and what it means for the player."

The significance of Huizinga's chapter lies not so much in the accuracy of his ideas, which are still being debated today, but in his radical attempt to tackle the problem of play as a function of culture. Rather than defining play within the Marxist ideology popular at the time of its writing (work, not play, was considered central to society), *Homo Ludens* recasts play in experiential terms. In exploring the nature and significance of play, Huizinga not only puts

forth an exacting definition, but also argues that play is essential to all aspects of culture—from art and religion to law and war. In subsequent decades, many play scholars have taken up this challenge to frame play as not just a wasteful pastime, but as the complex product of formal, social, and cultural patterns.

Following closely on the theoretical heels of Huizinga is Roger Caillois, whose book *Man, Play, and Games* is a direct response to *Homo Ludens*. Caillois critiques Huizinga for not attempting to classify games themselves. He calls *Homo Ludens* "not the study of games, but an inquiry into the creative quality of the play principle in the domain of culture." In "The Definition of Play: The Classification of Games," Caillois not only constructs a modified version of Huizinga's definition of play, but also provides a concrete taxonomy of play forms.

Expanding Huizinga's focus on play as competition, Caillois offers four play rubrics—*agôn* (competition), *alea* (chance), *illinx* (vertigo), and *mimicry* (make-believe). Each describes a type of game based on fundamental experiential qualities of play. For example, games that fall under the category of illinx, such as Ring-Around-the-Rosy, involve instability of perception and a physical surrender to vertigo, seizure, or shock. Because Caillois's categories are based on the player's *experience*, they offer game designers a surprisingly useful conceptual toolbox with which to toy and tinker. Caillois's four rubrics can be used to analyze game experience, tune game designs in progress, or generate new game ideas.

Whereas Huizinga and Caillois focus on the essential qualities of play, Gregory Bateson's "A Theory of Play and Fantasy" shifts attention to the significance of play as an act of communication. In his essay, Bateson argues that play was an important step in the evolution of how animals communicate. His imagination was sparked during an afternoon at the zoo:

> What I encountered at the zoo was a phenomenon well known to everybody: I saw two young monkeys playing, i.e., engaged in an interactive sequence of which the unit actions or signals were similar but not the same as those of combat. It was evident, even to the human observer, that the sequence as a whole was not combat, and evident to the human observer that to the participant monkeys this was "not combat."

Bateson goes on to argue that play is an act of *metacommunication*, a form of communication about communication. Play is a kind of metacommunication because any act of play carries the message, "this is play." In the same way that the monkeys' play-fighting communicates that they are "not really fighting," Spin the Bottle players know that their kisses do not mean the same thing as a real, romantic kiss, since they are "just playing." Players perform actions that reference real-world activities. But, at the same time, these same actions communicate the fact that the players are merely "at play." Metacommunication has huge implications for anyone studying or designing games. The fact that a player is always actively aware of being at play provides a fresh way of looking at issues such as game immersion, player-avatar identification, the effects of media, and the way people relate to games in general.

Bateson's idea that play both is and is not what it appears to be is echoed by Brian Sutton-Smith in his essay, "Play and Ambiguity," the introductory chapter to his book *The Ambiguity of Play*. Sutton-Smith is an interdisciplinary scholar and theorist who has spent many years investigating not only play itself, but also the way play is defined and described within discourse. Like Bateson, he is interested in exploring how our understanding of play is constructed—just what do we take play to "mean?" Yet, unlike Bateson, Caillois, or even Huizinga, Sutton-Smith undertakes a metastudy of play by identifying a set of "play rhetorics" or ideological discourses that shape the way we speak about play. As Sutton-Smith writes, "the rhetorics of play express the way play is placed in context within broader value systems."

In other words, Sutton-Smith is interested in exploring the way the concept of play has been studied, used, and constructed across disciplines and cultures. His analysis not only offers insight into what can and cannot be considered play, but also describes an immense cornucopia of play forms and experiences. "Play and Ambiguity" briefly introduces all seven rhetorics: *play as progress, fate, power, identity, the imaginary, the self, and frivolity;* in the rest of his book, he explores each rhetoric in detail.

Any definition of play will be a bit fuzzy at best. But this fuzziness points to the fact that there is something fundamentally unknowable and ephemeral about play, something mysterious and exciting. Play surprises and delights us, moves and transforms us. There is, after all, something *playful* about play. It is this exacting ambiguity that makes play so rich, and potentially so valuable to a range of disciplinary communities. Can a theory of play speak to fields and ideas outside game design and game studies? We think so. The study of play is gaining momentum through the invention of new models, taxonomies, and perspectives. With them, of course, comes the design of potentially revolutionary ways to play.

The essays that follow provide the foundation on which these new experiences will be built, and pave the way for change. Whether these changes will be radical reinventions or incremental shifts of alignment remains to be seen. What will actually come to pass all depends on what we choose to make of it. Take these pages not only as a historical document, but as the first bold steps in defining the legacy of games for the twenty first-century. Make it elegant. Design for innovation. And above all, play like you mean it.

Further Reading on this Topic

Rules of Play: Game Design Fundamentals, Katie Salen and Eric Zimmerman.
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Recommended:
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Chapter 22: Defining Play
Chapter 25: The Play of Meaning

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Texts:	The Player Experience	The Rules of a Game	Gaming the Game	The Game Design Process	Player and Character	Games and Narrative	Game Communities	Speaking of Games	Game Design Models	Game Economies	Game Spaces	Cultural Representation	What Is a Game?	What Is Play?
Huizinga								x						x
Caillois	x				x								x	x
Chick	x						x							
Suits		x											x	
Costikyan		x											x	
Birdwell				x										
Gee (Semiotic Domains)								x						
Mochan			x							x				
Sutton-Smith								x						x
Bateson					x									x
Jenkins (Complete Freedom)	x										x	x		
Church									x					
Poundstone									x					
Björk | Holopainen		x							x				x	
LeBlanc	x					x			x					
Rouse III	x								x					
Sniderman		x	x					x						
Hughes			x				x							
DeKoven			x	x										
Garfield				x						x				
Sudnow	x										x			
Fine					x	x						x		
always_black					x							x		
Gee (Cultural Models)								x				x		
Mateas | Stern					x	x								
Jenkins (Game Design)						x					x			
Robinett									x		x			
Crawford				x							x			
Farmer | Morningstar			x	x			x							
Bartle	x						x			x				
Koster		x					x							
Castronova							x			x				