RISE OF THE VIDEOGAME ZINESTERS

HOW FREAKS, NORMALS, AMATEURS, ARTISTS, DREAMERS, DROP-OUTS, QUEERS, HOUSEWIVES, AND PEOPLE LIKE YOU ARE TAKING BACK AN ART FORM

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THE HISTORY OF MAGIC

Since digital games have existed, their creation has been dominated by a small part of the population: generally white male engineers. In the 1960s and '70s, universities like MIT and Southern Illinois University contained computers and computer networks that were available for student use. Most of these games existed on the school network and were played and contributed to by only those people on the network. Often they were disguised as other programs, because systems administrators tended to delete games as a waste of time.

It's beside the point to try to identify the first videogame—as with most inventions, a number of people were working along the same lines simultaneously. But whatever the first game was, it had to have been inspired by something—so what came before it? Answer: an entire history of human civilization in which folk games—Go, Chess, Hide and Seek, Stickball—were important cultural experiences, that's what. But the most immediate predecessors of digital games were carnival games (throwing a ball at a stack of bottles from a set distance), mechanical games (a shooting gallery with moving targets), and pinball machines. Coincidentally, these are the games that typify the shift in the history of games from folk to designed games, or games with identifiable authors.

When videogames were first monetized, it's this model that the people making money used: pay-to-play games of skill in public spaces designated for game-playing. But that's getting ahead of ourselves.

So, to create digital games in the sixties and seventies, one first needed access to a computer. The "home computer," like the Apple Macintosh—a computer designed specifically for non-engineers—wasn't popularized until the eighties. To have access to a computer, then, generally required being connected to an engineering school. But being able to make contact with the computer was only the first barrier: in order to teach computers to play games, one needs to know how to talk to computers.

At the time, neither computers nor the tools people used to communicate with computers were designed with non-engineers in mind. Most programs were written in the super-technical language Assembly. Here's a sample of game code written in Assembly, from the 1979 Atari 800 game *3-D Tic-Tac-Toe*:[23]

```
stx CASINI,Y
rti
.byte $02,$80,$00,$00,$00,$00,$00,$00
.byte $00,$00,$00,$00,$00,$00,$03,$00
.byte $07,$14,$07
jmp L0714
and POKMSK,Y
.byte $00
L001D:     lda #$46
sta COLOR2
L0022:     bne L0022
ldy #$00
lda #$6B
sta (SAVMSC),Y
jsr L07D9
```

```
bcs L001D
jsr L07C4
lda L087A
ora L0876
bne L001D
lda LOMEM
sta L02E0
lda LOMEM+1
sta RUNAD+1
lda #$00
sta INITAD
sta INITAD+1
```

Completely illegible! By 2010, we have coding languages like Ruby and scripting languages like Lua that are designed to be readable by human beings, and we have tools like Scratch and Twine that minimize, if not obviate, the need for coding entirely. But in 1975, there was no way to make a game on a computer without understanding the computer inside and out.

The Affairs of Wizards

What digital games were being made in the 1970s? And who was creating them?

The college engineer who programmed games in the mid-seventies had most likely been exposed to the role-playing game *Dungeons & Dragons* (*D&D*), published in 1974 by TSR, and possibly to the wargames that preceded it. *Dungeons & Dragons* is storytelling with rules—a human player, the "Dungeon Master," presents story situations to which the other players must respond. The Dungeon Master keeps the rules and facilitates the adventure of the other players, each of whom plays a role within the game world. It borrows from

wargames a complex set of rules and tables for resolving situations, mostly those related to combat: whether a sword hits an opponent, whether it does any damage to that opponent, how much damage it does. And it borrows the fantasy world—the wizards and dragons, orcs and elves—of J. R. R. Tolkien's *Lord of the Rings* books, popular among student engineers at that time.

That *Dungeons & Dragons* was hugely influential on digital game creators of the seventies can be seen in network games like *dnd*—short for "Dungeons & Dragons," naturally—created by Gary Whisenhunt and Ray Wood at Southern Illinois University in 1974, the year of *D&D*'s release.[24] Like TSR's game, *dnd* involves descending into a dungeon, fighting monsters (dragons included), and collecting treasure. In this version of the game, it's the computer that keeps the rules, taking on the "Dungeon Master" role that would formerly have been given to a human participant.

The Tolkienesque fantasy setting of *Dungeons & Dragons* is all but ubiquitous in digital games of the time, but what's really interesting is the way designers transformed that setting by transposing it into a digital world. In 1977, at MIT, Tim Anderson, Marc Blank, Bruce Daniels, and Dave Lebling began working on a game initially called *Dungeon*, later renamed *Zork*. *Zork* is a text adventure game: the player is presented with a paragraph of descriptive text, types a sentence explaining the action she wishes to take, and is presented with further text by the game in response. In this way, it resembles both prose fiction and the refereed experience of a game of round-the-table *Dungeons & Dragons*.

