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# *Computers as Theatre*

*Second Edition*

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# *Computers as Theatre*

*Second Edition*

**BRENDA LAUREL**

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*For my grandson,  
Jem Wade*

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# Foreword

WHAT DOES A GESTURE-OPERATED SMART device have in common with a Shakespearian play?

No, this isn't a pun, and it isn't a trick question. The answer gets to the heart of this book. Theatre is about interaction, about themes and conflicts, goals and approaches to those goals, frustration, success, tension, and then the resolution of that tension. Theatre is dynamic, changing, always in motion. Our modern technologies with their powerful computers, multiple sensors, communication links, and displays are also about interaction, and treating that interaction as theatre proves to be rich, enlightening, and powerful.

Until recently, computers interacted with people in a stilted, pedestrian manner. Each screen was a static display. Designers and those in the field of human-computer interaction tended to think of each screen as a fixed entity, making sure it was well designed, understandable, and attractive. This is obviously good, but it isn't enough. Real interaction does not take place in the moment, on a fixed, static screen. Real interaction is ongoing over a protracted period. It ebbs and flows, transitions from one state to another. Transitions are as important as states. Until recently, the only computer systems that acted this way were games. But as students of the theatre have long known, we get the greatest pleasure from our ability to overcome early failures and adversaries. If everything runs perfectly and smoothly with no opportunity to deploy our powers and skills, pleasure is diminished. Human emotion is sensitive to change; starting low and ending high is a far better experience than one that is always high. Is this a cry for deliberate placement of obstacles and confusions? Obviously not, but it is a cry for a look

at the temporal dimensions, at engagement, agency, and the rise and fall of dramatic tension.

Many years ago I wrote the foreword to the original edition of this book. Years later, I reread it, this time with a broader, richer perspective. The next time I met Brenda, I told her that I finally understood the book. “What?” she exclaimed in horror. “You wrote the Foreword and didn’t understand it?” “No, no,” I hastened to reassure her. “I understood it then, but now I understand it quite differently. Your book,” I told her, “was ahead of its time. I thought I understood it when it was written, but I missed some of the most important points, most especially the role of time, change, and a continuing encounter. The book was ahead of its time when it was initially published; please bring it out again, now that the time is ready for you.”

Here it is. I’m delighted to see it reborn—now, when the time is ripe. The first edition was ahead of its time. This new edition comes at just the right time. Now the world is ready.

What makes the difference?

Both Brenda and I started in the early days of computers, long before computers routinely displayed images on the screen. It was remarkable that computers could do anything at all. As the years passed, the machines got more powerful. We started by controlling them with typed commands, moved from typing to selection through mouse and menus, and finally graduated to the potential for interaction with the entire body, starting with simple gestures, speech, and eye gaze, but for some systems proximity, location, movement, angle of regard, and whole body motion are also relevant. Today, social interactions are the norm, as is the networked interaction of multiple people and systems distributed across the globe. None of this was true in 1991 when the first edition was published.

When I first encountered Brenda’s ideas, I envisioned them being applied to the formal elements of display screens and the early devices used for interaction. This is a very limited viewpoint. It is better to think of these systems and their programmed applications as a platform, the stage upon which the dramas are enacted. To quote from Chapter 1:

Thinking about interfaces is thinking too small. Designing human-computer experience isn’t about building a better desktop. It’s about creating imaginary worlds that have a special relationship to reality—worlds in which we can extend, amplify, and enrich our own capacities to think, feel, and act.

## The Computer's a Stage

"All the world's a stage," said Jaques in William Shakespeare's *As You Like It*, "and all the men and women merely players." For us, the computer and its various programs and applications are the stage, providing the platform on which we enact our own scenes and activities. Much as plays are divided into acts, sometimes with intermissions, our computer-based activities are divided into sessions, sometimes separated by short periods and other times by long breaks.

Although Brenda Laurel focuses on the theatre, she extends her metaphor by looking at plot structures in television (Chapter 3). Contrasting forms of dramatic media have unique rules of engagement; they are different for a play than for a movie, different again for a television drama, and different yet again for the activities performed with the aid of a computer.

Games are the easiest of computer activities to translate into the language of theatre, although they are more like television episodes than theatrical performances or movies being viewed in a large auditorium. In a theatre or movie, once the drama has begun, it is difficult to leave, whereas in television, the viewer can leave at any moment, so it is important to keep people continually engaged; long explanations, background, or backstory information that might be necessary for the story must be disguised to maintain the audience's interest. In similar fashion, a computer game must continually engage interests, for the disinterested player can easily quit. Attention must be continually maintained. This can be done even in quiet periods through anticipation, as long as the player always has an expectation of future interesting engagement. Anticipation is the soul of emotion.

What about more mundane examples of computer usage? Laurel shows how even the activity of writing or composing a budget on a spreadsheet has a dynamic that permits interest to be sustained for long periods. Here, the actor is also the playwright and the spectator, so the expectations are self-generated, enabling interest to be sustained for what otherwise might be considered long, dull periods. After all, the actor/playwright/spectator is always watching to see how their self-generated drama unfolds, whether it meets expectations, and whether the characters (the numerical characters in the spreadsheet) behave as expected.

Television and movie series provide yet another lesson. Some episodes might follow previous ones in periods measured in years; think of the *Star Wars*, *Star Trek*, or *James Bond* films. These gaps require reminders to carry

the viewers over the gaps. Sometimes these reminders are given through flashbacks or asides, or sometimes by introducing new characters who then have to be brought up to date, with the audience as eavesdropper. Similar needs for reminders exist for email interactions, checking up on friends via social networks, or even writing a homework assignment, an essay, or a book. These activities are spread out over time, with variable gaps between segments. How do we maintain continuity? One mechanism is through repeated snippets of previous conversations in social networks or email, another through ready access to previous work, and yet another through mechanisms somewhat akin to the way movies and television episodes must brief newly introduced characters. With computer systems, this can be done through active reminding and prompting.

This component of drama is usually overlooked by computer system designers. When a break in activities is caused by interruptions from competing activities, when we resume the initial task, if the playwright (that is, the programmer or system designer) does not provide reminders of the previous states and activities, the result can be errors in the conduct of critical tasks. Witness errors in the use of medical systems, in aviation, and in complex activities that range from cooking a meal to controlling a complex chemical plant. Just as playwrights must help the audience bridge time gaps, the designers of systems must help computer users bridge their gaps.

## Simple Rules, Emergent Outcomes

Many interface designers tend to optimize every element of an experience, but as Brenda points out, maximum enjoyment and emotional peak can only come about as a contrast to lows, disappointments, and tension. A positive experience is much enhanced by contrast to just previously experienced negative ones (and in turn, negative engagement is enhanced when it follows positive experiences). The shaping of the emotional experience is critical to the development of dramatic experience, whether in a theatre or through a computer-mediated interaction.

