# About This Book

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### What Is This Book About?

This book is about games, all kinds of games: paper-based strategy games and first person shooters, classical board games and glitzy gambling games; math puzzles and professional sports; austere text adventures and giggly teenage party games. This book links these diverse play activities within a common framework—a framework based in *game design.*

In *The Study of Games,* Brian Sutton-Smith writes, "Each person defines games in his own way—the anthropologists and folklorists in terms of historical origins; the military men, businessmen, and educators in terms of usages; the social scientists in terms of psychological and social functions. There is overwhelming evidence in all this that the meaning of games is, in part, a function of the ideas of those who think about them."[1] What, meaning, then, does the *game designer* bring to the study of games? What does it mean to look at games from a game design perspective?

To answer this question, we first need to clarify what we mean by "game designer." A game designer is a particular kind of designer, much like a graphic designer, industrial designer, or architect. A game designer is not necessarily a programmer, visual designer, or project manager, although sometimes he or she can also play these roles in the creation of a game. A game designer might work alone or as part of a larger team. A game designer might create card games, social games, video games, or any other kind of game. The focus of a game designer is designing *game play,* conceiving and designing rules and structures that result in an experience for players.

Thus game design, as a discipline, requires a focus on games in and of themselves. Rather than placing games in the service of another field such as sociology, literary criticism, or computer science, our aim is to study games within their own disciplinary space. Because game design is an emerging discipline, we often borrow from other areas of knowledge— from mathematics and cognitive science; from semiotics and cultural studies. We may not borrow in the most orthodox manner, but we do so in the service of helping to establish a field of game design proper.

This book is about game *design,* not game *development.* It is not a "how to" book, offering tips and tricks for making successful digital games. It is not a book about digital game pro- gramming or choosing development tools; it is not about writing design documents or generating game ideas. And it is definitely not about development team dynamics or about funding, marketing, and distributing games. As a book on game design it is not a general introduction to games, a history of games, or a journalistic account of the people and circumstances that create games. There are plenty of books that cover all of these top- ics very well.

Instead, *Rules of Play* provides something altogether different. Bridging the theoretical and practical aspects of making games, we look closely at games as designed systems, discovering patterns within their complexity that bring the challenges of game design into full view. As we explore game design as a design practice, we outline not only the con- cepts behind the creation of meaningful play (a core idea of this book), but also concrete methods for putting these concepts to use in your games. Written with the interests and needs of practicing designers, students, and educators in mind, our approach comes from our own experience of designing games, playing games, and teaching game design.

But the book is not just for game designers. In writing *Rules of Play,* we quickly realized that it has direct application to fields outside game design. The concepts and models, case studies, exercises, and bibliographies can be useful to interactive designers, architects, product designers, and other creators of interactive systems. Similarly, our focus on under- standing games in and of themselves can benefit the emerging academic study of games in fields as diverse as sociology, media studies, and cultural policy. Engagement with ideas, like engagement with a game, is all about the play the ideas make possible. Even if you are not a game designer, we think you will find something here that lets you play with your own line of work in a new way.

### Establishing a Critical Discourse

One way to describe the project of this book is to say that we are working to establish a critical discourse for game design. We agree with veteran game designer Warren Spector that "It is absolutely vital that we start to build a vocabulary that allows us to examine, with some degree of precision, how games evoke emotional-intellectual responses in players".[2] As a nascent field of inquiry, there are not yet well-developed ways of talking about games and how they function.

What is the point of establishing a critical discourse? Simply put, a critical vocabulary lets us talk to each other. It lets us share ideas and knowledge, and in doing so, expands the borders of our emerging field. Media theorist and game scholar Henry Jenkins identifies four ways that building a critical discourse around games can assist not just game designers, but the field as a whole:

- *Training:* A common language facilitates the education of game designers, letting them explore their medium in more variety and depth.

- *Generational Transfer:* Within the field, a disciplinary vocabulary lets game designers and developers pass on skills and knowledge, rather than solving the same problems over and over in isolation.

- *Audience-building:* In finding a way to speak about them, games can be reviewed, critiqued, and advertised to the public in more sophisticated ways.

- *Buffer Against Criticism:* There are many factions that would seek to censor and regulate the content and contexts for gaming, particularly computer and video games. A critical discourse gives us the vocabulary and understanding to defend against these attacks.[3]

Creating a critical discourse requires that we look at games and the game design process from the ground up, proposing methods for the analysis of games, assessing what makes a great game great, and asking questions about what games are and how they function. The result is a deeper understanding of game design that can lead to genuine innovation in the practice of making games.

