Works of Game: On the Aesthetics of Games and Art

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1 Introduction

Games, Art, and the Gap Between

A few years ago, I found myself in front of Bill Viola and the University of Southern California Game Innovation Lab's *The Night Journey* (2008, figure 1.1) in a gallery of the Museum of the Moving Image. After waiting for a couple to finish their play session, I took a seat at a small table, picked up the PlayStation Six-axis controller, and played the game. The basic goal of *The Night Journey* is to locate and then meditate at a series of sacred yet mundane sites scattered among the forests, plains, mountains, and deserts of the gameworld. Beyond the two joysticks used to look and move, there is only one other button available to the player. Holding down the "X" button on the controller triggers, after a lengthy delay, videos characteristic of Viola's video works. These moments of reflection are the core experience of the game. There is no shooting, no running and jumping, nor any other typical activities associated with videogames—simply walking, seeing, and reflecting.

Seeing and playing the game in a museum context was revealing for me. My previous encounters with *The Night Journey* were always within the confines of the game community where the

Figure 1.1
Installation view of *The Night Journey* in the Museum of the Moving Image exhibition "Virtual Reality." Courtesy of the Museum of the Moving Image. Photograph by David Love.

game stood out for its rejection of gameplay tropes. Here, at the Museum of the Moving Image, where the game was displayed as part of a media art exhibition and thus more likely to be seen by those more familiar with the concerns of artistic practice, I realized there was a whole other set of ways in which *The Night Journey* stood out. The ideas and practices central to Viola's artistic practice—the exploration of themes of spirituality and contemplation, the manipulation of the video image, slow, meditative pacing—are all present in *The Night Journey* (figure 1.2). But the work is a game, and not video art, Viola's usual medium. By moving at a decidedly contemplative pace through a series of landscape vignettes, and by asking the player to pause and reflect, the game metaphorically models a spiritual journey through the standard three-dimensional (3D) videogame interaction model of moving and looking. Viola and the USC team

elegantly transposed Viola's artistic interests and techniques to the form of videogames.

After playing the game for a few minutes with a friend, I got up and continued moving through the exhibition. I began to wonder how people might make sense of *The Night Journey*. It is an *artists' game*, or a work that synthesizes the conventions of both contemporary artistic practice and games. Of course, there is a rich, if under-considered, history of games and/as art in the twentieth century—the surrealist's use of games like Exquisite Corpse, Duchamp's obsession with chess, and Fluxus event scores and boxes, to name a few.[1] These examples demonstrate a range of ways in which games and art have intersected: games as creative process; gameplay as performative beauty; game-like

Figure 1.2
The player moving through the landscape in *The Night Journey*.

rules for purely aesthetic audience experiences; games as toolset and cultural index. However, the form games take when conceptualized, created, and experienced within the art world differs from what most game players and game developers recognize as games. And the things that artists, curators, critics, and the art-going public value about games are not the same as those valued by game developers, the game press, and game players. Yet *The Night Journey* equally embodies values important to both communities.

Standing in the Museum of the Moving Image, a question began to take shape: as an artists' game, is this work an anomaly in its combination of qualities typically found in either videogames or contemporary art, but almost never in both?

Affordances: Conceptual, Formal, and Experiential

The idea of affordances can aid us in thinking about the different ways games and art are conceptualized, created, experienced, and evaluated by their communities of practice.[2] The concept of affordances was originally introduced by James Gibson in his 1977 essay "The Theory of Affordances"[3] and later popularized by Donald Norman in his seminal human–computer interaction/user experience text *The Design of Everyday Things*.[4] Put simply, affordances are the qualities of an object that suggest its use. A classic example is the screwdriver: it has a handle, which suggests gripping, and it has a tip with either a single thin edge or a cross that suggests insertion into a corresponding shape. The "screwdriverness" of the object communicates to its viewer ideas about what it can and cannot do.

Affordances are typically used to describe what people expect of objects. I would like to apply this concept to something more

ethereal—the ways people think about cultural forms like painting, film, literature, or, for our purposes, games and contemporary art. The basic idea of affordances can be extended to include subtle but important expectations a community brings to the evaluation of what one can and cannot do with a cultural form, and what they should or should not expect from the experiences that the form's artifacts provide. There are three core affordances at play here: the conceptual, the formal, and the experiential.

Conceptual affordances define the things for which a community of practice believes the cultural form can be used. Take painting, for example: in Europe starting in the late thirteenth century and continuing to various degrees into the nineteenth century, the conceptual affordance of painting was first and foremost the illusionistic representation of the visible world. This was put to a variety of purposes including instruction, entertainment, propaganda, and storytelling. The conceptual affordances of a cultural form, in other words, are formed by the assumptions about what one can and cannot do when creating an artifact of that type.

The formal affordances of a cultural form speak to the means by which the conceptual goals can be materialized. What tools are necessary to make it? What should it be made of? What are the best practices for creating the work? What are the techniques and principles that lead to the best works? Formal affordances include the tools, techniques, and methods with which creators produce works that meet the community's expectations. Formal affordances also speak to the formal elements, or the grammar and idiom, of the form. To continue the example, the formal affordances of painting included a panel or canvas, pigment, a suspension medium, and brushes, but also color, line,

composition, shape, and texture. If a painting is intended to provide religious instruction, then it should take an appropriate material form—say, a large panel to hang above an altar where it can be seen clearly from a distance. Color should be used symbolically, to provide contrast, and simply to provide pleasure. The painting should essentialize the story and present it using a composition that guides the eye. The persons, objects, and locations should be represented authentically or, when stylized, in ways that make the lesson clearer.

The relationship between conceptual and formal affordances is tight, as formal affordances are heavily framed by the expectations embedded in what the community conceives as the use of the cultural form, which in turn is framed by the material properties and craft skills used to produce such artifacts.

Finally, experiential affordances are the kinds of experiences an audience anticipates having through the consumption of its community's artifacts. The experiential expectations emerge from the conceptual. For the communities that viewed painting as a means of representing things real, imagined, and aspired to, the experiential affordances of painting were concretely framed by two factors: looking and context. To experience a painting is to see an image, something represented, that in turn gives the viewer access to its various uses—instruction, pleasure, diplomacy, and so on—and to the emotional responses it can inspire—pleasure, unease, pride, meditation, and so forth. Where the work is experienced also plays into its experiential affordances. Paintings were viewed in churches, chapels, the homes of the wealthy, in public spaces, and, later, in galleries. Each of these contexts provided a different set of experiential affordances that framed how the viewer experienced the painting. Experiencing a painting in a church might have meant the

viewer used the image as a vehicle for accessing a religious figure, or as an aid for prayer. Experiencing a painting in a gallery might have meant infrequent visits of short durations in order to study or simply enjoy the work.

Viewed together, conceptual, formal, and experiential affordances provide a framework for thinking about how communities of practice approach a cultural form. Communities create, maintain, and revise aesthetic criteria through which and by which they experience and understand the works they produce. This, in turn, leads to the critical reception of and response to the works by the communities—in audience reception, criticism, and, ultimately, the historic legacy of the artifacts and their creators.