Anderson, Blank, Daniels, and Lebling, along with others, founded Infocom in 1979. The fantasy world that they created in *Zork* grew into many more games, such as *Enchanter* and

Spellbreaker. But what's interesting to me is the particular way magic is treated within the fantasy world these MIT engineers built. As Jeff Howard writes for the blog *The Gameshelf*:

> Infocom's *Spellbreaker* trilogy, consisting of *Enchanter*, *Sorcerer*, and *Spellbreaker*, entails a magical grammar, in which spells are verbs that take direct objects, allowing players to type "frotz stone" to make a stone glow or "blorb chest" to open this locked container. Frotz and Blorb are names for, respectively, an interactive fiction interpreter and a wrapper for multimedia elements. While amusing, this application of the names of in-game spells to the programming and technology outside of and supporting the game also suggests a powerful relationship between programming and the verbal grammars of magic. Simply put, programmers and magicians both master a grammar in order to make things happen. Both hackers and wizards achieve this alteration of reality, whether simulated or real, through an arcane set of words and phrases known as programs or spells. When properly configured, a program causes amazing events to occur (calculates our taxes, launches an anti-missile defense system, summons a longed-for package from Amazon.com to our doorstep), just as magicians can throw fireballs and (when very powerful) grant wishes. However, when the programmer makes the slightest error in the placement of a semicolon or case sensitivity, the program won't compile, much as a spell fizzles.[25]

It's not surprising at all that in a fantasy world constructed by programmers, the power to create and change the world would be indistinguishable from programming. For these engineers, technology was their means of making magic happen.

This theme of magic as technology (or technology as magic) doesn't occur only in Infocom games. The *Ultima* games were created by role-playing games enthusiast Richard Garriott, who named some of the people in his fantasy world after characters he role-played. The first *Ultima* game progresses from slaying monsters for Lord British and Shamino to flying a spaceship; the nemesis of the third *Ultima* game (*Ultima III: Exodus*) is ultimately revealed to be a computer that the player must reprogram. We can see the trend persisting into the MUDs (multi-user dungeon games, the descendents of games like *Dungeon*) and MOOs (MUD object oriented games), online games in which game administrators are called "Wizards" and have the ability to ban players from the game by "toading" them (turning a player into a toad).

This early in the history of digital game creation, we can still see that games, as with all works of art, contain the values of the people who make them. Which is precisely why more than a single group of people should have access to the means of creating them.

Digital Barkers

The founders of Atari, NAMCO, and SEGA, three early videogame publishers that still exist (in some form) today, were all involved in either carnival barking or the distribution of pinball and other mechanical games. When these people set out to make digital games that earned them money, they used the system they were already familiar with: installing games in public spaces and calling people over to play them.

The arcade cabinets that housed these new games were designed to act as their own barkers: they were stylized pieces of wood decorated with artwork, containing video screens that flashed invitations to players and demonstrated their games.

For a quarter (sometimes more), a player bought one play of the game. As in pinball, the player's skill extended the game: the better you were, the longer you could play. Arcade cabinets were initially placed in settings like bars and, later—when videogames became popular among kids—pizzerias and malls. Eventually, they came to inhabit dedicated spaces—arcades—that existed solely to house digital games. The arcade cabinet was the way most of mainstream culture first encountered videogames.

How did the arcade game become more ubiquitous than the carnival and pinball games whose sales model it borrowed? Carnival and mechanical games were huge and required human supervision. Pinball machines, because they contained lots of moving parts that constantly collided with each other, broke frequently and were expensive to maintain. The first digital arcade games were cheaper to maintain than the pinball machine because the parts were all standard pieces of electronics, far easier to replace than a piece of track molded specifically for a single pinball machine. The arcade game was also more compact and self-regulating. Since it didn't take up a lot of space or require constant maintenance by the owner, it could inhabit spaces like the aforementioned bars and pizzerias, spaces not exclusively dedicated to electronics, and thus, spaces not exclusively populated by the engineers and programmers who, up to that point, had been almost exclusively the audience for digital games.

But naturally, the manufacture and distribution of these arcade cabinets required capital, and here businesspeople gained their foothold (soon to be a stranglehold) on videogames. Engineers, sometimes with the assistance of artists, still designed the games and the hardware that made them possible. Businesspeople handled distribution to bars, malls,

and arcades. Venture capitalists were brought in to fund the costs of production and expansion. A need for marketers began to appear, although this was not as important as it would become later, when games weren't sold only to arcade operators but directly to players. But what's important to note is that it was the business folks, not the engineers or artists, who controlled the capital. As long as game creators were hardware manufacturers, this was the case.

The Invasion of Home

It wasn't long before the people who manufactured machines for the arcade hit upon the idea of manufacturing machines for the home. This would allow them to market their games not to the middleman arcade operator, but to the players themselves. Atari was among the earliest publishers to have great success in the arcade, and in 1977 it began to publish the Atari Video Computer System—later retroactively renamed the Atari 2600, after the Atari 5200 and 7800 went to market—selling home versions of its most popular arcade cabinets to players. Games for the Video Computer System were distributed on cartridges that plugged into a base machine, rather than on miniature arcade cabinets, which meant that after the initial purchase of the hardware, the actual game software became much cheaper to produce and distribute. The market exploded.

Arcade cabinets were more expensive to play than home game cartridges, and now that the player could play digital games in her own home, arcades became less of an attraction. Because home game hardware was fixed and arcade cabinet hardware was not—the home game player buys a single piece of hardware, while most arcade cabinets have hardware specialized to the game that inhabits them—arcade cabinets still

managed to offer unique experiences. Arcade games became more and more specialized over time, distributing games that were implausible in the home, either because of the technology or the context. The games that predominate in modern arcades are large ride-on vehicles, dance platforms, or drum sets that make less sense in the home than in a commercial space. Most arcades didn't survive this shift in the market: there aren't many arcades left these days, at least in America.