Although the basis of dramatic theory can be traced to Aristotle, over the centuries of thought and experimentation much more has been learned. We don't have to consider drama as a self-contained play on a single stage, because even in Elizabethan times it was sometimes played out on several simultaneous stages. Modern experiments allow such things as the sprin-

king of actors throughout a house, all engaged in various patterned activities. Engagement and emotion can occur in a wide variety of settings, and we can imagine multiple future possibilities as well as the existence of ones that we cannot yet imagine, but which are sure to appear. These themes are explored in the provocative ending chapter.

What will the future bring? That will be determined by you, the readers of this book, aided by the speculations and discussions of the concluding chapters. But one thing is certain: The future of our interactions with technology will build upon the foundations provided by Brenda Laurel in this deep, thought-provoking, and critically important book.

—Don Norman  
*Silicon Valley, 2013*  
[www.jnd.org](http://www.jnd.org)



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# Preface

IN THE EARLY 1980S WHILE I was still at Atari Research, I began talking with Alan Kay and Don Norman about a particular *idée fixe*: the notion that when people were using computers they were interacting in *representational worlds*, much more like plays in which they were characters than computers on which they ran programs. What a funny idea—at once both obvious and strange. The idea got its hooks into me. At first, I wanted to develop an approach to creating games that might imbue “the system” with enough intelligence about dramatic theory and structure to generate dramatically interesting “next actions.” That was what I was trying to think about in my PhD dissertation.

Through a painful process of learning what I could about artificial intelligence, I arrived at an expert system as the correct approach. It took me a couple of years (and the experience of working with Joe Bates’ Oz project at Carnegie Mellon) to disabuse myself of that notion. At issue, I decided, was not only programming method, but also a perspective about how interaction is framed, and it relied on a solid understanding of dramatic structure and theory in the process of interaction design.

I wrote *Computers as Theatre* in 1989–1990 to put my hypotheses to the tests of persuasion, articulation, and application to the then-contemporary landscape of interactive media. My examples were drawn primarily from single-player games, “productivity” software like word processors and spreadsheets, and the operating environment of the shiny new Macintosh computer. My sources were in many cases bright young scholars and designers who are elders in the field today.

Looking back at the original text, I’ve been embarrassed by how outdated many of my assumptions and examples seem today. But I was also surprised by those things that remain relevant—the notion of dramatic

interaction and the interplay between structure and experience. Many of my original sources are still vibrant, amazing scholars and designers. Even some of the examples are still germane; there are still word processors (or “document creation programs”) and spreadsheets. There are still single-player games. And traces of the Desktop still bleed through many contemporary operating environments; even smartphones show vestiges of the ancient desktop metaphor.

But how much has changed! Then, I was a young PhD with a need to prove myself. Now, I can see retirement just around the corner. Then, I had two very young daughters. Now, I am a grandmother. Then, I was an entry-level producer and researcher; now, I’ve started three companies, spent the better part of a decade at Interval Research, and founded two graduate programs in design. Then, there were damned few women kicking butt in the field; now, there are young superstars like danah boyd,<sup>1</sup> Mary Flanagan, Amy Bruckman, Justine Cassell, Celia Pearce, Emma Westecott, and many, many more. Then, there was no World Wide Web, no Internet access for the common folk, no recognizable social networks, no “consumer-grade” mobile phones, no embedded sensors. Now, there are massively multiplayer online games, sophisticated collaborative work environments, subversive games, and distributed sensing. New science generates fundamentally new understandings about how brain, mind, and biology can inform our work. When I revise this book again . . . well—let me not get ahead of myself.

If you have read the first edition of this book, thank you. Be patient. The emphasis on dramatic fundamentals in the early chapters will look familiar. I promise we will take that understanding in some new directions. You will see some of the old examples, but now they are set alongside new ones and contextualized as part of a broader historical traverse. You will see lots of sidebars with lots of stories in them, old and new. And you will see some new ideas from the present that may change the future. Please enjoy.

---

1. No, she doesn’t capitalize her name.

# Acknowledgments

I THANK PROFESSOR DONALD R. GLANCY, my mentor, PhD advisor, and friend. He encouraged me to explore strange new worlds and defended my work to the graduate theatre faculty at Ohio State University. Before he passed away, I was able to put the very first copy of *Computers as Theatre* in his hands, and that made both of us happy.

I'm very grateful to my editor, Peter Gordon, for his support in revising this book. Peter's encouragement was just as important this time as the first time. As always, my work has been inspired and informed by Don Norman and Henry Jenkins, two of the smartest people I've had the pleasure to know. Barry Lopez holds a singular position in my life as a writer, friend, and the one who helped me find and hold the connection between nature and story. Documentary filmmaker Rachel Strickland has been my partner in most of the formative adventures of my professional life.

Thanks to Martin Venezky for the truly awesome cover design. Martin is in a class by himself. I'm honored that he would do this work. I also thank my dear former-student-now-colleague Verna Bhargava for the illustrations in this new edition. Verna went way above and beyond what I asked of her.

I want to give special thanks for the intellect, vision, and creativity of Douglas Englebart, who passed away while this book was in production. The story you will read about him in the book is now better known after his passing. I know that he suffered from the shifting of his particular passion for inventing for the Good to a more commercial ethos in the early days of personal computers. But all of us who worked in the big labs that existed "back in the day"—PARC, Atari, Interval, Sun, AT&T—were motivated by the same magnificent what-ifs of the new technologies we were

investigating and inventing. I'm certain that Engelbart came to know that he was profoundly appreciated—the National Medal of Technology surely demonstrated that to him. I hope he knew how many of us continue to be inspired by his spirit.

I thank Christopher Ireland, David Liddle, Nancy Deyo, and all the other Purple Moonies for making and supporting excellent research and doing the hard work of founding a company. I thank Interval Research and the Banff Centre for supporting the *Placeholder* collaboration with Rachel Strickland, Rob Tow, John Harrison, and Michael Naimark. I have difficulty describing how much I learned from both *Placeholder* and Purple Moon. Some of it is expressed in this book. I also thank Eric Hulteen for his thoughtful support in developing the first edition.

I am grateful to many folks for freely sharing their wisdom and knowledge with me in this work. Sean and Jen White were extremely helpful in the domains of augmented reality and narrative design. My colleagues Noah Wardrip-Fruin and Michael Mateas at University of California, Santa Cruz, also made invaluable contributions in both theory and design. Kimberly Lau generously shared segments from her tantalizing research on *World of Warcraft*. My interviews with Noah Wardrip-Fruin, Pavel Curtis, Lisa McDonald, and Eric Zimmerman played an active role in the work, and conversations with my long-time colleagues Nathan Shedroff and Abbe Don helped in more ways than I can describe here. Emily Short's work in narrative storytelling has been inspirational. My colleagues in feminist and critical game design, especially Emma Westecott and Mary Flanagan, are, as always, profoundly inspirational. I also want to thank those who freely shared images for the book, including Michelle Amsbury, Eric Zimmerman, Sean White, Quinn Dombrowski, Scott Nazarian, Laura Crawford, and Matthew McBride.