To make sense of the conceptual, formal, and experiential affordances of games, we must identify how the various communities of practice approach games as a cultural form. Given its status as the most common game referent in the art world since at least Duchamp, chess is worth considering for a moment. For game players and game makers, chess has many desirable attributes: the rigorous competition of an abstract strategy game; the elegant, balanced relationship between the movements of the pieces (king, queens, rooks, knights, bishops, and pawns) and their interactions in developing offensive and defensive strategies; the deep analysis that is key to mastering the game; and the surprising number of cultural niches within which the game is played—school teams, Internet forums, chess-by-mail, parks and their public tables rife with hustlers, learners, and masters alike. For artists, chess is valued for different reasons. The game is a cultural trope that can stand in for war, political structures, patriarchies, synthetic binary constructs, and so on. Chess can also function for artists as a space within which artistic interventions

can be conducted, leaving the game playable but secondary to other experiences.

The two communities therefore see very different things when they consider the game of chess. For game-minded communities, chess is a thing unto itself, whereas for art-minded communities, chess is an idea space and a material from which art can be made.

Games, Game Art, and Artgames

Looking at a set of three seemingly similar works—Nintendo's *Super Mario Bros.* (1985), Jonathan Blow's *Braid* (2008, published under the company name, Number None, Inc.), and Myfanwy Ashmore's *Super Mario Trilogy* (2006)—will further delineate the radically different intentions of artists and game makers and allow us to see the diverse conceptual, formal, and experiential expectations of these communities.

In the nearly thirty years since the release of Shigeru Miyamoto's *Super Mario Bros.* (figure 1.3), videogames have become graphically richer and been extended to a bewildering range of play experiences. Still, *Super Mario Bros.* provides a useful baseline for what a videogame is. All the core components of a game are present: a goal for the player to achieve, actions with which the player can pursue the goal, and resistance thwarting the player's progress toward the goal, all contained within a play space.[5] More often than not, these are all given an internal logic by a story that grounds the location, the player, and the player's actions. The framing story of *Super Mario Bros.* is simple: Mario hopes to free Princess Toadstool from Bowser, king of the Mushroom Kingdom. This simplistic story effectively establishes the goal of the game: move across the platform from left to right

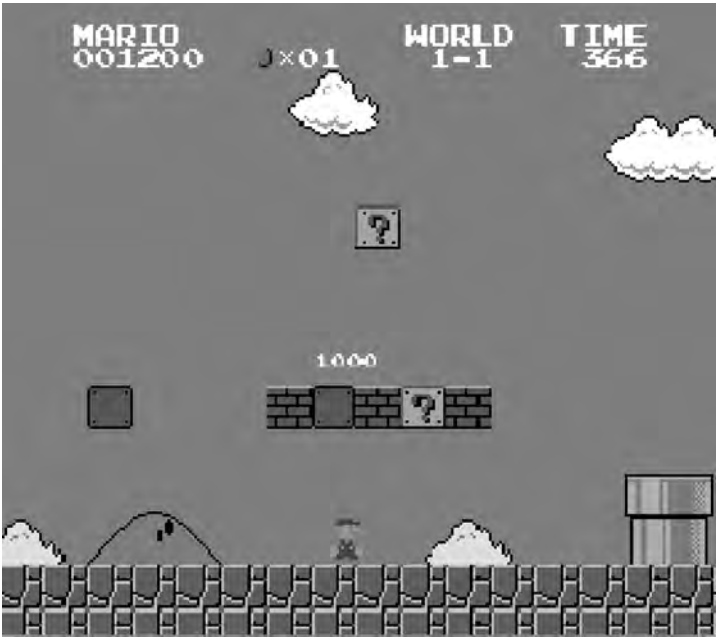

Figure 1.3
Super Mario Bros. Nintendo.

until reaching the flagpole at the far right where Mario hopes to find his princess.

The player has two means of controlling her in-game Mario: she can make Mario run from side to side, and she can make him jump. With the right skill, the player can combine these basic actions into more powerful abilities like jumping while running in order to leap over obstacles. As the game unfolds, a number of sub-goals appear, including collecting coins and jumping to hit objects that contain special capabilities that further equip the player in her pursuit of the princess. The environment itself

provides resistance, as it is a veritable obstacle course populated by stairs to be climbed, pipes to be jumped over, and floating brick walls to touch or climb. There are also a number of enemies impeding Mario's progress—the mushroom-like goombas and turtle-esque koopas, both of whom will kill Mario should he be touched by them. Finally, a time limit for getting Mario across the platform adds an additional challenge.

Super Mario Bros. was designed to provide a pleasurable play experience. With its simple fantasy storyworld (and an even simpler conception of gender roles), the videogame was clearly intended as an entertainment product. The vast majority of videogames are created to meet similar expectations. But what happens if a game maker wants to create a game with artistic intentions? That is to say, what happens when a game maker uses the language and idiom of games and their play as a medium for expression?

In *Braid*, we see a game that, on the surface, operates within the tried-and-true platformer genre popularized by *Super Mario Bros*. *Braid* tells the story of Tim, a young man whose princess has been taken by a monster. Like Mario, Tim must move through an obstacle course of sorts in order to rescue her. Where things start to move away from tried-and-true game-based entertainment is the way *Braid* handles player health. Rather than players "dying" because of in-game mistakes, *Braid* allows the player to rewind time to erase Tim's errors made through the player's actions. Running, jumping, climbing, and collecting are standard issue for the platformer game genre, and *Braid* makes use of them all. But for the most part, the execution of these moves is trivial. The challenge, and the deeper experience, happens through the manipulation of time.

Braid's relationship to traditional platformers, and how it bends the idiom, is best seen in the level "Jumpman" (figure

1.4) from the game's fourth world. The level's title, and a portion of its environment and play, refer to the 1980 arcade classic *Donkey Kong*—the game in which Mario first appeared under the name Jumpman.[6] As in the original arcade videogame, enemies descend a series of angled platforms, thwarting Tim's progress in reaching his princess. In this world, the passage of time is tied to Tim's movements. When Tim moves left to right, time moves as usual. When he moves up and down, time freezes save for Tim's own movement. And when Tim moves right to left, time moves backward. This provides the player the in-game challenge of learning, and then using, the laws of the world in order to achieve Tim's goals of seeking out his princess while collecting the puzzle pieces that unlock access to the game's last world.

Beyond the game's mechanical inputs and the outputs they trigger, there is a whole other level of exploration within *Braid*. Along the way, story elements suggest that Tim has regrets and wishes things had gone differently with the princess. As the

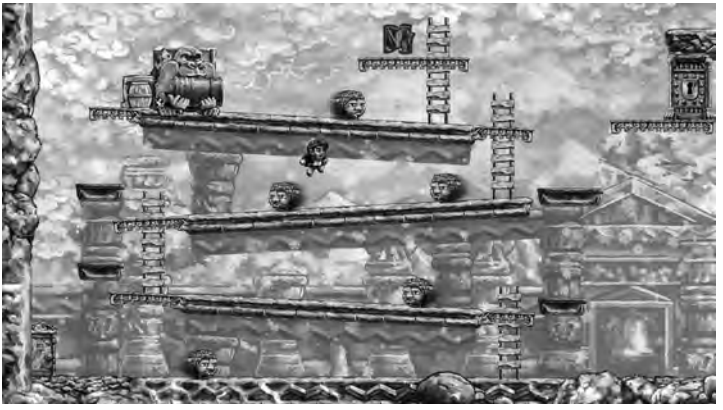

Figure 1.4
The "Jumpman" level from *Braid*. Number None, Inc.

player progresses through the game, she discovers that Tim is in fact the monster from which the princess ran. Though the player can unwind most of Tim's mistakes, the biggest mistakes cannot be fixed so easily.