The shift in the way people discovered and played games also lead to a shift in game design trends. Arcade games, because they earn money on each play, are designed to be as succinct as possible, and to teach new players how to play quickly. They are also often designed to be hard, because a player, once she loses, will either have to pay again to continue her game or relinquish the machine to a new player. Home games, which players pay for one time in exchange for infinite plays, require publishers to set the price of the game higher than the traditional quarter. Thus home games became longer and longer in an attempt to appear more valuable to potential players. They could have much longer learning curves and be much gentler to play. But this longer game requires more content, and hence bigger teams to design and create that content. Marketing, now that the games were sold directly to the player, became a powerful force, and began to make many of the creative decisions.

Take, for example, this account of a conflict between the marketers and game programmers at Mattel Electronics, publishers of the Intellivision and its software, related by former Mattel Electronics staff:

> On December 6, 1982, all of the programmers and graphic artists were herded into a conference room and

> shown a series of TV commercials—the new Kool-Aid ad campaign. It was announced that Marketing had made a tie-in deal to release Intellivision and M Network Atari 2600 *Kool-Aid Man* cartridges. The games were scheduled to be ready in about six months, which meant that programming had to begin immediately. Worse, they wanted game-screen mockups to appear in the 1983 Mattel Electronics catalog at the Consumer Electronics Show—one month away. A two-week contest to come up with the best game concept was announced. Separate ideas were developed for Intellivision and Atari 2600.
>
> This led to a confrontation with Marketing. The programmers' viewpoint was that the features of a game should be tailored to the system it would be played on, to take full advantage of the system's strengths. Marketing, on the other hand, wanted games designed for multiple systems, with the features being the same on each system. If a game *couldn't* be ported to other systems, it shouldn't be done on *any* system.
>
> The programmers argued that this meant all games would have to be designed for the lowest common denominator—the Atari 2600. Marketing argued that keeping the features the same would make games easier to advertise and make word-of-mouth among customers more favorable.[26]

On contemporary home game consoles, most games come from companies other than the manufacturer of the hardware. The hardware manufacturer generally enforces an approval process for games commonly called "lot check," or "technical requirements," which contains a list of requirements the game must meet before it can be printed and distributed. For example: The game must display a message when a game controller is unplugged from the machine. It must support a variety of novelty controllers that have a limited run. There's a

lot of room for error, and applying for the process isn't cheap. Rejection means that the fee will have to be paid again after the asked-for changes are made to the game, and there can be many rejections before a game is approved, putting distribution of digital games to early home consoles still well out of the financial reach of almost anyone outside of the growing industry, despite the cheaper manufacturing costs.

Game consoles weren't the only home invaders. In 1984, Apple released the Macintosh computer. Microsoft began distributing its Windows operating system with computers the following year. These machines were conceived and marketed as "personal computers," designed for home use by non-engineers and marketed to the public. Their use of a mouse for navigating between different files and programs visually made these new computers far more approachable to non-engineers than the traditional text prompt, where users typed from a list of hidden commands.

Publishing a game for the home computer was similarly expensive to publishing one for a home game console. While game consoles have identical components (every individual PlayStation 3 has the same pieces and the same capabilities, with a few small deviations), computers aren't homogeneous. Certifying that a game will run on a wide variety of contemporary computers, with hundreds of potential variations in operating system, installed programs, hardware, and input devices, is an extensive and expensive process. Manufacturing the game, getting it on store shelves, providing on-call technical support to players, and marketing it to those players all costs money.

The Games Publishing Industry Today

Given the expenses of distributing a game—lot check, compat-

ibility testing, printing, marketing—how does anyone afford to make games?

The contemporary games industry uses a developer-publisher model. The developer actually designs, programs, and animates the game at the behest of the publisher, who pays the expenses of distributing it. The developer may pitch the game to the publisher, or the publisher may bring the game concept to the developer. The publisher might just own the developer: bigger publishers like EA (formerly Electronic Arts) and Ubisoft have purchased many development studios.

A developer may start a project with her own resources before attempting to find a publisher for the game. Because the publisher controls the distribution of the game, it has control over the content of the game. The publisher's agents will periodically check the progress of the game and demand changes from the developer. Often these changes are for the sake of marketing the game: a publisher will always do what it can to make a game more salable, or what it perceives as being more salable. A publisher may shape a game to better resemble trends in the widely selling games of the day.

Within a development company, employees are typically divided into three roles: designer, artist, and engineer or programmer. All of these roles have a technical (knowledge) barrier to entry. An artist doesn't just need to be able to draw; she needs to be proficient in the 3-D modeling software the developer prefers. She needs to know how to prepare images in a way that the engineers can use. A designer needs to be familiar with the "engine" the game is being developed in, and to be fluent in the scripting language that engine uses in order to create events and interactive elements within the level she designs.

A game is made by at least one team of each of these groups: a team of engineers under a lead engineer, a team

of artists under a lead artist, and a team of designers under a lead designer (or "game designer"). The engineers/artists/designers receive their instructions from the leads. The leads report to a director. The director reports to a producer, who in turn represents the publisher. Within this system, which exists to coordinate teams of increasingly unmanageable numbers of people (numbers needed to produce the huge amount of content Hit Games demand), you can see that the people who exercise the most creative power over the project are the people who are farthest from its creation.