Part of creating a critical discourse is defining concepts, but arriving at such a vocabulary is no simple task, for it involves creating definitions for words that often thread their way through multiple and contradictory contexts. One challenge of our project has been formulating a set of definitions for terms such as "game," "design," "interactivity," "system," "play," and "culture," terms that form the foundation of our critical vocabulary. As we explore the largely uncharted terrain of game design, definitions stake out boundaries, the way a set of points define a plane in space.

Practically speaking, defining terms is useful. But an overemphasis on definitions can be dangerous. Held in too orthodox a manner, definitions become a way of shutting down communication and insight. For us, a definition is not a closed or scientific representation of "reality." For a designer, the value of a definition is its ability to serve as a critical tool for understanding and solving design problems. In other words, by including definitions, our intention is not to exclude other definitions that might complement or contradict our own. We wholeheartedly acknowledge that our definitions, concepts, and models leave some things out and work better in some circumstances than others. But this doesn't lessen their overall utility.

It is often along the seams and cracks formed when competing definitions bump up against one another that new ideas are born. Our hope for game design is that it becomes a field as rich as any other, filled with vibrant discussion and dialogue as well as virulent debate and disagreement.

**Ways of Looking**
*A game is a particular way of looking at something, anything.*
*—**Clark C. Abt,** Serious Games*

Social theorist Clark C. Abt makes a powerful suggestion. In his claim that a game is a particular way of looking at something, at anything, we find inspiration for our own approach to game design. How can we use games as a way to understand aesthetics, communication, culture, and other areas of our world that seem so intertwined with games? Conversely, how can we use our understanding of these areas to enrich our practice of designing games? Too often, analyses and readings of games simply do not do justice to their complexity. Game designer and theorist Jesper Juul has made the comment that theories about games tend to fall into two camps: *Everything is a game* ("War is a game; politics are a game; life is a game; everything is a game!") or *Games are X* ("Games are an interactive storytelling medium."; "Games are how a child learns about rules.").[4]

If games are not everything, nor just one thing, what are they? Perhaps they are many things. It would be strange for us to say, for example, that poetry *is* storytelling. Although storytelling is one way of understanding poetry, it is just one of many possible perspectives. We could also explore poetry formally, within the context of rhyme and meter, or historically, with an emphasis on printing technologies. Each of these perspectives offers a valid way of looking at poetry—yet utilizing just one of them gives access to only part of the total picture. On the other hand, these frames, and many others, considered together begin to sketch out the heterogeneous and multifaceted cultural phenomena called poetry. In *Rules of Play,* this is exactly what we do with games. Our general strategy is to provide multiple points of view for understanding. In doing so, we hope to avoid the common pitfalls Juul mentions while being true to the complex and polymorphous nature of games.

Is this approach appropriate for design? Absolutely. In his book *Notes on the Synthesis of Form,* architect Christopher Alexander wrestles with the challenges of design, describing a methodology that centers on the inherent complexity of design problems. His argument is based in part on the assumption that clarity in form cannot be achieved until there is first clarity in the designer's mind and actions. Alexander asks us to consider the range of factors affecting the design of a kettle.

> Let us look again at just what kind of difficulty the designer faces. Take, for example, the design of a simple kettle. He has to invent a kettle, which fits the context of its use. It must not be too small. It must not be hard to pick up when it is hot. It must not be easy to let go of by mistake. It must

not be hard to store in the kitchen. It must not be hard to get the water out of. It must pour cleanly. It must not let the water in it cool too quickly. The material it is made out of must not cost too much. It must be able to withstand the temperature of boiling water. It must not be too hard to clean on the outside. It must not be a shape which is too hard to machine. It must not be a shape which is unsuitable for whatever reasonably priced metal it is made of. It must not be too hard to assemble, since this costs man-hours of labor. It must not corrode in steamy kitchens. Its inside must not be too difficult to keep free of scale. It must not be hard to fill with water. It must not be uneconomical to heat small quantities of water in, when it is not full. It must not appeal to such a minority that it cannot be manufactured in an appropriate way because of its small demand. It must not be so tricky to hold that accidents occur when children or invalids try to use it. It must not be able to boil dry and burn out without warning. It must not be unstable on the stove while it is boiling.[5]

Alexander's answer to the challenge of complexity is to organize and classify aspects of the design problem at hand. The patterns that arise as a result of this analysis allow the designer to, as Alexander puts it, "overcome the difficulties of complexity." As the designer systematizes elements of the problem, he or she gives it shape, casting the problem in a whole new light.