There is something deeply poetic about the game. The built-in flexibility and forgiveness of *Braid* allows us to undo the errors of our in-game ways, in stark contrast with our lived experience. Yet the game also lets us consider that some mistakes cannot be corrected or forgiven. Through the story and the challenges presented by the game, the player explores both a ludic and a conceptual space within which she can consider the role of time in her life and think about her regrets.

Braid is by all definitions a game, but one that strives to do more than entertain. This videogame very much fits into the tradition of *artgames*,[7] the term coined by the independent game maker[8] Jason Rohrer around 2005. He used the name to create a connection between this new approach to game making and art rock and art film. Like musicians and filmmakers working with artistic (rather than commercial and/or populist) intentions, those making artgames strove to expand the expressive possibilities of games. Artgames used the innate properties of games—among them interactivity, player goals, and obstacles providing challenge for the player—to create revealing and reflective play experiences.

Most artists, however, do not see games as a medium for expression in the same way Blow and Rohrer do. Instead, many contemporary artists approach games as tools and raw materials from which works of art can be made. Take Myfanwy Ashmore's *Super Mario Trilogy*, a set of three modifications to the original *Super Mario Bros.* Nintendo Entertainment System game. In *Mario Battle No. 1* (2000, figure 1.5), Mario travels through a

world devoid of enemies, power ups, coins, and environmental obstacles. All that is left for Mario to do is travel along the platform; he can run, he can jump, but without resistance beyond the timer, Mario only passes time until his death. In *Mario Doing Time* (2004), the second work in the trilogy, Mario again finds himself in a world that lacks the typical goals and resistance. This time, however, Ashmore has extended the wall behind Mario to a height that imprisons the little fellow. And so, he can once more walk and jump, but only in an incarcerated futility as the timer counts down to his death. In the third work, *Mario Is Drowning* (2004), we find Mario in an underwater swimming

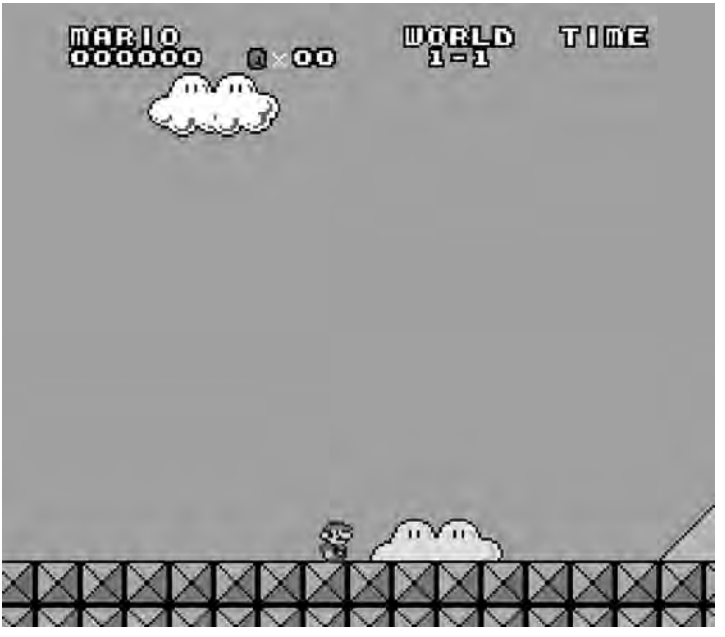

Figure 1.5
Mario Battle No. 1. Myfanwy Ashmore. Image courtesy of the artist.

level swimming around with no real purpose. *Super Mario Trilogy* is a trio of existential meditations, a ludic take on Samuel Beckett's *Waiting for Godot* (1953). Rather than engaging with games as a cultural form, Ashmore used a game and its technologies as raw materials to produce an artwork that critiques games while exploring existential ideas about life and its meaning in a humorous yet poignant way.

Ashmore's trilogy is yet another approach to games, that of *game art*.[9] Put simply, game art is art made of games.[10] One tool for understanding game art is found in Nicolas Bourriaud's conception of postproduction art.[11] Bourriaud presents an aesthetics for artworks made from cultural objects existing for one set of purposes that are assigned new meaning and use value by artists as part of their own practice. In this light, the craft of game making is as relevant to game art as the craft of house painting was to Pollock and his drip paintings or the craft of plumbing was to Duchamp and his creation of *Fountain* (1917). The craft of game art is not in the traditional, functional application of the tools and techniques for producing games, nor is it in the design of play experiences. Artists creating game art approach games as tool sets and cultural tropes rather than as a medium or craft unto itself. For Ashmore, *Super Mario Bros.* was a work to be taken apart and repurposed in order to create a new work with a very different set of creative goals than those found in the original game. The properties still present from the original are there for a reason, whether to draw on the cultural status and meaning of the original or to subvert and reimagine their use value. And those that were removed were not central to Myfanwy's concerns.

By comparing *Super Mario Bros.*, *Braid*, and *Super Mario Trilogy*, we can see how games are approached in very different ways by

the game industry, artgame makers, and artists. For the game industry, games are entertainment products. For those making artgames, games are a medium for artistic expression and experiential understanding. For those making game art, games are a means of questioning, critiquing, and exploring unexpected potentials. And so, when a game maker speaks of games, she is often imagining a creative potential radically different from a contemporary artist. And when a game player, even one interested in games outside the commercial mainstream, looks at a game, she sees something quite different than a viewer familiar with the contemporary art scene.

Over the last few years, games, and especially videogames, have received attention from art galleries and museums. Of course, this is nothing new, as twenty-five years have passed since "Hot Circuits: A Video Arcade," the first American museum exhibition of videogames, opened at the Museum of the Moving Image.[12] Still, there is much confusion about the relationship between games and art. The Smithsonian Museum of Art's "The Art of Video Games" exhibition used the "A" word indiscriminately, sometimes meaning the visual component of videogames, sometimes referencing the craft of game development, and sometimes to suggest, in a hand-wavy way, that "games are important." The Museum of Modern Art has made two rounds of videogame acquisitions, but these were done within the Architecture and Design department, and not the Media and Performance Art department. And the court decision that decided games are afforded first amendment protections has provided only legal—not cultural—legitimacy to games as speech.[13] The subtleties of how games and art overlap, combine, conflict, and otherwise interact are still largely unexplored.

A goal for this book emerges: I hope to investigate the way game makers and artists conceptualize and create game-based artworks.[14]

Structure

The bulk of this book is composed of three sets of case studies, each covering a loosely connected community of practice. The first section, Game Art, looks at how videogames and their tools have been approached as a form of popular culture from which content and subject matter can be drawn, and as a set of tools and processes with which artworks can be created. The game art case studies are Julian Oliver, Cory Arcangel, and JODI, the collaboration of Joan Heemskerk and Dirk Paesmans. The second section, Artgames, looks at the artgame movement of the first decade of the twenty-first century. Artgame makers explored territory traditionally relegated to poetry, painting, literature, or film. Jason Rohrer, Brenda Romero, and Jonathan Blow are the three game makers discussed in this section. The third section, Artists' Games, looks at a group of artists and game makers with more synthetic conceptions of games as an artistic medium. The work of Blast Theory, Mary Flanagan, and the collaboration of Nathalie Pozzi and Eric Zimmerman suggests that it is indeed possible to create pieces that satisfy the aesthetic and critical values of both the contemporary art and game communities. Finally, in the book's conclusion, I consider some ramifications of this new synthetic aesthetic that merges the values of contemporary art and games.