Over the years, I have had the good fortune to work with remarkable people as students, who are even more remarkable as graduates. Scott Nazarian, Matthew McBride, and Laura Crawford from Art Center as well as Will Newton and Kathleen Moynahan from California College of the Arts are among the finest students I've had the privilege to work with. I've learned a great deal from all of them. Thank you, people!

I am grateful to my family from the center of my heart. To my three daughters—Hilary, Suzanne, and Brooke—thank you. You have grown up strong and beautiful, each in your own way; I'm grateful both for who you were (the inspiration for Purple Moon and the best junior booth babes E3

ever saw) and who you are now. Thanks also to Suzanne for writing a sidebar for this book.

And then there's Rob. In the old days at Interval (where I first met him), Rob was well known for pronouncing some things to be "deeply wrong." He was almost never wrong in that. Over the 22 years that we have known each other, we've had professional and personal adventures; Rob wrote most of the code for *Placeholder*, and I consulted on Rob's robot project. We hike and snorkel and hunt abalone together, we play and record Tibetan bowls in diverse natural environments, and we kayak like Klingons. We've talked theory, practice, or politics just about every day. Rob's insights and editing have made this book so much better than it might have been. I think you will enjoy his sidebars as well. Rob says he liked the first edition of this book so much he married the author. That's pretty sweet, and sometimes I choose to believe it. I thank you, Rob, for all we've done and all we will do.

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# About the Author



Photo by Hilary Laurel Hulteen

**Brenda Laurel** has worked in interactive media since 1976 as a designer, researcher, writer, and teacher. She currently serves as an Adjunct Professor of Computer Science and Affiliated Faculty for Games and Playable Media at University of California, Santa Cruz. She served as Professor and Founding Chair of the graduate program in design at California College of the Arts from 2006 to 2012. She designed and chaired the graduate Media Design Program at Art Center College of Design in Pasadena (2001–2006) and was a distinguished en-

gineer at Sun Microsystems Labs (2005–2006). Based on her research in gender and technology at Interval Research (1992–1996), she cofounded Purple Moon in 1996 to create interactive media for girls. In 1990 she cofounded Telepresence Research, focusing on virtual reality and remote presence. Other employers include Atari, Activision, and Apple. Her books include *The Art of Human-Computer Interface Design* (1990), *Computers as Theatre* (1991), *Utopian Entrepreneur* (2001), and *Design Research: Methods and Perspectives* (2004). She earned her BA (1972) from Depauw University and her MFA (1975) and PhD in theatre (1986) from Ohio State University.



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# 4

## *Dramatic Interactors*

### Collaboration, Constraints, and Engagement

FOR THE NONSPECIALIST, THE IDEA of a dramatic model may seem to have more to do with content—interesting situations and colorful characters, for instance—than with structure. As a structuralist, I have been assailed by both theatre and computer people for taking what they perceive as a rather bloodless approach. Structure is not always well understood, and even when it is, its uses are seen to be analytical rather than productive. When we see a good film or go to a good play, we are moved by things that seem to transcend structuralism—a beautiful image, dialogue and action that speak deeply and genuinely about life. There seems to be a contradiction here—if it's all so structured, how does it get to seem so lifelike? Surely there is more to it than structure, more to it than a computer could be programmed to create. People sometimes criticize my approach by countering that a computer program can never be smart or sensitive enough to make a beautiful work of art. Yet artists use computational tools to do so, and those in turn are enabled by the artistry of designers and programmers.

These observations point to the artistry that is essential in every beautiful made thing. Artistry transcends and saturates the process. We do not know what it is that gives a person the ability to conceive of or create magnificence in art. Structure is not a wholly sufficient explanation for beauty. Human-computer interaction, like other art forms, requires artistry that can only be contributed by human imagination. Artistry is deployed within the constraints of the medium, the tools, and the formal and structural characteristics of the kind of thing that one is trying to create.

Artistry and structure are interdependent; both must be present if beauty is to be the result. Perhaps more important in this stage of the evolution of computer-based media is the fact that artistic sensibility should drive the notion of *desired experience*, from which the design of technological components must be derived.

Human-computer interaction is like drama in the sense that the principal designer (or playwright) is not the only human source of artistry in the completed whole. In theatre, the director, actors, designers, and technicians who are involved in rendering a performance all make contributions that require artistry. In human-computer interaction, there may be a legion of programmers who have designed and architected programs on which a given kind of action depends, graphic designers who create images and animation, wordsmiths who authored text (or text-generating algorithms), and so on. A fundamental but sometimes overlooked source of human artistry is the people who actually engage in the designed interaction; that is, the *interactors*.

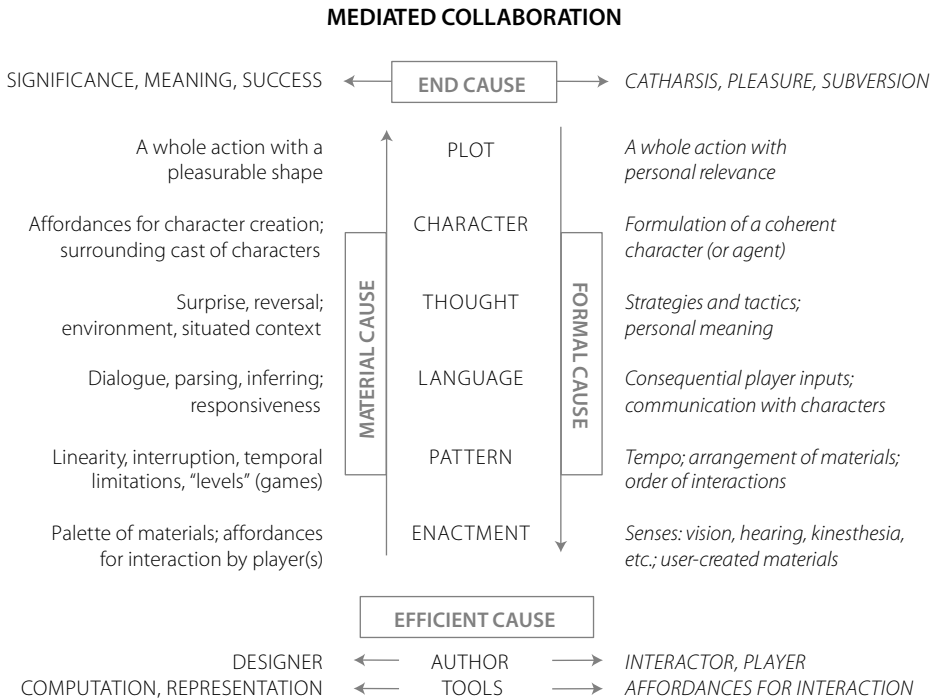
## Human-Computer Interaction as Mediated Collaboration