The expenses of hiring and coordinating all these people mean that a game has to be a hit in the market in order to make a profit. And so the publisher, with its final authority on the content of a game, will almost always make a conservative decision about that content in order to make the game more marketable. If it wants to make a profit, the publisher is obligated to.

Publishers have installed themselves as gatekeepers to videogames publishing. To distribute and sell a game in the contemporary market requires their consent. But for as long as people have had access to computers, there's been a history of game creators who've sought alternative solutions to the problem of game distribution.

Rethinking Distribution: Share? Where?

The personal computer appeared in homes in the eighties. Personal computers are not just for consumption; they are also tools for creation. Anyone with the technical knowledge and the tools can make a game on a computer. And any game I make on my Windows (or Mac or Linux) computer, you can play on your Windows (or Mac or Linux) computer. It's just a matter of getting the game from my computer to yours. Dis-

tribution—whether it's intended to make a profit or not—has been the major problem of most small game creators.

"Shareware" was a popular concept in small game distribution throughout the eighties and nineties. Shareware relies on the players themselves to distribute a game. If I encounter a game I like, I might duplicate it and give a copy to a friend, who in turn makes more copies. Copying games initially meant floppy disks: the cost of producing digital media containing the game was deferred to the audience. Some authors might include their address in their games and ask for a tip: a donation of any amount, a postcard from somewhere interesting. Some authors, for the cost of a disk and some compensation, might offer an expanded version of the game, a second episode or a sequel.

This is how Tim Sweeney of Epic MegaGames (now Epic Games, mentioned earlier) and Scott Miller of Apogee Software got their start. They reinvested the money their games earned into creating distribution networks, hiring developers to create more games, marketing their games at first through catalogs and eventually on store shelves. They went the path of the publisher, which unfortunately remains the only viable method for widespread physical distribution.

But the rise of online networks gave hobbyists and small game developers a new method—and critically, a wholly digital method—for distributing their games. The Bulletin Board System, or BBS, was a public online space that proliferated from the 1970s to the '90s. A home computer user with a modem could dial in to a BBS through the phone line, and would then have access to all the files available on that system: shareware games, for example, that could be downloaded to the user's computer. More important, that user, and countless other hackers, hobbyists, and coders, could upload games

to that BBS for other users to download. Games could be passed from computer to computer this way. And they could be passed around without the need for physical copies and the associated costs. This means that non-professionals and non-publishers were able to transmit all sorts of games to players—and in fact, there's a swath of weird, personal, and experimental shareware games around that could never have come from the hit-driven games mainstream.

For example, I discovered a game when I was young called *Evolve! Lite*.[27] This game simulated life by allowing the player to program a species of digital creature with a set of different reactions to different stimuli (for example: when in the presence of two or more predators, the creature turns and runs in the opposite direction). Individuals of the species who mate pass on these tables of behaviors—this virtual DNA—but not all of it! Some of the behaviors will randomly mutate, as in real sexual reproduction, and individuals with beneficial mutations will survive long enough to pass on their mutated DNA. This shareware game, then, provides a working model of evolution!

The game was made in 1993 by Matt Bace and Mike Wall, who published under the label "FunTek." This is all I know about them. The game is called *Evolve! Lite* because there supposedly exists an expanded version of the game called *Evolve!,* one that allows for a world that's four times larger and populated with twelve competing species, rather than the two of *Evolve! Lite*. A registration form included with the game offers copies of *Evolve!* for $19.95 plus shipping. It also encourages me to register on CompuServe (an online network of the time), and it contains an advertisement and phone number for JAB BBS: "We have one of the largest collection of PD [Public Domain] & Shareware."

I actually discovered *Evolve! Lite* on a CD I bought in a store—a shareware CD containing the noncommercial versions of hundreds of shareware games. This was another solution to the problem of distributing shareware games: a small publisher would offer to distribute shareware authors' games in stores, and the publisher would sell the CD to buyers, promising hundreds of games on a single disc. Many creators were able to infiltrate store shelves this way.

But it was digital distribution that offered the most potential for the distribution of small games. Side-stepping the cost of printing media entirely, digital distribution promised to ship a game directly from computer to computer, from author to player. The BBS allowed for digital distribution, but was hampered by its bandwidth—stuffing data through phone lines, a BBS could only allow for small, slow downloads—and the isolation of BBS networks. One BBS wasn't connected to another, and a user plugged in to one BBS would only have access to what was available on that BBS. This made widespread distribution more difficult and slow.

And so, for a long time, the digital distribution of games was scattershot. But eventually a network would coalesce that would resolve these problems.

I'm Referring to the Internet

Today the Internet is linked by cables, not phone lines. The Internet of BitTorrent gives us a model for file sharing that's fast and decentralized. The Internet of 2012 is different from the BBS systems and early online networks of the eighties and nineties in a few important ways: there's the speed, yes, but more important is the access. The infrastructure of the Internet is different: a user doesn't dial in to an isolated part of it, but rather always has access to any part of it (government

censorship aside). Which is to say that if I make a game, I can post it in one location (say, my website), and anyone connected to the Internet can visit that site and download that game.