I have tried to draw equally from my training as an art historian, my experience as a curator, my time as a game studies scholar, and my experience as a game maker in order to explore

and articulate the overlaps between games and art. Crossing the borders between these communities of practice presents challenges. Readers will bring their own understanding of games and contemporary art. And so, some chapters will seem rudimentary to game makers and game players but foreign to those from the media art and art criticism communities. In other places, the opposite will be true. Some works, concepts, and historical precedents might seem obvious to some, while completely new to others.

Many readers will note differences in my terminology compared to what they might expect. For example, some artists working with games refer to their work as *art games*, but that is also what independent game makers who approach their work as an art form call what they make. Similar semantic shifts happen throughout the book in places that I hope will clarify rather than confuse.

One note on terminology warrants mention here. The terms game and videogame appear frequently throughout the book. I use videogames to indicate computer games, game consoles, and other forms of screen-based games. I use game to more generally reference the broader cultural form. Sometimes, you will also see boardgame or cardgame in order to bring as much clarity as possible to the form of game under discussion.

4 Artists' Games

The game art and artgame examples in the preceding chapters demonstrate how games are approached in radically different ways by different communities of practice, and even within those communities, there is a good deal of variation. A useful framework for thinking about the differing considerations of games as an art form comes from the philosopher John Hospers and what he calls thick and thin aesthetics. Thin aesthetics are those that focus solely on the formal values of a work, while thick aesthetics are those that take into account the work's place in more complex cultural contexts:

> When we contemplate a painting as something more than a set of relationships of lines and colors, when we enjoy the mood it conveys or the light-values presented in it, or the "sadness" of a piece of music, or the character-study in a novel, or the love-emotion in a poem, I suggest that this kind of experience, depending on previous experience of life, to which the "purists" would deny the title "esthetic" at all, be called *thick* sense of "esthetic."[1]

Hospers's thick aesthetics can be seen as a means of grounding a work in the more nuanced realm of experience, which requires a sophisticated understanding of what can be created through a given medium, how it is useful to its community, and how it fits

into the larger whole of its time and place. Expanding Hospers's framework provides a tool for unpacking the ways game designers approach artistic practice and how artists approach games and game design. Game art like Myfanwy Ashmore's *Super Mario Trilogy,* Cory Arcangel's *Beat the Champ*, or JODI's *SOD* would be perceived by many game players and game makers as aesthetically thin. They would likely see these works as dealing only with the surface qualities of videogames. For the contemporary art community, these same works would be perceived to have the qualities of thick aesthetics, as they embody both a criticality and a conceptual rigor. On the other hand, artgames like *Braid* or *Passage* are aesthetically thick for some in the game community in that they are interactive, systemic representations of real-world phenomena and/or the human condition conveyed and experienced through play. But from the perspective of the contemporary art community (should they even consider these games as art at all), artgames are aesthetically thin because of their emphasis on craft and medium and their antiquated ideas of art's function as a window onto the soul.

Game art (art made from games) uses games for the thin aesthetics of symbolic expression in service of the thick aesthetics of conceptual exploration. Artgames take a more conservative approach of emphasizing representational expression in a thick way, at the same time that they thinly explore the conceptually and critically focused aesthetics of contemporary art. But what happens when an artist combines the thick aesthetics of both communities to produce an artists' game?

Robert Rauschenberg and Jim McGee's *Open Score* (figure 4.1) did just that back in 1966. The work was the opening performance of the "9 Evenings: Theater and Engineering" series organized by Billy Klüver's Experiments in Art and Technology

Figure 4.1
Robert Rauschenberg, *Open Score*. Performance presented as part of "9 Evenings: Theatre and Engineering," the 69th Regiment Armory, New York, United States, October 13–23, 1966. Still from the factual footage shot in 16 mm film by Alfons Schilling. The Daniel Langlois Foundation for Art, Science, and Technology, 9 Evenings: Theatre and Engineering fonds. Courtesy of Julie Martin (Experiments in Art and Technology) and the Daniel Langlois Foundation.

(E.A.T.).[2] The emphasis of the series, and E.A.T. in general, was to find new ways for artists and engineers to collaborate from the earliest stages of a project in order to create a more synthetic experience by bringing the best of technological and artistic practices together. Klüver thought of the "9 Evenings" project as a battle: "There are three elements fighting. The artists, the engineers and the audience. These three will have to come to some resolution."[3] The use of a game—tennis—as a core facet of

Open Score makes complete sense in this light. The structure and play of the game created a space within which the artist and the audience could directly interact.

Open Score was anchored by a tennis match between the painter Frank Stella and the professional tennis player Mimi Kanarek on a court set up inside the Park Avenue Armory in New York City. Stella and Kanarek's rackets were each outfitted with a microphone and a sensor. The microphone captured the sound of the ball hitting the racket, which was played back over the sound system, while the sensor triggered a slight dimming of the lights illuminating the court. In addition to the tennis players, there were several hundred amateur performers on hand, each following a minimal choreography that moved them about the space. Slowly, as the match proceeded, the building became darker and darker until the space was nearly pitch black to the unaided eye. The hundreds of ancillary performers moved through their routines as Stella and Kanarek attempted to continue their match. This allowed the viewing audience, who watched on displays, to see the whole event—both the match and the ancillary performances. And so, as the main lights dimmed, the viewing audience could continue to see the activity.

Rauschenberg described the piece:

> Tennis movement. Put in the context of theater, it is formal dance improvisation. The unlikely use of the game to control the lights and to perform as an orchestra interests me. The conflict of not being able to see an event that is taking place right in front of one except through a reproduction is the sort of double exposure of action. A screen of light and a screen of darkness.[4]

Several key points emerge here. Rauschenberg and McGee used the structures, rules, and technologies of tennis, including its ball, rackets, and court, as a game, but to a completely different

aesthetic end. Rather than a contest between players, the game became an engine for generating music and a process for procedurally changing the atmospheric lighting of the performance. Rauschenberg and McGee reimagined and refocused tennis in order to create a new kind of spectator experience. Their use of tennis was closer to modern dance or music than to the game's traditional use value of play and competition. And from visual and performing art, they drew yet more elements: musicality, instrumentality, and musicianship; performer and audience roles; and the framing of direct and indirect spectatorship. *Open Score* wove together aspects of game design, theater, and performance art in ways that created a synthetic, aesthetically thick exploration of play. The work was clearly a game, but also clearly a work of art. In other words, *Open Score* was an artists' game.

One of the important aspects of thick aesthetics in games and art is the role of play. From the late eighteenth century onward, play has philosophically been central to the practice of art.[5] However, it has almost exclusively been seen as part of creation and artistic practice and not in terms of reception and experience. Even in more contemporary contexts, play is the domain of the artist, not the audience.[6] Look no further than Exquisite Corpse, where playfulness resides in the interaction between artists and folded paper.