Real-time human-computer interaction is a mediated collaboration between designers and interactors. Mediation occurs through the unfolding of the experience itself in terms of time-displaced collaboration or real-time intervention by designers. The plot can be described, in retrospect, as the story of the whole action that interactors tell themselves (in much the same way as one remembers a film or a day in the park). Wardrip-Fruin (2009) defines interaction “as a change to the state of the work—for which the work was designed—that comes from outside the work. Interaction takes place through the surface of the work, resulting in change to its internal data and/or processes.” Designers and interactors co-create the whole action in intricate ways, even though they are not literally co-present. The final form—the element of plot—cannot be exclusively controlled by the designer; it will also be shaped by the choices and actions of interactors. In this sense, the designer loses a significant measure of formal, top-down control as the interactor’s choices move the plot from possibility to probability to necessity—the ending of the particular plot that has been created in a player’s traversal of a game (or the performance of an activity by a “user”) (see Figure 3.2). Unlike branching tree structures, computationally intensive games may enable player outcomes that the designers could not have foreseen. Such was the

case with the game “Prom Week” created in 2013 by students and professors at the Center for Games and Playable Media at U.C. Santa Cruz.<sup>1</sup>

The authorship of the designer(s) is of a different order than the creative inputs of the player; the designer authors the world and its affordances, while the player creates a distinct path through the game world that can be said to be the player’s “plot.” This is a stronger force than the reader-response theory, but weaker than the authorship of the designer(s). As Wardrip-Fruin (2009) points out, without players there is no game.

To explicate the diagram shown in Figure 4.1, I want to walk you through it in terms of the four causes (in gray). In Chapter 2, we discussed the *efficient cause* as the author and her tools. In human-computer interaction, the “authorship” of the interactor’s particular experience is shared in



**Figure 4.1.** A model of mediated collaboration between “designer” and “player” (or “interactor”). For both collaborators, the formal-material relationships between elements remain constant.

1. Noah Wardrip-Fruin, personal communication, 2013.

interesting ways. Designers of interactive media are part of the equation, typically working as teams that include many specializations. Their “tools” can be described as representation, computation, and research. Tools for representation include those used for creating graphics, animation, audio, layouts, and interface affordances. Computational tools include the programming of the interactive application itself as well as the code that powers authoring tools for the design team. Another sort of tools, often overlooked, are the methods of design research—studying the intended audience, looking at comparable products, and creating and testing mock-ups and prototypes. Beta testing without the benefit of other design research methods is inadequate. Remarkable resistance to human-centered research persists in many areas—especially in the game industry, with “serious games” as a notable exception.

Interactors typically share in authorship to a lesser degree than designers in that they create under varying kinds and levels of constraints as provided by designers. Affordances for interaction are the most intimate level of collaboration between designers and interactors in the sense that they circumscribe the means, manner, and scope of the interactor’s creative contributions and provide the tools whereby interactors can influence the action.

We have said that material causality reflects the influence of materials upon how they may be formulated at any level in the hierarchy of dramatic elements. The palette of multisensory materials offered up by the designer constrains the sort of patterns or rhythms into which they can be formulated, and those patterns or rhythms constrain how the semiotics or “language” of a piece can be formulated. Thought as expressed or available by inference constrains the formulation of characters, and so on.

Recall that formal causality works in the other “direction,” where the most formal element—plot—constrains the sorts of characters, thoughts, etc. that are appropriate to the action. These two causal forces are at work simultaneously, rather like taking inductive and deductive approaches simultaneously in problem-solving. Game designers often iterate on the basis of observations of or interviews with play-testers and players. Their privileged position allows for intervening and tweaking a game over time. Will Wright famously strolled about *The Sims* in various forms to observe game play and provide new materials and functionality as he observed emerging play styles (Laurel 2004).

I refer again to the additional causal chains suggested by Michael Mateas (2004). He posits that the player’s intention creates a new chain of formal causality. Mateas’ formulation points to some key differences be-

tween drama and dramatic interaction in the operations of causality. But for my purposes, I see the player's intention as part of the end cause for the player as a co-creator. Mateas also suggests that "material for action" is a separate causal chain in that material requires some sort of interactive affordances in order to be usable by the player. I agree that such affordances are essential, but I see them as being provided by the designer at the level of enactment. If we look at things this way, we may not need to introduce additional complexity to the model.

The authors are working toward similar end causes—the representation of a whole action that produces pleasure. But differences exist. As Mary Flanagan (2009) observes, many players intend to subvert the game—that is, to deny the game's authority to set the player's goals. She has produced many games that deliberately leverage this subversive spirit to increase activism and cultural change. Other players may intend more than "winning" or "experiencing" the whole game; they may intend to find personal meaning that transcends a game's structure. Henry Jenkins, renowned for his work on fandom and popular culture, makes the point that, in order for people to become "fans," they need to be able to appropriate characters, elements of plot, etc. to construct their own meanings. Jenkins points to the "slash" phenomenon in *Star Trek* and other cultural properties where fans construct new stories that are personally relevant by writing stories or constructing videos from pieces of the originals that have new plots. Much slash focuses on creating relationships (usually homosexual) or backstories that are not supported in the official canon (see Jenkins 1992 and 2006a). Several sources of causality outside the purview of Figure 4.1 will be discussed ahead.

### *Interaction among Interactors*

Interaction among interactors is not new, but it has become much more complex and significant since the widespread availability of the Internet. A little history is relevant. The ARPANET (Advanced Research Projects Agency Network), ancestor to the Internet, was conceived in the early 1960s and first deployed in 1969. Its general goal was to support communication and collaboration among scientists and companies in their work on government-related research and development. However, discouraging purely social communication by users did not prevent it.

Multiple interactors engaging in discourses of all kinds go back at least to the earliest BBS (Bulletin Board System). An early precursor to dial-up

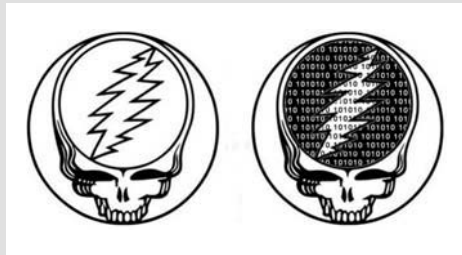
### Grateful Dead Fans and the Power of Appropriation

Barry Barnes, author of *Everything I Know about Business I Learned from the Grateful Dead* (2011), notes that in 1994—their last full year on the road before Jerry Garcia died—the Dead grossed \$53 million in concert revenue. Barnes points to the Dead as progenitors of the “freemium” business model through choices like supporting fans in taping shows (the “taper” section next to the sound board at concerts was dedicated to tapers) and allowing fans to freely use and customize the band’s signature graphic materials.