Whether they can run that game is another question. But there's been a progression toward infrastructure not only in playing games but in running them. Take Flash, for example, an Internet plug-in originally designed, by Macromedia, to allow animators to insert movies into web pages so that visitors could watch them inside their web browsers. Almost immediately creators began to co-opt Flash in order to put playable games into web browsers—obviating the need to download a game before playing it. Look at Newgrounds.com, a Flash "portal" whose current slogan is, "Everything, by everyone." *Newgrounds* (which began as a zine distributed by the thirteen-year-old Tom Fulp[28]) began accepting visitor submissions in 1999. A decade later, *Newgrounds* hosts 170,000 Flash movies and games created by over 2.2 million registered users.[29] Plenty of those are cartoons about Super Mario, but consider how many creators have found audiences for their creations. *Newgrounds* has even found ways to earn money for its creators, by selling ads to interested companies and giving creators the option of including those ads in their movies and games. There was a time when I made my living almost exclusively by creating Flash games for *Newgrounds*.[30]

So you can get an impression of how much potential digital distribution has to allow games to proliferate outside the industry. To physically publish games has always been difficult for authors without access to capital: that accounts for the rise of publishers. But the speed and interconnectedness of the contemporary Internet provide authors with a means to distribute their games to players without having to deal with

the costs of physical publishing and the marketing these costs engender.

Publishers, incidentally, are aware of the Internet as well. Corporations like Valve, Apple, and Microsoft have set up online infrastuctures ("Steam," the "App Store," and "XBox Live," respectively) to sell games. Users buy games with a credit card, allowing them to digitally download games to their computers. Small game creators have been able to ride the coattails of these online marketplaces, using them to sell and distribute their own creations. The danger is that these markets are maintained and regulated exclusively by the corporations who built them, corporations who will of course police them according to their own interests. Take for example, February 2010, when Apple deleted over 5,000 iPhone games from its digital store overnight for being, in Apple's judgment, too sexual.[31]

But digital distribution potentially means the most to the creators of free games—hobbyist game creators. There can be hobbyist game creators because distributing games no longer requires capital. An author can produce a game in her spare time, upload it to the Internet, and watch as an audience finds, downloads, and experiences it.

But what does she use to produce her game?

New Tools for Artisans

The first digital games were created by engineers in university computer labs. They alone had access to computers, and they alone had access to the technical information required to teach those machines to play games. But now personal computers inhabit homes—and, consequently, new game-creating tools have come into being for people who aren't engineers with technical knowledge.

I'm going to discuss many of these tools, and what each is good for, later in this book. But for now, I think a sample of source code might illustrate how far the tools of today have come from the Assembly code at the opening of the chapter. This is a sample of Inform 7 code. Inform is a tool for creating interactive fiction: text adventures. The newest version was created by Graham Nelson to allow authors to write "natural language" code—that is, lines of code that look like English sentences. Natural language code isn't necessarily the most efficient or effective way to write a game, but Inform 7 was made with the idea that an interactive story should be as easy to write as a prose story, and that if it was, more people would create games. The following code gives the player a bag of four candies, one of which is poisoned.[32]

```
The plural of piece of candy is pieces of
candy. A piece of candy is a kind of thing.

A piece of candy is always edible. Four
pieces of candy are in the Halloween bag.

Toxicity is a kind of value. The toxicities
are safe and poisonous. A piece of candy
has a toxicity. A piece of candy is usually
safe.

The Porch is a room. The player carries the
Halloween bag.

After eating a poisonous piece of candy:

  say "Oh, that didn't taste right at all.
  Oh well!"

When play begins:

  now a random piece of candy is poisonous.
```

Maybe you don't follow the example totally, but it looks very different from the 1979 Assembly code. If the two biggest barriers to free game creation—and by *free*, here, I mean creation that's universally accessible—have been the technical knowledge required to teach game logic to computers and the high cost of publishing physical copies of games, then at the time of this writing, both of those barriers have been breached.

Right now, we can imagine a future where creating a game is as easy as writing a story or drawing a picture. We can imagine videogames that are written, like *Newgrounds* suggests, "by everyone" for everyone, rather than by corporations for consumers or by technical wizards for stunned onlookers. This is our time, and games are ours to create.

So what are games good for?

Chapter Three
WHAT IS IT GOOD FOR?

So, for the first time in the history of the videogame form, people who aren't programmers or corporations can easily make and distribute games. But why would they want to? Why make a game—especially when there already exist the means to write stories, play songs, film yourself for YouTube? What can we do with games that we can't do with those forms?

To begin, let's define what a game is.

You've played games and you have assumptions about what they are. Maybe when you read *game* you imagine a videogame; maybe when you imagine a videogame you imagine a big-budget run-jump-shoot game. Maybe you imagine Tetris. Since I'm more interested in games, digital and otherwise, that don't resemble games that already exist, I think a fresh definition is in order. I also think it's worthwhile to have a definition that isn't specific to digital games, because I'm interested in the commonalities between digital and non-digital games, and in connecting videogames to that much older tradition.

So here's my definition:

```
A game is an experience created by rules.
```

That's pretty broad, huh? I'm interested in as inclusive a definition as possible, though you might argue that mine is too broad: for example, you can use it to describe getting stuck in a traffic jam or paying your taxes. A tax form is nothing but a series of rules you follow to produce a final number, after all. But is it useful to think about your taxes as a game?[33] Not really. Do the rules on a tax form really create a strong experience, or are they just a method for producing a number?