But what happens when play is intended as the audience experience? What if authorship resides with player *and* creator?

Fluxus event scores were one of the first forays into this conception of art. Event scores were simple instructions for performing a work of art. They were often open ended, creating a space for interpretation on the part of audience members and thereby allowing them to participate in the creative act. Take Mieko Shiomi's "Mirror" (1963): "Stand on a sandy beach with

your back to the sea. Hold a mirror in front of your face and look into it. Step back to the sea and enter the water."[7] There is ample room for input on the part of the audience: On which beach? With which mirror? Walk how far into the water? This approach, whereby the persons who enact it also complete the work, was and continues to be an important addition to artistic practice. As game designer Greg Costikyan points out,[8] Fluxus artists in particular embrace a conception of playfulness. Fluxus asks its viewer to get involved, to literally and figuratively do some of the work of creating the artwork.

Games and their play can be a medium concerned with an aesthetics of performed experience. A gameplay experience is crafted through rules, mechanics, and goals in order to generate a space for player actions. The materiality of games arises from gameplay itself and not form the objects used to play the game. Games can be a medium through which play makes material both concept and form. This is the territory explored by artists creating artists' games. Three in particular show the breadth of possibilities of games and play in artistic practice: Blast Theory's ongoing explorations of the what, where, and how of games and their play; Mary Flanagan and her work activating play as a form of criticality; and Nathalie Pozzi and Eric Zimmerman's collaborations, which turn a modernist emphasis on medium into a postmodern experience.

Case Study: Blast Theory and Games as Speculative Design

For an art group, Blast Theory is organized in an unusual way. It operates as something between an event production company, a theater troupe, and an academic research center. It has a board of directors, but also artists—Matt Adams, Ju Farr Row, and Nick

Tandavanitj—who operate in the same way that the principles in an architecture or design firm might. They are represented by Creative Artists Agency, which more often handles actors and musicians. On the surface, it is all very slick and corporate looking. Yet Blast Theory produces art—not products, not marketing events, but art.

Though not spoken of by Nicolas Bourriaud in *Relational Aesthetics*,[9] nor in his follow-up *Postproduction,*[10] Blast Theory operates very much in the spirit of Bourriaud's aesthetic framework concerning works that have a greater relevance to contemporary life outside the "white cube" of the art gallery and museum. More recent approaches, like Grant Kester's dialogical or collaborative aesthetics[11] and Claire Bishop's framework for participatory art,[12] seem to run counter to Blast Theory's quasi-commercial work, though its projects do have a place in Kester's and Bishop's aesthetic systems. A key tenet of all these various conceptions of a new participatory aesthetics is the removal of the distance between artist, work, and audience, and a corresponding reimagining of the contexts (geographic, social, economic, cultural) in which art takes place. Rather than being constrained by a market or a particular delivery platform, Blast Theory is guided by broader, more conceptual concerns and questions including the investigation of the social and political aspects of technology through participatory, site-specific works.

The work of Blast Theory creates an openness that speaks to prevailing concerns around participatory art in ways that also have natural affinities with games. A reoccurring theme in discussions of participatory art is an emphasis on process and experience over product. This draws out an important aspect of systems-oriented work—the process *is* the product, even if its materiality is temporal and often ephemeral. The space of

possibility—the possible experiences and outcomes of the play experiences generated through play within the game's rules—of an artists' game is a clear form of participatory art; Blast Theory's explorations of gameplay are melded with an artistic sensibility about the roles of technology, presence, and other similar ideas.

Uncle Roy All Around You (2003), a game created for and premiered at the Institute of Contemporary Arts (ICA) in London, is a prime example of Blast Theory's participatory art. It is a site-specific, locative game that combines a fictional conceit of seeking out a mysterious figure, Uncle Roy, in a mix of real and virtual spaces. For in-person players, called street players, *Uncle Roy All Around You* began at the ICA. Street players were asked to give up anything in their pockets (their keys, wallet, phone, etc.) and in return, they were given a handheld computer and a sixty-minute period to find Uncle Roy. Their only clue was, "Head to a location in the park. Uncle Roy will send you a message indicating where this is. Once you are there, tap 'I am here.'" The handheld computer was outfitted with technologies that enabled a map application for tracking the street players' progress. The only communication functionality came via voice memos that could be sent to the other group of players, called online players.

Online players were located inside the ICA. They were stationed at computers on which they tracked an assigned street player via a virtual recreation of the area around the museum (figure 4.2). The online players had two goals: to find Uncle Roy's office, and to find and help their assigned street players do the same. Uncle Roy let the online player know that he could click on the generic icons representing the street player to send text-based messages to guide her to Uncle Roy's office. The online player could also see a photo of the street player and get some basic information about her appearance. Once the street

Figure 4.2
Blast Theory, *Uncle Roy All Around You*, online player's view.

player found the proper location in the park and tapped the "I am here" button, the street player's location was confirmed for the online player, making it easier for him to track and assist.

When the street player found and entered Uncle Roy's office, the online player was given the option of being able to remotely watch the street player inside the office. If the online player said yes, the two were no longer able to communicate with one another. At this point, both players were asked to answer a series of questions "as honestly" as they could. The street player was asked to answer some questions verbally and one question in writing on a postcard: "When can you begin to trust a stranger?" The online player was asked questions by Uncle Roy via text: "If someone you'd never met before was having a personal crisis would you be willing to offer them support?" A second question

was then posed: "Somewhere in the game there is a stranger who is also answering these same questions. Are you willing to make a commitment to that person that you will be available for them in a crisis?" The online player was then given a choice of going out into the real-world game to meet the street player at Uncle Roy's office, continuing to occupy the virtual world to observe and chat with other street players, or simply to quit the game.

After a last request to "picture a stranger in your mind and stare at the camera," the street player was sent back out into the street with instructions to go to a phone booth to await a call. Eventually, a call came asking the street player to get into a nearby white limousine. A man entered the car and sat next to the street player. The man began to ask a few additional questions, including,

> If a stranger was having a personal crisis, someone you'd never met nor spoken to before, do you think you could call and offer them words of encouragement or advice? At the moment, Uncle Roy has arranged for another player of this game to be asked the same set of questions. But they are also being asked if they would be willing to give a commitment of twelve months. What Uncle Roy would like to know is if you would be willing to give this player a similar commitment of twelve months.[13]

If the street player answered yes, she was asked for contact information at which she could be reached during the upcoming year. Once the passenger had the information, the limousine stopped, and the street player exited the vehicle. The passenger let the street player know she should return to the ICA, where she would be given the possessions she surrendered at the start of the play session. The street player's postcard was then mailed to one of the online players.

Uncle Roy All Around You provides a mixed-reality experience that most closely aligns with the Augmented Reality Game

(ARG) genre—games that attempt to extend the space of play into unexpected aspects of life by delivering the experience via websites, fax machines, cell phones, and the like. But the game goes deeper than being a diverting puzzle lying in plain sight. *Uncle Roy All Around You* is an investigation of how in-person and networked relationships can create bonds, both real and artificial in nature. The game sets up a space within which players are asked to collaborate and communicate in ways that otherwise would not happen in daily life, particularly among strangers.