The creative efflorescence of the band’s culture (including the omnipresent “parking lot” scene, where Deadhead vendors sold each other Dead-related stuff) formed a distributed community of wildly devoted fans. The band promoted healthy disrespect for “intellectual property” that liberated fans from the commercial swamp of the music industry. Many gleefully crossed boundaries by incorporating copyrighted images like that of Mickey Mouse in their Dead constructions.

As a Deadhead, I know firsthand how this works, and it’s brilliant. These scenes of mass appropriation and creative fandom continued with The Other Ones and now with Further. My strange collection of fan-created merchandise and gifts of great tapes resonate with personal meaning.

By the way, although it is a bummer to see tie-dyed folks using walkers these days, there’s also a healthy influx of young people—many with children—coming to shows. The Dead just won’t die.



Original and personalized “space your face” Grateful Dead images.

BBS-like systems was the *Community Memory Project* in Berkeley, created by Lee Felsenstein in 1973, an electronic walk-up kiosk that worked like a physical bulletin board. Usenet, established at Duke University in 1980, supported threaded discourse among distributed interactors. A person could sign up for a “news feed” on any number of topics. Readers responses



were emailed in for moderation, and if they passed the test, their responses would likely show up in the feed in the next few days.<sup>2</sup>

My traversal through some of this space began in the mid-1970s at CyberVision, when I was introduced to the Control Data PLATO system. PLATO was heralded as the first “computer-aided instruction system,” created by the University of Illinois beginning in the early 60s. PLATO introduced me to multiplayer flight and maze games as well as message boards, real-time chat, and multi-person forums, some of which had the makings of early collaborative work environments. PLATO also provided me with my first experience of flame wars, in which two or more users would go at one another with ever-escalating vehemence, often “baited” by an original message intended to be provocative. Flame wars can be dramatic, but they pose great challenges to moderators.

The role of the moderator in these early forms was liminal and dynamic. Some of the earliest BBS systems were not moderated, or the “moderator” was likely to be a systems administrator just trying to keep things running smoothly. With the increasing complexity and scope of systems, the mediator’s role tended to become more actively engaged with the community, struggling with governance, setting or enforcing policies, and censoring inappropriate comments, actions, or characters. There was also a pastoral side to the moderator in keeping the virtual community connected, vibrant, and safe.

Free speech and censorship have been abiding issues. Whether getting “toaded” on a MUD or mediated into silence on Usenet, people had things they wanted to talk about that didn’t fit into “polite societies.” Pornography was the leading topic (and probably still is), but all sorts of marginalized voices—from Furies to faeries—wanted to participate in these new forms of communication and community where their own voices can be heard. The alt.\* hierarchy was created by John Gilmore and Brian Reid in 1987 in response to a reorganization of Usenet that would eventuate in greater censorship of topics. “Alt” referred to topics that were “alternative”; that is, not part of mainstream popular culture. Although sexual interests made up

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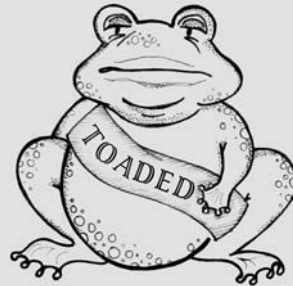
2. I want to take a moment to honor Eugene Maia for inventing the FAQ (“Frequently Asked Question list”) in the early 1980s. His inspiration was getting sick of people asking the same questions over and over; the canonical answers were posted once a month in any given Usenet discussion list.

### Pavel's Reluctant Polity: LambdaMOO

In 1991 at Xerox PARC, a researcher named Pavel Curtis invented LambdaMOO as an experiment in technology that ended up being a grand experiment in government. I interviewed him in 2013, at least ten years after he ceased to be active in the LambdaMOO community. Pavel was primarily interested in implementing a MUD using object-oriented programming. His goal was to create a community around the resources of LambdaMOO to play with the tech:

*To a large degree, I was in it for the technology. I thought it was just cool to have this language and this ability to make things—intelligent or interesting artifacts that people could play with, and it was just this great playground, and I was just assuming that everybody would be happy to be there.*

As the community began to form up, Pavel was surprised that he was getting demands for a “statement of manners.” Implicit rules of conduct were being upheld by the “Wizards”—Pavel and several of the early players who had sys-admin powers that mere mortals lacked and who actually had physical possession of the server. Pavel figured that reasonable people might interpret the implicit rules differently, so it probably made sense to write them down. These were rules like “be polite,” “don’t try to take revenge on a person,” “respect other players’ sensibilities,” and “don’t hog the server” (Curtis 1992). Says Pavel in 2013, “some rules just came down to ‘don’t be an asshole.’” In the early years, enforcement for severe or repeat offenders was a process called “Toading”—literally turning off a player’s account and leaving a Toad with the player’s name on it in the world as an object; but that wasn’t effective enough to protect the experience of what I would call sincere *players*.



*There were people who were invested in LambaMOO who were just being mean to other people. I kept finding people coming to me and asking me to judge what was going on, and I tried to judge with as much wisdom as I could, but it wasn't something I wanted to do and it didn't make me feel powerful or gratified in any way. I think that's one reason why LambdaMOO was successful. The majority of MUDs were being run by college sophomores who were getting*

*off on being lords of their domains. I just wanted everybody to get along. It might have been the first MUD run by somebody over 30. I felt more like a beleaguered sys-admin who sometimes had to be a babysitter.*

The Wizards were pledged to serve the will of the community, but had no way to know what the community wanted. So in 1993, Pavel introduced a petition process. "It came out of necessity," he says. "I just needed some way to have the collective will expressible." The Proposition structure "worked remarkably well for providing at least some sense of order and process. I provided a structure within which change seemed possible." Rules for vetting were created to make petitions more effective (see Mnookin 1996). The Petition system was also highly controversial, but some extremely smart petitions were created and passed, and the community survives until this day with the process intact.

In retrospect, Pavel shares this wisdom:

*LambdaMOO was just one more iteration on the great wheel of BBSs. None of these things ever really disappeared. There are still BBSs and MUDs and Blogs with lively comment communities, and Second Life will probably never die, but it is what it is at this point. We see these communities form when technology changes. Every time we give people another mechanism to communicate, they latch onto it. And then we see human nature happen again. People. Some of them will be assholes, some of them will care an enormous amount. Some will be beautiful and wonderful and some will be hateful and awful. There's such a hunger for these kinds of systems. Facebook is certainly an example. Then human nature does what we expect it to do if we're paying attention at all, and there will always be people who are disappointed because they thought, this time—this time it is pure.*

a fairly large percentage of alt.\* topics, many were (and are) also devoted to activism, human rights, and free speech issues.