A game is an experience, and that experience has a certain character. Maybe a game is a story, or maybe it's the experience of control giving way to panic giving way to relief. Maybe it's about taking something and making it grow bigger and bigger and bigger, or maybe it's about two rivals, equally matched, each trying to out-guess the other's plans. The experience that we identify as a game has character, and we can talk about what that experience is.

And if we're discussing an experience, then that implies someone is there to have that experience, someone we refer to as a *player*. We can't talk about a game without talking about the experience of the player playing that game, even if the playing experience we're talking about is often our own.

The experience we call a game is created by the interaction between different rules, but the rules themselves aren't the game, the interaction is! A game can't exist without a player or players: someone needs to be engaging with the rules for the experience to happen.

How does that work? Consider a game of Tag. Rules: One player is IT, and must tag as many of the other players as possible with a touch. Each of those other players is SAFE when she touches this gnarled-up oak tree. You can see the way the interaction between those two rules creates an interesting (and volatile) dynamic. The players who aren't IT want to

reach the tree, but the player who is IT wants to stop them.

You can imagine a situation where the IT player is standing between two other players—one to her left, one to her right—and the SAFEty of the tree. Maybe one of them will make a break for the tree, maybe IT will be forced to pick one of the two to chase while the other gets to make a run at the tree, maybe a fourth player will take advantage of IT's distraction to make a run at the tree from behind. When we talk about a game of Tag, we're talking about this experience. But this situation (and it's a good, tense one) isn't explicitly defined anywhere in the rules. However, notice how these rules guide the creation of that situation. The rules set the players in opposition to each other, give most of the players a goal, and give the other player a reason to intervene, creating a tense dynamic.

What if we were to take either of these rules away: the SAFE location or the player who's IT? Without a SAFE location, players have no reason to stay nearby and interact with the other players, especially the IT player. The ideal strategy to avoid IT would be to go as far away as possible, and that breaks the tension and hence the experience of the game. What if there was no IT player? Then it'd just be people running around, and while a bunch of people running around has value, it doesn't have the character or dynamic of a game.

But there's certainly room to change the details of the rules. Tag, being a folk game, has been played by many people in many places with many, many different versions of the rules. In one version, a player might be done once she's tagged the SAFE tree. As more and more players tag the tree and leave the game, the players who are less fast become greater and greater targets because the IT player can focus less on monitoring the tree and more on pursuing them.

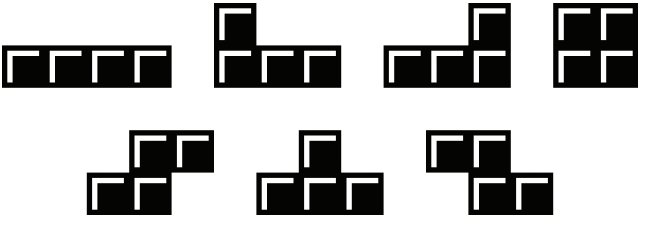
Alternately, what if a player who touches the tree isn't permanently safe—what if players are only allowed to be in contact with the tree for five minutes at a time? That keeps players vulnerable to IT and keeps the game from stagnating. Maybe a player who leaves the tree has temporary immunity to allow her to get safely out of IT's sight, or maybe it becomes a stand-off, where the escaping player has to wait for another player to distract IT's attention before she can make a break for it.

What about freeze tag? In this case, a player who's tagged by IT is "frozen" and has to wait for another player to come and "rescue" her before she can move again. This variation has much more direct interaction between the non-IT players. Instead of just depending on one another as decoys, they have to actively put themselves at risk to aid other players, which only adds to the tension of the game. And it creates a new dynamic between the non-IT players: I rescued you this time, but if I get tagged you're going to have to leave the tree and rescue me.

And that's what games are good at: exploring dynamics, relationships, and systems.

The Story of Tetris

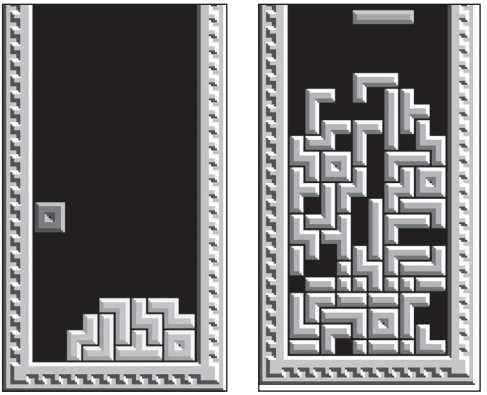
A "system" is what we'll call the interaction (or ongoing interactions) between a set of rules. Let's talk about Tetris now.



What are the rules of Tetris, essentially? The basic rules that drive Tetris are:

The game is played with *pieces*, comprised of every possible combination of four squares. (See the image above.)

- Pieces fall continuously into a well of a certain volume. The player can guide the pieces' fall to the left and right of the well, and also rotate the pieces both clockwise and counterclockwise.
- Pieces are removed from the well when and only when the player organizes them into complete rows.
- If there is no room left in the well for a new piece to fall, the player loses.[34]



You can see how these rules create a system where the player's mistakes compound on one another to cause further mistakes: Only full rows are eliminated, so incomplete rows stick around and take up space in the well. Clutter in the well then makes it more difficult to position other pieces and to create rows. As the row fills with mistakes, it eventually

becomes impossible to fit more pieces, and the game ends.