The structures afforded by games position works like *Uncle Roy All Around You* as an answer to the process-over-product critique of participatory art. Blast Theory's game puts all participants in the role of both performer and creator. More importantly, the ephemeral nature of the play experience leaves no expectation of material product. The entire experience is an elaborate experiment to see how players will respond to the question of committing for a year's time to provide a stranger support in times of crisis.

In addition to the aesthetic frameworks of Bourriaud, Bishop, and Kester, we can add another two referents for Blast Theory's work: the speculative design of William Gaver's Interaction Research Studio and the collaboration of Fiona Raby and Anthony Dunne. These researchers are doing work that merges product design, basic design research, and artistic practice in speculative, research-driven projects. Though Gaver's Interaction Research Studio and Dunne & Raby produce work that has the material qualities of product design, the exploratory nature of the two groups falls decidedly outside the post-Dreyfuss concern for designing for utility, wherein human-centered design was a means of improving products—a design-as-problem-solving approach if there ever was one.[14] This opens up otherwise unexpected research and experiential possibilities, as demonstrated

by the projects that Gaver's lab and Dunne & Raby have created: an LED stand for guiding nun's prayers, a series of devices for individualized harvesting in a post-industrialized agriculture world, and a small loft for protecting one's possessions from electromagnetic fields.

Central to this type of work is ambiguity—of function or purpose, of operation, and of the role the objects play in our lives.[15] While these ideas may be familiar to artists, they are uncomfortable for most designers. With games, however, ambiguity is already a large part of the design process. The design of the system of a game—defining its actions and goals, creating the tone of the overall experience, and so on—shapes the space of possibility within which players complete the game through their play. Design-wise, the designed space of possibility leaves itself open to exploration and interpretation, which by its nature results in uncertain outcomes. The play experience cannot be known until the game is played. And even then, players are left to make sense of and determine their own intentions and the meaning of their experiences. Like the Interaction Research Studio and Dunne & Raby, Blast Theory's speculative design asks more questions than it answers, thereby creating experiences that open up new ways of thinking and feeling.

Another Blast Theory project, *The Goody Bullet* (2010), is a case in point. Commissioned for the Victoria and Albert Museum's Decode Lab, *The Goody Bullet* is a location-based SMS (text-messaging) game designed for play within the museum via text messages, in-person interactions, and a large player token–tracking board (figure 4.3). At the start of the three-hour play session, players are given in-game names that label their tokens and become their screen names in the SMS layer of the game. The narrative places the players inside an underground government

Figure 4.3
Blast Theory, *The Goody Bullet*, installation view. Photo credit: Peter Kelleher.

bunker where players are tourists visiting the facility. During a dinner party, a disaster strikes outside the bunker and the facility goes into lockdown. One of the tourists is killed, and the rest of the tourists have to figure out who killed the victim.

As the game unfolds, players send and receive messages to and from one another and the game itself. In addition to freely talking with other players in the physical space, each player has five SMS commands she can issue: *update*, which lets the player know what is going on in the game's narrative; *say*, which allows the player's character to say something to all other player characters seated at her imaginary table; *accuse*, which accuses another player of being the murderer; *find*, which lets the player change tables to talk with other player characters; and *commit suicide*, which lets the player exit the game.

The game explores ambiguity in a number of ways: the ambiguity of space, as the space physically occupied by the players differs from the imagined location inside the game; the ambiguity of interaction, as the players interact with one another in real-life, via SMS, and through the large, publicly displayed player-tracking screen, uncertain of who is who, with others at the museum not playing the game, and with nonplayer characters inside the game; and the ambiguity of locus and focus, as the cognitive demands of the game, the museum, and the social interactions all pull in different but related directions. Lastly, there is an ambiguity of intention. Are all players striving to find the killer? Or are they inhabiting the game for other reasons? Are they just at an event socializing? The kinds of investigations that can be explored through this type of project, and the experiences they provide, create fertile space for games, artists, and players alike.

Blast Theory exists in a space between augmented reality games, research-driven speculative design, and participatory art. It appears to be comfortable inside august institutions like the Institute of Contemporary Arts and the Victoria and Albert Museum and within the game industry, which has recognized its work on a number of occasions. The company produces projects that investigate, entertain, and provoke. On a larger scale, the professional veneer of its projects functions as a meta-layer of investigation: what happens when a company engages with speculative participatory art?

Case Study: Mary Flanagan and the Medium of Play

Mary Flanagan brings a playfully critical eye to games, their design, their play, and their place in culture. She does this by

working with the medium of play—play in the sense of playing games, but also in the sense of playfulness and the occupation of the wiggle room created between culture as a whole and the cultural objects of games and art. Flanagan has discussed her interest in Umberto Eco's *The Open Work*:[16] the idea that a cultural artifact (a piece of literature, a poem, a painting, etc.) is open to interpretation, thereby creating a coauthored output by the author or artist and the reader or viewer. In her own work, Flanagan's artists' games use play as an open, coauthored medium for engaging with and in critical discourse.[17]

[giantJoystick] (2006, figure 4.4) embodies Flanagan's approach to play as an artistic medium. The title is understatedly descriptive: the work is a functioning ten-foot-tall model of an Atari VCS joystick. In exhibitions, the oversized controller is attached to an Atari VCS (or one of its more recent re-releases), where it is used to

Figure 4.4
Mary Flanagan, *[giantJoystick]*, installation view. Image courtesy of the artist.

play classic games like *Breakout* (1976), *Asteroids* (1979), and *Missile Command* (1980). While the games played with the oversized controller are single player, it is nearly impossible for one person to simultaneously manipulate the large stick and press the oversized button. And so, by necessity the play experience becomes collaborative. The top of the controller becomes a de facto platform on which people stand in order to maneuver the stick, gather to watch, or simply wait their turn. The button is more often controlled from the ground, with players poised to press with one or both hands at the appropriate moments of gameplay.

[giantJoystick] is not a game in the strict sense, as Flanagan's creation is not a game or even an original work in the design sense. Instead, *[giantJoystick]* is a reimagining of scale of a five-inch-tall controller into a ten-foot controller. This act defines a new space of possibility that critically engages notions of game design, interface, co-play, and the contexts of play. The work is not unlike a Fluxus event score asking us to playfully engage with the world in an unexpected, open-ended way. What does it mean to collaborate on play activities designed for a single player? How are decisions made? How can two (or more) work as one? Is it necessary that someone lead? Can players collaborate through play without additional communication? And by placing *[giantJoystick]* in a gallery rather than in the home, the typical location for an Atari VCS, Flanagan also asks us to think about games and play. What is being exhibited with this work? The game? The controller? The players and their performance? Play becomes a contextual medium within which the player can think critically about videogames and play experiences, all while having fun.[18]

This approach to games as a means of generating critical, interpretive play is key to Flanagan's work. *Career Moves* (2000, figure 4.5), for example, uses play to ask questions about gender biases

Figure 4.5
Mary Flanagan, *Career Moves*. Image courtesy of the artist.

in the workplace. The piece is a digitally augmented boardgame that appears to be some sort of race game in the tradition of *The Game of Life* (1960) or *Chutes and Ladders* (1943), with a touch of *Operation* (1965) and *Monopoly* (1935) thrown in for good measure. The game presents the player with a mix of stereotypically "female" career choices—for instance, waitress and stay-at-home mom—and those that at first might appear to speak to a more progressive set of choices—project manager, consultant, or CEO. But as the players move around the board, gender biases rise to the surface to show the ways in which women are perceived and to expose implicit and explicit limits on how they are positioned within male-dominated corporate structures. Scattered throughout the game board are inset spaces that, when landed upon, require the player to use a pair of metal tongs to extract objects. If the player touches the edge of the inset space, audio

excerpts of self-help and career advice targeted at women play, further exposing gender biases embedded deep inside our culture though their implicit discrimination and oppression.