The WELL (Whole Earth 'Lectronic Link), founded by Stewart Brand and Larry Brilliant in 1985, became a very tight community in which many of the digerati of those days found a home. The community was friendly toward the Whole Earth movement and reflected some of the distinguishing bits of Northern California culture (e.g., technology; the Grateful Dead). It was originally a dial-up BBS, morphing with technology into its current

form as a user-owned virtual community on the Internet.<sup>3</sup> The WELL required that people use true names, removing the shield of anonymity that had characterized many early systems. As the World Wide Web became popularized, BBS systems and their kin tended to morph into or be replaced by wikis, Internet forums, websites, and social media.

Other forms of interaction among interactors happens in the domain of computer-supported collaborative (or cooperative) work (CSCW). The aim here is to facilitate collaboration on a particular problem or opportunity by people in different geographical locations. CSCW relies on any of a variety of computational tools: file-sharing, shared “whiteboards” and tailored work environments, VNC (Virtual Network Computing) as a way to share screens, specialized tools related to the task (e.g., industrial design, architecture, or any of the sciences), video- or voice-conferencing systems, blogs or email, and IRC (Internet Relay Chat), used heavily by such distributed communities as Linux programmers. The tools are varied and rich. Shared goals, the facilitation of collaboration, and working toward consensus distinguish CSCW interactors from participants in forums or social media.

This tiny history reveals the complexity and centrality of interactions among interactors in non-gaming communities. Once the architecture for a BBS or Usenet group or forum has been set up, its content (except that which is “moderated away”) is entirely user-created.<sup>4</sup> Designers create formal constraints and affordances while interactors provide material all the way up to the level of plot, depending upon magnitude and shape. *Interaction between or among interactors may become the primary creators of the plot*—the whole action—complete with complication and resolution, discovery, surprise, and reversal.

Of course, many different kinds of “interactions among interactors” are possible in such systems. People may exchange information, opinions, or goods. One may respond to a post or start a new thread hoping to begin a discussion and possibly to form a new community. One may work with distant colleagues on an invention or a problem. Or one may search anonymously for providers of illicit goods under the anonymity afforded by the alt.net or various “black market” Web sites. In social networks, relationships

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3. I am forced to recall a certain boss of mine, who in 1993 told a group of researchers that the Web would never be mainstream. He described it as for “ . . . only a few geeks and WELL-heads like *you*, Laurel.” Actually, I think his point was to look past the Web to possible new models. But at that moment, we were all stunned.

4. That is, until the onset of the advertising invasion.

### Rob's True Name (and Sex)

I joined The WELL in 1990. A number of my friends in Silicon Valley told me “You should join—there are lots of smart and cool people, and there’s this fun monthly get together up in Marin County.” So I looked into it, using my 2400 baud modem and my Mac Plus, and observed that it did indeed look worthy—and decided to get an account.

This was during the height of my dress-in-black flirtation with post-modernism, body criticism, and neo-feminism, and was also when I was the father of a girl in preschool. I noticed that it might be possible to do some exploration with my personal voice, stripped of common signifiers that always lead to projective gender construction, and see what people thought of me from merely semantic communication, sans beard, blue eyes, or affect.

The WELL stated that its policy was always the “you own your own words,” and required people to stand behind them in the online threaded discussion groups. A new account required one’s name, and also an “M” or “F” denoting sex. As it turned out, I knew the sysadmin (Calliope Curious) through a mutual friend, and I persuaded her to make me an account with the name “Tau Zero,” and to leave the sexual identity blank. Subsequently I was careful to avoid emitting anything that identified myself as either male or female in any discussions, which ranged from science and technology to business, the Grateful Dead, relationships, sexuality, and parenting. I merely expressed my opinions, backed up with the best evidence I knew.

After about a year a curious thing happened. Two people (one from Kansas, and one from the Bay Area) who were active posters in both the sexuality groups and the parenting groups started sending me private messages. These were friendly, and then started to become positively flirtatious—and even suggestive. Both of the correspondents were “out” lesbians, and had assumed, purely from the semantic content of my own postings, that I **must** also be a lesbian.

There was only one thing to do, as a responsible member of the community. I went to Calliope, and had her change the single ASCII character of my sexual identity from a blank to an “M.”

The private messages stopped, rather abruptly.

—Rob Tow



are power, and groups of like-minded individuals can take meaningful political action. One may enjoy the lives of one's children by "friending" them on Facebook (ahem).

*Habitat*, developed by F. Randall Farmer and Chip Morningstar at Lucasfilm, was first launched as a prototype in 1986. It stands as an extremely important transitional form. More than a series of chat rooms or a community like the WELL, *Habitat* was a graphical virtual community that was both a descendant of the forum and an antecedent to massively multiplayer online games. They called their interactors "players" because they meant the world to be an environment for entertainment and play. Each player took on an "Avatar"—a graphical representation of a character with various signifiers—to represent them. One could also argue that *Habitat* foreshadowed what became "social media" in the early 2000s (avatars got married in *Habitat*—in-world only, of course). Randy and Chip's vision was to make a real instance of "cyberspace," which, they asserted, was "necessarily a multiple-participant environment" (Morningstar and Farmer 1991). Each of the thousands of "regions" in the game contained "a set of objects which define the things that an Avatar can do there." The object-oriented approach in building the system was the key to the sort of play that was enabled.

Chip and Randy were constantly observing and tweaking the prototype precisely because it was not a game with rigid rules:

*Habitat* . . . was deliberately open-ended and pluralistic. The idea behind our world was precisely that it did not come with a fixed set of objectives for its inhabitants, but rather provided a broad palette of possible activities from which the players could choose, driven by their own internal inclinations.

The unexpected actions of players kept Chip and Randy busy, both writing new code and intervening in-world as Avatars. They, like Pavel Curtis, were working at the transformation point of the role of "moderator" from sys-admin to dynamic designer of a community. The success of the prototype and its influence on future forms demonstrate how robustly interactions among participants can shape the dramatic action.

Of course, "non-game" interaction did not end with *Habitat's* excursion into an entertaining, graphical, social world. But I see *Habitat* as a pivotal precursor to later online communities—the world of wikis, Web sites, and

blogs—as well as graphical multiplayer games and even “social media.”<sup>5</sup> The spirit behind it was fundamentally experimental, even though the external driving force was to create a “product” for Quantum Link.

### *Interactions among Players*

The following wee history is meant to provide a little background on the evolution of multiplayer gaming and some of its sub-genres. Note that many of the games mentioned are still being played in 2013. Interaction among multiple players is as old as *Spacewar!*, a two-person space combat game first developed in 1962. In the PLATO system, *Spasim* (1973) was one of the offspring of *Spacewar!*, with several planets and up to 32 simultaneous players. And PONG, of course, was a two-player action game created in 1972 that eventually led to Atari in all its magnificence.