These rules function in tandem to give the game a momentum and shape: the player makes errors that cause further errors, until eventually the player is overcome. (And consider how well a commonly added rule, "the pieces fall faster every time ten lines are made," works with these basic rules to help the game escalate.) We could consider this a system.

All games aren't necessarily simulations of existing systems: it would be difficult to imagine a situation in the world that actually resembled Tetris. But it's easy to imagine simulations that model systems of rules that are far less abstract: urban planning, politics, oil drilling. And there are games whose rules mimic such systems. Will Wright's *SimCity* is a game in which the player plans a city, Jim Gasperini's *Hidden Agenda* is a game in which the player governs a post-revolutionary South American nation. Arch D. Robison's *Seismic Duck*[35] models the way drillers use aimed sound waves and seismogram to find oil reservoirs.

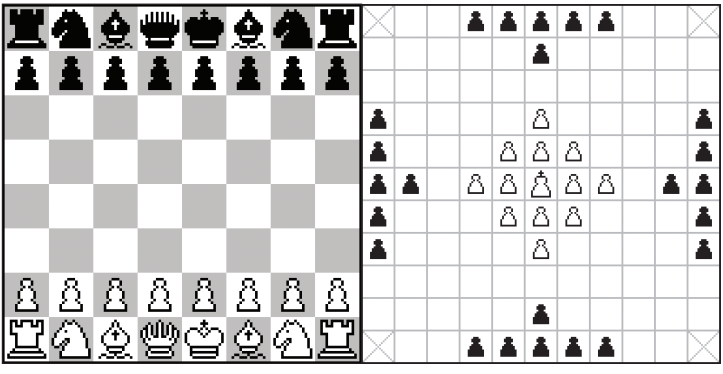
You can begin to see how systems can be translated into game rules: a commercial zone in *SimCity*, for example, needs people to act both as a work force and as consumers. That means the people need homes to live in, transportation to get them around the city, power to make sure the lights are on. The system teaches concepts about the interdependency of urban forces. To again cite Greg Costikyan's "Maverick Award Speech": "I want you to imagine a world in which the common person is no longer ignorant of economics, physics and the functioning of the environment—things which are themselves interactive systems—because they have interacted with them in the form of games."

Every game of Tetris has the same shape—errors compound on errors until the well is filled and the player is

overcome—because the system of rules we've discussed guides the experience in that direction. But the player places all the pieces herself. Every player will place the pieces differently, will play a different game, but experience a similar result. The same holds true for any system of rules, as simple as Tag or Tetris or as complicated as *SimCity*. Games have a lot of potential for examining the relationships between things—or, rather, for allowing the player to examine the relationships between things, because the player does not merely observe the interactions; she herself engages with the game's systems.

The Rise of the Designer

Tag is an example of a folk game, along with Go, Chess, Poker, Stickball, Hide and Seek, and most of the world's oldest games. Games have been around as long as civilization has; the game is by no means a new form or a recent invention. What is relatively recent is the shift from folk to authored games. Folk games, like folk songs and folk texts such as the Bible, have no single credited author, but rather many untraceable authors over many years. They're artifacts shaped by entire cultures, and generally they can tell us a lot about those cultures.



For example, compare Chess, a continental European board game of warfare, with Hnefatafl, a Viking board game of warfare. Chess is a game of combat between kings with equal resources. Each player has the same pieces and starts in the same position on opposite sides of the game board. Each player's goal is to capture the other player's king. In Hnefatafl, one player represents a king and his defenders, who start in the center of the game board. The other player represents the attackers, who surround the king's forces on all sides of the board. The king player's goal is to get the king through the attacking hordes to safety, while the other player's goal is to surround and capture the king. The differences between these games' interpretations of combat tell us a lot about the differences between strategic thought between European vassal kings and Viking warrior bands: their priorities, the nature of their battles, and whether they approach warfare as a platonic war between equals. And the games themselves, in turn, shape the strategic thought of those who play them.

Our history is full of folk board games. Authored board games—games created by a single person or small group, and whose authors can be identified—are a more recent phenomenon. For example, I can tell you that the board game *Cosmic Encounter* was designed in 1977 by Bill Eberle, Bill Norton, Jack Kittredge, and Peter Olotka of Eon Games. (We can date *Cribbage*, by Sir John Suckling, to the 1630s.) These are games as texts of specific rules, rather than as patterns of rules that are subject to change through mimicry. A game of Tag will always have a chasing player and a safe position, but the actual rules will change from play to play. The majority of contemporary board games are designed by a single author or team, and the same is true of digital games.

Can there be folk videogames? Videogames retain credits better than board, card, and physical games. I think that there are digital games, though, that exist as patterns of similar rules, perpetuated through duplication with small mutations. There are a thousand different versions of Tetris, for example, each coded by one of a thousand different authors, and each version with a slightly different set of rules, a slightly different set of numbers, and often (to avoid litigation) a different name. There's a digital game that's commonly known as "the snake game," which began as an arcade game called *Nibbler* by Joseph Ulowetz and John Jaugilas. In this game, the player directs a snake to gobble pieces of food. The snake dies whenever it crashes into either a wall or its own body by coiling around itself. Each piece of food causes the snake's tail to grow longer, making it take up more space and making it more difficult for the player to avoid collisions with her own body. So many different authors have remade this game on so many different machines that all of its forms and variants are usually just referred to as "the snake game." Is this how authored games become folk games?