Games too, share in this degree of complexity. As products of *human culture,* games fulfill a range of needs, desires, pleasures, and uses. As products of *design culture,* games reflect a host of technological, material, formal, and economic concerns. It would be ineffective (and even silly) to try and view such a complex phenomenon from a single perspective. To do so would be to miss most of the design problem entirely. Our solution? *Game design schemas.*

### Game Design Schemas

Most of the chapters of this book are organized under the heading of a game design schema. A *schema* is a way of framing and organizing knowledge. A *game design schema* is a way of understanding games, a conceptual lens that we can apply to the analysis or creation of a game. What are some of the game design schemas we employ in the course of this book? We look at games through the mathematical lens of probability. We look at them as contexts for social interaction. We look at games as storytelling systems. We look at them as sites of cultural resistance. We do so in every case from the point of view of game design.

We organize these varied points of view according to three *primary schemas,* each one containing a cluster of related schemas. Our primary schemas are **RULES, PLAY,** and **CULTURE***:*

- **RULES** contains formal game design schemas that focus on the essential logical and mathematical structures of a game.

- **PLAY** contains experiential, social, and representational game design schemas that foreground the player's participation with the game and with other players.

- **CULTURE** contains contextual game design schemas that investigate the larger cultural contexts within which games are designed and played.

These schemas not only organize ways of looking at games but also, when taken as a whole, offer a general method for the study of game design. Each schema brings certain aspects of games to light, while building on previous schemas to arrive at a multivalent understanding of games. The three primary schemas are neither mutually exclusive nor scientific in nature. We have not created them as a taxonomy, in order to say "*this* is a feature of **RULES,** *not* a feature of **PLAY.**" Rather, they are conceptual design tools to help focus our thinking for particular design problems.

As a framework, **RULES, PLAY, CULTURE** is not merely a model for game design. It also represents a way of understanding any kind of design. Consider the model applied more broadly:

- **RULES** = the organization of the designed system
- **PLAY** = the human experience of that system
- **CULTURE** = the larger contexts engaged with and inhabited by the system

In analyzing or creating a typeface, for example, you might study the formal rules of the system (how the visual weights of the letterforms relate to each other), the play of the system (the kind of reading experience that the typeface engenders), or the cultural aspects of the system (historical references and the contexts where the typeface will be seen). **RULES, PLAY,** and **CULTURE** is a structure that can facilitate critical design thinking in any design field.

### Game Design Fundamentals
*Rules of Play* is a book about fundamentals. As a design practice, game design has its own essential principles, a system of ideas that define what games are and how they work. Innovation in the field can grow only from a deep understanding of these basic concepts. What are these game design fundamentals? They include understanding design, systems, and interactivity, as well as player choice, action, and outcome. They include a study of rule-making and rule-breaking, complexity and emergence, game experience, game representation, and social game interaction. They include the powerful connection between the rules of a game and the play that the rules engender, the pleasures games invoke, the meanings they construct, the ideologies they embody, and the stories they tell.

As fundamental principles, these ideas form a system of building blocks that game design-ers arrange and rearrange in every game they create. As unlikely as it may sound, Go, Trivial Pursuit, Dance Dance Revolution, and Unreal Tournament all share the same fundamental principles, articulated in radically different ways. The range of game design expression is vast, deep, and largely unexplored. By clarifying these ideas, we can provide a set of strate-gies that help you fit these fundamentals to your particular design needs.

*Rules of Play* is a book for practicing game scholars and designers, but it is also very much about teaching and learning. Game design education represents an important counter-point to game design theory and practice, for in the classroom the fundamentals estab-lished in this book can be explored, dissected, critiqued, and reinvented. In developing material for teaching and learning, we had to ask, *What are the principle elements that con-stitute a game design curriculum? What courses does the curriculum include, what are the objectives of the courses, what is it that students need to know to become game designers?*

These are questions certain to be raised by colleges, universities, and other professional institutions as they develop educational programs in game design. The needs of these programs are diverse: there is a tremendous difference between a graduate game design degree program in a school of fine arts, an undergraduate minor in game design within a comparative media department, and an industry workshop on game design at a profes-sional conference.

No single curriculum can fit all of these contexts. Rather than design a single program, we have instead provided tools to allow faculty to address their own particular circumstances. We developed the bibliography, suggested readings, case studies, commissioned games, and game design exercises with this kind of flexibility in mind. We believe that a variety of curricula that meet the needs of different (and perhaps competing) perspectives will lead to better games, better game designers, and hours and hours of more meaningful play.