MUDs (Multiple-User-Dungeons, originally based on Dungeons and Dragons gameplay, later revised to the more generic Multiple-User Domains) arrived on the scene in the late 1970s in the form of *Adventure* (1975) and *Zork* (1977). These were text-based multiplayer adventure-type games, and I personally loved playing them (age check). The PLATO system also hosted progenitors for MUDs and MOOs (MUD Object-Oriented) during this time period.<sup>6</sup> Massively Multiplayer Online Games (MMOGs) showed up in the late 1980s. An explosion of games in the genre followed, while the genre itself branched out to include great new acronyms like MMORTS (Massively Multiplayer Online Real-Time Strategy games) and MMFPS (first-person shooters). *Doom* is an example of the latter; later examples of the genre include *Halo* and *Call of Duty*. In 1991, *Neverwinter Nights*, published by America Online, was the first *graphical* online role-playing game (MMORPG). The MMORPG genre was popularized on the Internet by *Ultima Online* (1997) and *Everquest* (1999). MMORPG games dominate the landscape today, although the MMFPS and MMORTS forms continue vigorously as well.

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5. Social media is fundamentally narrative, to be discussed later in this chapter in the context of Character.

6. This and more information on PLATO games is available an the Universal Videogame List, [www.uvlist.net/platforms/games-list/181](http://www.uvlist.net/platforms/games-list/181) (©1998, retrieved 04/23/13).

**Mr. Adams' Tricky Decision**

In 1985, I was working for Activision as a Producer. One of my "lines" was the Lucasfilm Games (before they began publishing the games themselves). I had the opportunity to work on the game version of the upcoming Lucasfilm movie *Labyrinth*, directed by Jim Henson and starring David Bowie and Jennifer Connelly. The film was envisioned by Henson and awesome fantasy artist Brian Froud, and the original screenplay was written by Monty Python's Terry Jones. The game team included my old friend Steve Arnold (whom I met in 6th grade and had worked with at Atari). Steve had become the General Manager of Lucasfilm Games. The rest of the Lucasfilm team included David Fox, Charlie Kellner, and Christopher Cerf, who was at that time a writer for Sesame Street.

As we worked together on the game concept, Lucasfilm had the amazing idea of putting us together with Douglas Adams, renowned author of *The Hitchhiker's Guide to the Galaxy* and one of the funniest people I have ever met (we miss you, Douglas). So they sent the team over to spend a week in London with the man himself.

Adams was incredibly stimulating. Every day a fresh blast of his wild and intelligent humor stoked up the creativity of the team. We would start off with a piece of the design to brainstorm about in Douglas' living room. By the time we'd eaten our morning croissants, Douglas was off and running, cracking us up until our sides hurt. His humor made us all want to be funny, and we all tried—but it was like singing with Pavarotti. (Douglas also made me eat eel pie at a little shack on the bank of the Thames, but that's another story.)

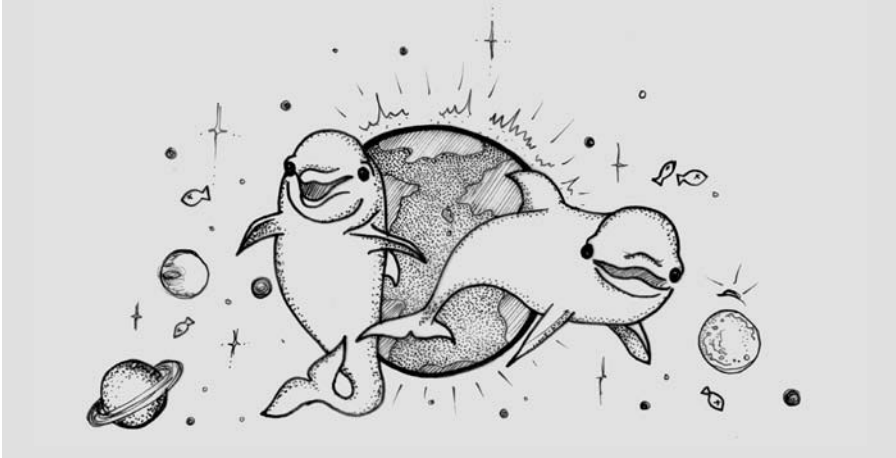
The peak of the brainstorming was reached when we were working on ideas about how the game might start. Douglas proposed that we begin it as a text adventure game in which the player would navigate to the theatre where *Labyrinth* was playing and buy a ticket (THERE IS A MARQUIS HERE. :GO LEFT, etc.). The player goes into the theatre, the curtain opens, and a full graphic adventure game begins! The game, although not a blockbuster, was a greater hit than the movie in the United States, although I will never understand why the movie was pulled early from theatres.

On our final night in London, we dined at a high-class London restaurant (pheasant with buckshot was my entrée). Terry Jones sat next to me, and I learned from him that he felt pretty negative about the extensive rewrites of his original movie script. As we spoke about it, he became increasingly overheated and eventually took off his



jacket. Presently a waiter appeared and asked Terry *sotto voce* to put his jacket back on. Etiquette, you know. "It's warm in here," Terry replied. "I'm sorry, sir, but I really must insist," said the waiter. Breaking into that high female voice he often used in Monty Python, Terry loudly exclaimed, "I won't!" He rose, knocking a \$100 bottle of wine off the table. In the same voice, he addressed the patrons of the restaurant. "This is a *stuffy* place! You shouldn't be eating here!" Then he strode defiantly out the door, only to slink back in about 10 minutes later to ask his wife for "a couple of quid" to buy himself dinner somewhere else.

At our closing party, Jim Henson talked with us enthusiastically about the future he envisioned for interactive games (we miss you too, Jim). At the end of the night, as Henson was leaving, he presented Douglas with a large package of smoked salmon. "Say it," Henson demanded. After a moment, Douglas replied, "So long, Jim, and thanks for all the fish."



The elephant in the marketplace is *World of Warcraft*, originally introduced in 1994 and going strong with over 10 million subscribers in 2013—the largest MMORPG in history. Various types of interactions are enabled by the various “realms” of the game, each with distinctive play properties to suit the palate of the player (for example, how much fighting they want to do). Non-player characters (NPCs)—often with fairly sophisticated AI structures—serve as enemies, friends, wizards, familiars, monsters, and other sorts of forces on the level of character to shape dramatic action.

Through devices like deeds, quests, and guilds, *WoW* as well as many other games of its ilk, provides affordances—often necessities—for significant interaction among players, to work together for common goals or against common enemies.

*Lord of the Rings Online (LotRO)*, launched in 2007) employs similar structures that necessitate collaboration. Player-characters have vocations and talents, and most quests cannot be completed by a solo player because they don't have the requisite talents. For example, the "vocation" of the player-character consists of two talents that go together and one that does not. A Tinkerer, for example, can find ore, make jewelry, and collect wood. She can't make anything out of wood, but someone who can will trade her for it. "Everybody gets good equipment out of exchanges," says regular *LotRO* player Lisa McDonald. Trade and commerce—the internal economy of the game—are extremely important to gameplay.<sup>7</sup>

Beginning in the early 2000s, Voice over Internet Protocol (VoIP) has grown as part of multiplayer game experience. Players use a voice channel to shorten communication time, for example. They also use it in-game for social chat and networking. This channel of communication is human-to-human, not to be confused with speech recognition. Voice can enrich the game experience in many ways, from direct impact on the strategies and actions of a player or group to emotional depth and social interaction as well as opportunities for shared criticality.