In her artist statement about the game, Flanagan references Claude Lévi-Strauss's concept of collective creation, the social construction of the practices of society.[19] *Career Moves* uses the structure of games and well-known game tropes from popular boardgames played by most American children to create a play experience that critiques the ways in which we are all complicit in creating and keeping in place restrictions on women in the workplace.

Flanagan in part achieves this social critique through the design of the information system of *Career Moves*. Games are generally divided into two kinds of information systems: perfect and imperfect. Perfect information systems make all information presented and generated by the game visible to all players. The children's boardgame *Candy Land* (1949) illustrates this well—everything a player needs to know about the state of the game's play and its players' performance is learned by looking at the board and the placement of the players' tokens on it. Imperfect information systems obscure some information from players while making other information about the game's state visible to all. Texas hold'em poker is an imperfect information system—though all players can see the shared face-up cards, only individual players know what cards they hold, and no one knows what cards are still to be played from the deck. Perfect and imperfect information systems are design tools for the information space that is available to players and with which they make sense of their play experiences.

Flanagan uses information systems to create the structure within which her players explore, unveil, and ultimately

experience her critique. *Career Moves* deftly plays with the player experience of a game's information system to produce a range of interpretations. It can simply be played as a game but it is also a vehicle for reconsidering the cultural frames shaping and limiting women's career choices and trajectories. At the same time, the piece is a critical artwork that, through its play, questions the role of popular cultural artifacts, like games, in the reinforcement of stereotypes. Why are women trapped in these roles? Why do we perceive women to be in need of patronizing and role-reinforcing motivation? Why does so much of our culture work to maintain gender bias?

[pile of secrets] (2011, figure 4.6) takes Flanagan's use of play as a medium in a very different direction. The piece catalogs gameplay footage of videogames from the 1990s through the early 2010s in order to identify and present patterns of game design and play. The footage from the games was curated into clips around themes like jump, run, explode, and other activities

Figure 4.6
Mary Flanagan, *[pile of secrets]*, installation view. Image courtesy of the artist.

frequently carried out while playing videogames. That Flanagan chose to focus on the run-time mechanics of a game, rather than on story elements, demonstrates a conceptualization of games as systems, with an emphasis placed on the actions (run, jump, etc.) and outcomes (explode, collect, etc.).

The title alludes to an experiential aspect of games—play experiences are indeed a series of secrets uncovered and interpreted by players. To play a game is to construct theories about how to act in order to best obtain one's goals, whatever they might be. These theories are enacted and evaluated, and then reconsidered and reenacted throughout the play experience. Flanagan collects these moment-by-moment decisions in *[pile of secrets]* and catalogs them for inspection, hoping to unlock the larger secrets of what constitutes games and their play.

The work is a commentary on the state of our shared understanding of play and games and their roles in our lives. *[piles of secrets]* approaches games as a dark continent to be examined in the hopes of discovering their meaning and purpose. It is no mistake that the work is presented as a series of videos; videogames are often considered offshoots of television and film rather than as part of the much longer lineage of games. *[pile of secrets]* engages play through reflection rather than through activity. To players, the actions and outcomes captured in the play footage provide memories of playing the represented videogames. The secret knowledge of understanding through play is revealed and reexperienced. For those unfamiliar with the videogames featured in the work, *[pile of secrets]* shows glimpses of the play experience, something usually accessible only through direct experience. Paradoxically then, by presenting play moments as video, Flanagan emphasizes the importance of play to games, and of play as the core of her own practice of critical appraisal.

Case Study: Nathalie Pozzi, Eric Zimmerman, and Games as Postmodern Craft

Nathalie Pozzi, an architect, and Eric Zimmerman, a game designer, collaborate on site-specific game installations. Their projects span the fields of architecture, graphic design, game design, and installation art in ways that vary from project to project but that always bring a polyglot design eye to artistic concerns. If I had to describe Pozzi and Zimmerman's work in a single phrase, I'd call it playfully conflicting. Their work is aloof and engaging, critical and entertaining, playful and austere, abstract and concrete, art and design. With *Cross My Heart + Hope to Die* (2010), they created a maze that filled a gymnasium with twenty-foot-tall billowing red cloth walls through which players darted about in minotaur masks. In *Flatlands* (2010), they created a game about discussing aesthetics through the lens of 1970s and 1980s boardgames. *Starry Heavens* (2011), designed for the Museum of Modern Art's courtyard, combined the children's game "king of the hill," race games, and weather balloons. And *Interference* (2012) is a strategy game in which multiple play sessions take place on a shared field of play made of a set of delicate metallic lace walls.

I would like to focus on their first project, *Sixteen Tons* (2010, figure 4.7). At first glance, *Sixteen Tons* has the sophistication of modernist Italian furniture design. The curve of the wall and the design of the craft paper folds interplay with light to create a complex, high-contrast, vertically patterned surface. It is a work that is vague about the value proposition its play offers; in some states it may even be illegal. Walking around the six-foot-tall work, there isn't a clear set of handles to guide interpretation.

If you look through the two narrow openings in the irregular oval formed by the two walls, you discover a small interior

Figure 4.7
Nathalie Pozzi and Eric Zimmerman, *Sixteen Tons*. Image courtesy of the artists.

room. Placed slightly to one side of the space are eight steel cylinders arranged atop a four-by-four grid of colored dots. Each of the 1950s kitchen appliance colors are assigned to two pipes, two dots, and a corresponding number from one through four, each located along one of the sides of the grid. Should you try to pick up a length of pipe, you will discover it is quite heavy—about twenty pounds. Things become less clear with the discovery of these items. What are these objects? Why are they so heavy? Why are they numbered and color coded? And why are they inside these walls?

Moving into the space, you see four large text panels hanging on the interior of one wall. The panels are not the standard didactic text found in museums, but instead display a title ("Sixteen Tons: A Game for Four Players"), a quote from an obscure mid-twentieth-century country song, a set of instructions for setting up a game, and rules for playing the game. At this point,

everything about the grid, pipes, and numbers transforms. What were moments earlier inscrutable objects of art or design now compose a large-scale game board and its play pieces.

The walls can be read as a playful literalization of the "magic circle," a concept derived from Johann Huizinga's *Homo Ludens* from 1938:

> Just as there is no formal difference between play and ritual, so the "consecrated spot" cannot be formally distinguished from the play-ground. The arena, the card table, the magic circle, the temple, the stage, the screen, the tennis court, the court of justice, etc., are all in form and function play-grounds, i.e. forbidden spots, isolated, hedged round, hallowed, within which special rules obtain. All are temporary worlds within the ordinary world, dedicated to the performance of an act apart.[20]

The craft paper walls become the magic circle of the game, and the openings in the walls become the passage through which you enter the space to perform "an act apart." The exhibition space itself, whether a museum, gallery, or game show floor, is another form of hallowed space "within which special rules obtain"; the game is inside a game, so to speak. By putting the game inside a second set of walls, Pozzi and Zimmerman have created a protective barrier that shields the game and its players from the normal behavioral expectations of a gallery space.