### Further Readings

At the end of most of the chapters to follow, we include a list of books to suggest further readings. These readings might be used to construct a syllabus for a class, a handout for a workshop, or to round out curiosity on a topic introduced in the chapter. The selected readings reflect our own idiosyncrasies, and are not meant as a definitive canon for game design theory. However, they do represent what we felt were the most relevant sources on the topic.

Each chapter lists only a handful of further readings, but there are other research sources in this book as well. At the end of the book, we include a few more suggested readings that did not fit into any particular chapter. The chapter footnotes and general bibliography also contain many references that are not found in any of the further readings listings. Following are the suggested readings for this chapter.

## Further Reading

***The Art of Computer Game Design,*** by Chris Crawford

Chris Crawford is a game designer who started his career at Atari. He wrote *The Art of Computer Game Design* in 1982, at a time when computers were just beginning to appear in people's homes. The book was one of the very first texts dealing with the nature of game design, and although some of the ideas have been dated by advances in the field, it is still an excellent resource for basic game design principles. The book is out of print, but the text is available online at: <http://www.vancouver.wsu.edu/fac/peabody/gamebook/Coverpage.html>

> *Recommended:*
> Chapter 1: What Is a Game?
> Chapter 3: A Taxonomy of Computer Games
> Chapter 5: The Game Design Sequence

***Gamasutra, The Art and Science of Making Games*** <www.gamasutra.com>

Part of the Gama Network, which includes the Game Developers Conference and Game Developer Magazine, *Gamasutra* is one of the very best game design resources around. The site supports news from the game development industry, editorial features on practical game design problems, and post-mortems of commercial games. They recently added a section on education, publishing more academically-oriented writing on games and game design. We visit this site regularly.

***Game Studies: The International Journal of Computer Game Research,*** edited by Espen Aarseth, Markku Eskelinen, Marie-Laure Ryan, Susana Tosca <www.gamestudies.org>

A good resource for new scholarly writing on games, *Game Studies* is a cross-disciplinary, peer-reviewed journal on computer and video games. Edited by an excellent team of academics and researchers with a deep interest in the study of games, the journal focuses on games research from a humanities and ludology perspective. While the material does not necessarily have a game design focus, the articles offer various models and critiques of larger theoretical issues regarding narrative, media, interactivity, and immersion.

*IGDA Curriculum Framework: The Study of Games and Game Development,* by the International Game Developers Association, Education Committee

For the last few years, IGDA members Doug Church, Robin Hunicke, Jason Della Roca, Warren Spector, and Eric Zimmerman have been creating a document that provides a practical framework for a game design curriculum. The document not only addresses game design, but also related fields as diverse as visual design, programming, business, and humanities and social science-based game studies. The Curriculum Framework is intended for educators and students and takes the form of a modular framework that can be applied to a variety of different contexts. Find the current draft of the document at <http://www.igda.org/>.

**"I Have No Words but I Must Design,"** by Greg Costikyan

Greg Costikyan is a computer and paper game designer who has written many essays on game design. *I Have No Words* was originally published in 1994 in the second issue of *Interactive Fantasy.* The article is found on Costikyan's website at <http://www.costik.com/nowords. html> and is an attempt to formulate a critical vocabulary for game design. Although short, it is an ambitious and influential essay, and includes a useful definition of games.

**"Rules, Play, and Culture: Checkmate!"** by Frank Lantz and Eric Zimmerman

This essay, originally published in 1999 in *Merge Magazine*, is the first appearance of the three-part Rules/Play/Culture model for thinking about games, which the authors developed while teaching game design together at New York University. Elements of this model were the basis for the overall structure of this book. As such, the essay offers a brief and useful overview of these core game design topics.

## Notes

1. E.M. Avedon, "The Structural Elements of Games," In *The Study of Games,* edited by E.M. Avedon and Brian Sutton-Smith (New York: Wiley, 1971), p. 438.
2. RE:PLAY: Game Design + Game Culture. Online conference, 2000. <www.eyebeam.org.replay>
3. "Computer and Video Games Come of Age. A National Conference to Explore the Current State of an Entertainment Medium." February 10–11, 2000. Comparative Media Studies Department, MIT. Transcripts. Henry Jenkins.
4. Jesper Juul, Digital Arts and Culture Conference at Brown University, 2001.
5. Christopher Alexander, *Notes on the Synthesis of Form* (Cambridge: Harvard University Press, 1964), p. 60.