Like other kinds of properties, multiplayer games engender enthusiastic fan activities outside of the game world, including fan art, conventions, Cosplay, and intertextual fan activities (Jenkins 2006a). These activities form economies of attention as well as legitimate commerce. They provide ways for fans to extend their personal constructions of meaning. Purple Moon provides an earlier example, but one near to my heart. Near the end of the company (and its eventual acquisition), we discovered multiple fan sites where "scarce" gifts and objects from the Web site were being traded by girls. In 2012, the mother of one of the original players alerted me to a Facebook Community called "I Miss Purple Moon." Sweet!

Of course, interaction among players has its dark sides. Sexual harassment continues to be an issue. Cheating in various forms continues as a thriving parasite industry. The ready availability of "legitimate" cheat books and websites suggests that the game industry has had to give up on

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7. Interview with *LotRO* player Lisa McDonald, April 2013.

### Kimberly Lau on “Camping Masculinity”

I recently had the pleasure of listening to a fascinating talk by Dr. Kimberly Lau, a professor and provost at Oakes College, and a professor in the Literature Department and an affiliated faculty member in Games and Playable Media at UCSC. She intends to publish a larger piece on the work she previewed for us. Her proposition is that:

*. . . hypermasculinity might be closely aligned with camp in World of Warcraft and that a camp masculinity might share the goal of disrupting hegemonic constructions and constraints, in this case by enabling alternative forms of masculine sociality and opening up spaces for prohibited heterosexual desires.*

Lau uses the term “camp” in two ways. In *WoW*, players can hang out (“camp”) where a character died and whack him every time he re-spawns “as a form of sabotage.” Using Susan Sontag’s work, Lau gives us a second definition of “camp” as “a cultural practice and a theory of exaggeration, excess, and play.” These two definitions come together for Lau in her analysis of in-game interactions and ethnographic studies of *WoW* players.

She began her talk by showing us some examples of hypermasculine figures from MMFPS like *Call of Duty* and *Gears of War*—hyper-hard-bodied fellows with narrow waists and bulging muscles. She observed that these are normative hypermasculine images that are not intentionally “camp.” Then she showed us some characters from *WoW*. “I mean, how can a really powerful hypermasculine human frost mage named Chuck Norris—who also happens to be wearing a dress—not be about play and extravagance, about camp?” The scales fell from my eyes. She also screened some highly “camp” commercials from Blizzard featuring William Shatner, Mr. T., and Chuck Norris himself, all with an in-your-face but tongue-in-cheek hypermasculinity based on the “camp” characteristics that many attribute to these actors retrospectively in their “serious” work.

She told us about the cult of Chuck Norris in *WoW*, and mentioned the fact that “Chuck Norris is among the most common, if not the most common, avatar name in *World of Warcraft* with 1081 Chuck Norrises.” But I advise caution here; Chuck Norris might be mighty angry if we called him “camp.” His commercial was by far the least “camp” of the three we viewed. Further, his affiliations with the NRA and Tea Party

(continues)

lead me to believe that there's more going on with the cult of Chuck Norris than "camp" in *WoW*. Mr. Norris could not be reached for an interview.

Lau's early ethnographic work with adult men who play *WoW* regularly "seems to suggest that *World of Warcraft's* ability to generate a hypermasculine environment that simultaneously camps heteronormative masculinity opens up a space for alternative forms

of masculine sociality." She gave us the example of two long-time adult male friends who decided to play *WoW* together. In-game, the two began to have conversations about their lives with greater intimacy than when they were face-to-face. They were able to communicate in ways that are proscribed in the normative, real-world definition of masculinity. "In essence," she says, "I'm arguing that the very culture of masculine camp that surrounds *World of Warcraft* loosens gender restrictions."

Here is where the two meanings of "camp" come together:

*...I'm suggesting that World of Warcraft's camping of masculinity—its exaggerated, playful, anti-serious representations of masculinity—result in a cultural camping (in the first sense of the word), or sabotage, of hegemonic masculinity.*

I've touched on only a few points of Dr. Lau's analysis, and I look forward to more. Her work sheds new light on masculinity and games and suggests how the "camp masculinity" frame in *WoW* can change interactions among players—as well as how players see themselves—in potentially profound ways.



controlling many forms of cheating and find ways to embrace them. Some forms of cheating may be "blessed" as "subversive play," but not all. In many cases, the player simply wants to "get ahead" without breaking a sweat—and that's not subversive, just lazy in a human sort of way.

"Black market" activities are a constant plague for players and companies alike. The sale of virtual gold for real-world money in *WoW* has been a flashpoint; Blizzard (publisher of *WoW*) and Antonio Hernandez,

a WoW player, have both filed suit against companies for such practices. Hernandez' suit, filed in 2007, was meant to be a class action against Internet Games Entertainment (IGE). Patentarcade.com, a website devoted to IP protection and the gaming industry, reported that:

The amended complaint in the Hernandez suit alleged that "IGE's calculated decision to reap substantial profits by knowingly interfering with and substantially impairing the intended use and enjoyment" of WoW through its gold-farming, camping spawns, and spamming chat . . . led to lost time, competitive disadvantage, and diminished experience for honest game subscribers (Patentarcade Staff 2009).

Both of these suits were settled, but such practices continue to pop up in ephemeral companies that form fluid but irrepressible parasitical industries, including the sale of accounts with highly valuable characters—a practice forbidden but not snuffed out by most publishers of multiplayer games.<sup>8</sup> Hey, sounds like a good game premise to me. I'm sure somebody's done it.

In conclusion, the previous two sections are intended to illustrate many of the ways in which interactors or players exert causal influences *through their interactions with one another* that are outside of the direct control of designers. By providing affordances for discourse and discussion as well as affordances that encourage or require group action within multiplayer games, designers create conditions for an efflorescence of possibilities for action and experience. At the same time, designers rely on the social, strategic, and artistic actions of individuals to enhance the dramatic shape of incidents and whole actions. Both designers and players can fall prey to parasitic forces that intend to subvert the intended experience. In many cases, designers have had to "embrace and enfold" such forces because of their power (e.g., sale of in-world materials for real-world money) or popularity, as in the case of "cheats," acknowledging to varying degrees that they have become normative. Both designers and interactors are constantly called upon to deal with the various dark economies that plague (and tempt) them. It is up to the designer (or publisher) as well as the virtual community of interactors to safeguard the experience.

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8. Like the "ask" for donations to political candidates and even to parties trying to advance legislation, it seems that gaming—like democracy—comes with corrupting influences that must be borne (for the time being) by players and citizens. Of course, opinions may vary.

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