Next to the game's title is a quote from the 1943 Tennessee Ernie Ford song "Sixteen Tons": "You load sixteen tons, what do you get? / Another day older and deeper in debt." The lyric creates an interesting frame for the game. Does the sixteen reference the number of dots in the grid? If so, is it suggesting that playing the game is work, and that its players are laborers? Or maybe it is a reference to the weight of the lengths of pipe? Is this a nod to the fraught connection between manual labor and the post-industrial fear of leisure? Do the walls form a mine or

factory? Or a gambling den? What kind of debt could possibly be accrued here? And what does any of this have to do with a game for four players?

Moving to the next panel of wall text, you find a set of instructions for positioning the steel play pieces and the four players. All three instructions hint at *Sixteen Tons*'s layers, simultaneously establishing and commenting on its gameness and artness. The explicit instructions for how to position and manipulate the pieces—"Move the pieces to the matching colored spaces"—goes against the grain of "look, don't touch" gallery conventions while providing straightforward explanations of what the player should do with the pipe length when playing the game. The second setup instruction—"Stand on a number. This determines your color and the turn order"—continues the transformation of the art viewer into a player.

The third and final setup instruction, "Take out three dollars," is the real kicker, and the source of much of the playful conflict in the game, opening up all sorts of problems for games and art. Depending on who you listen to,[21] money has corrupted, made boring, or otherwise transformed contemporary art into something unrecognizable. Brought to the foreground here is the crass act of commerce, whose integral role in the subcultural ecosystem is often glossed over. Games as cultural objects, unlike art, are almost exclusively considered as mass-produced commercial entertainment products, which excludes them from serious consideration as high culture. Money has also plagued games and their cultural status over the last five or six thousand years—money separates games of skill from games of chance, legal from illegal, and athletic honor from compromised integrity.

Just below the setup instructions is the game's win condition: "You win when the two pieces of your color are directly adjacent

to each other." Looking at the game—a four-by-four grid with two pipe lengths per player—things do not seem very promising. At this point, without having fully read the rules, *Sixteen Tons* feels like an enlarged variant of tic-tac-toe or one of those peg games on the tables at Cracker Barrel restaurants.

Moving over to the next panel, you find the game's rules. Another layer of preconceptions peels back: players do not necessarily move their own pieces. Instead, one player puts her move up for auction by asking her three opponents to "put me to work." The winning bidder gets to tell the active player which piece to move to an adjacent or diagonally adjacent "square"[22] that is not already occupied. Should no one bid, the active player can move her own piece.[23] Play then continues until one player has met the win condition of having her two pieces directly adjacent to one another.

Sixteen Tons nests two interlocking game systems: a simple "match two" movement game constrained by a resource management game. The tension produced by these two simple game systems and the layers of indirection they produce is wonderful to watch unfold. Almost from the start, one or more players gets within a move or two of winning. With a win seemingly so close at hand, players often spend their money trying to block the player closest to pulling off the win condition of directly adjacent play pieces. Soon, this phase of the game feels intractably stagnant. How will anyone ever break out of this cycle of short-term defensiveness? Is this the drudgery alluded to in the lyrics?

This is when *Sixteen Tons* gets interesting. Players have to start thinking strategically about the money in relation to turn order and the position of their pieces. As simple as the two game systems are, it can be really difficult to keep track of the play pieces and the flow of money. Strategies are developed for manipulating

opponents into moving the pipe sections around the grid and the money from player to player. Whoever has the most money is able to coerce her opponents into doing things that hurt their own interests. As the rules state, "You MUST accept the highest payment and take the money," which means that the active player has to move a piece however the highest bidder requests. It also means that one player is going to win the game for one of her opponents in her attempts to try to earn enough money to win the game for herself. The bartering and orders issued by the turn-buyer are full of submission and dominance, though it is not always clear who comes away from each transaction with the upper hand until the game is over.

At key moments of play, *Sixteen Ton*s transforms into a gambling pit. Money in hand, the players take on a demeanor resembling something between gamblers and bidders at an auction. With all the "put me to work" cries coming out of the walls, nearby spectators gather to see what is going on. As more people come in and the doorways seal closed with bodies, the temperature inside the walls rises, sometimes by ten or more degrees. The space is now a far cry from a reserved art installation. No one is paying attention to the texture of the walls, the elegant mid-century muted palette, or the symmetry of the play pieces. Everyone, players and spectators alike, is crowded inside the walls, transfixed by the movement of pipes and dollars.

Looking deeper into the game, we see a potent critique of the post–industrial age fear of leisure time for the poor. *Sixteen Tons* pushes on class prejudices by having the players perform the role of gambler, in the process embedding class and race issues within their play performance. The labors of the day that produce the meager cash alluded to in the lyrics are no longer separated from after-hours pursuits. At the height of activity, the

walls barely contain the game's energy. All the references to gambling raise the specters of race and class, as well as their relation to the fears associated with gambling spaces filled with poor, brown-skinned people. Once the Industrial Revolution set in, politicians, sociologists, and clergy all fretted about how to keep working class people entertained during their hours off the job.[24] Could they be trusted with their time? Could they be trusted at all, despite their importance to the economy? It was in part this line of thinking that created the border between high and low culture during the nineteenth and early twentieth centuries.

Late in the game, the refrain from the song lyric rings true: "Another day older and deeper in debt." At some point, all but one player find themselves digging deeper into a hole, further from the seemingly easily obtained goal of placing two steel pipes next to one another. Despite their best efforts, three of the four players will be left with too little to stop that one shrewd (or lucky) player from winning the game.

But what happens to the money at the end of the game? The rules are ambiguous on this count. Does the winner take all? Do the players get to keep whatever is in their hands at the end of the game? Does everyone get their money back? How players decide to settle this transforms the game yet again. Sometimes, to win is to lose. Other times, money doesn't actually mean anything at all beyond an abstracted resource that could just as well be *Monopoly* money. At the end of each game, players are left standing in the middle of a gallery to sort this out themselves, creating yet another layer of interaction and conflict. I have heard of three variants—redistribution, winner take all, and keep what you have. If the players are simply redistributing the money to its original owners, then the money was nothing more than a prop, a little bit of artificial thrill. If playing winner take

all—what has become known as "high stakes *Sixteen Tons*"—there is no choice but to win if a player wants her money back. If players keep what is in their hands when the game ends, then the winner, according to the win condition, has likely just paid off another player with at least one-third of the total economy and lost all her money, while one or more of the other players who "lost" just received a cash bounty.

Pozzi and Zimmerman are as close to modernist ideas of design as they are post-structural criticality. The degree to which they focus on a finely tuned game experience played with a just-so set of materials seems to run counter to the post-medium tendencies of contemporary art. Yet their work finds a way to have its game cake and eat its postmodern conceptualism, too. *Sixteen Tons* is a game, but a game used to explore a series of ideas about labor, the transformation of space through use, the role of money in games and art, the unease of gambling, and so forth. So as much as the work operates as a game, it is toward a conceptual end. The conceptual territory covered by the game is enacted by the four players and their audience. Along with steel and paperboard, play becomes another refined material crafted by Pozzi and Zimmerman.