But what can authored games tell us that's different from folk games? Folk games tell us about the culture that created them; authored games tell us about the author that created them. Authored games have the potential to be more personal, and thus more specific and diverse, than folk games. Two plays of an authored game are likely to be more similar than two plays of a folk game, because the authored game retains the rules set created by its original designer. It's the fact that folk games change with each player that makes them so long-lived, that makes them adapt to suit the culture that adopts them. But in this book, it's authored games, and the diverse set of voices they embody, that I want to focus on.

What's Video Good For?

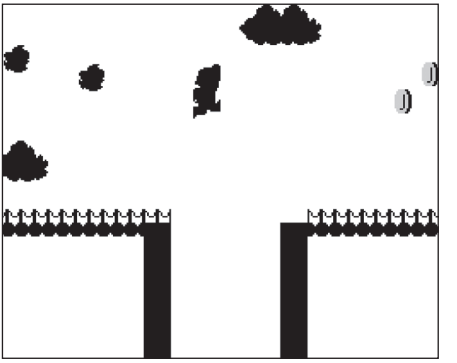
In a board game, players have to track how much money is left in the bank, which pieces are in play, how high the water level rises. A deck of cards can keep players from knowing in what order pieces will come into play, dice can generate random outcomes to situations, and players have hands of cards that represent information they keep from the other players, but beyond these basic devices, little information can be hidden from the players, because the players must make sure the rules are being observed by tracking most of the information themselves.

In digital games, the computer keeps the rules. The computer tracks all the numbers. Digital games therefore have much greater control over what information the players have access to, making videogames capable of much greater ambiguity than board or card games.

What's ambiguity good for? Telling stories! Digital games have great potential for storytelling. The author has a lot of control over the pace at which information is revealed; therefore the author can pace the telling of a story. This is not to say that videogame stories are being told as well as they could be. But the format of a videogame—which lets rules be changed and introduced over the course of the experience, and which lets the author hide the causes for events and show only the effects—lends itself more easily to an overt, sustained narrative than any physical game format.

Because the rules are kept by the machine, the rules in digital games tend to be more numerous and more subtle. Think of a game like Shigeru Miyamoto and Takashi Tezuka's *Super Mario Bros.* Unless you've studied the game in great detail on a technical level, you probably don't know exactly how high Mario can jump relative to the height of the screen, or how

fast he accelerates horizontally when he runs. The interactions between these hidden rules in videogames can result in very complex systems without necessarily complicating the game, because the player isn't required to track and compare all the numbers. For example, imagine the designer creating a situation where there's a tiny platform with a long pit on either side. Mario has to run to build up the momentum to clear the pit and land on the platform, but instead of stopping there he needs to immediately jump again in order to make the second pit without losing the momentum that will let him cross it. This is a problem that wouldn't be obvious to someone who had just approached the game.



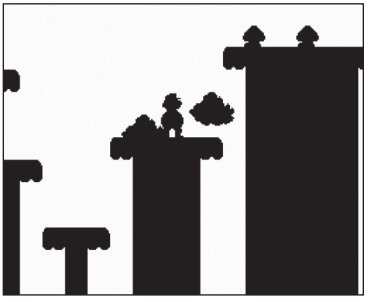
Through playing the game, the player develops a sense of the limits and subtleties of these hidden rules. This interaction between the player and the game, dependent on the game's hiding information, gives digital games their special capacity for subtlety and nuance. You could compare it to the use of "English" in a physical sport: the difference between hitting a ball and hitting it with a particular force, and in a particular direction.

Because of this capacity, videogames are often performative: they allow the player room to interact with rich and complex systems with grace and finesse. We usually refer to this as "skill." A system may persist through an entire game, but the game may start very permissive of less graceful playing and require the player to play with more and more finesse as the game goes on. The game gets HARDER, asking that the player become more skillful, but allowing her to learn the game's systems over the course of navigating increasingly difficult situations.

The systems that the player manipulates in *Super Mario Bros.* are introduced very early in the game, with the only added rules coming with the periodic introduction of new enemy characters or hazards. But the situations that Mario has to navigate start fairly relaxed and demand more and more skillful playing as the game progresses. In the first stage of the game, obstacles are low enough that a simple jump from a standing position will allow Mario to clear them. In later stages, the height of obstacles will require Mario to run and build momentum before jumping, in order to jump higher. In this way the designer teaches the player the subtleties of the game's complex system through careful use of machine-controlled variables. Digital games are thus good at teaching, and at communicating a sense of the player's progress, which often parallels the progress of the protagonist and the development of a story.

What else is handy for telling a story? The ability to generate or play video and audio, either as accompaniments or as central vehicles for information. Digital games can incorporate a variety of media when telling their stories. Consider how the music in *Super Mario Bros.* speeds up when there's only a hundred ticks left on the time limit to complete a stage, creating a

sense of urgency, or how the sound played when Mario jumps on an enemy gets higher and higher pitched, indicating that a reward—in this case, an extra life—will come if the player keeps doing what she's doing. Consider how the player's journey takes her through a changing visual landscape, from a sunlit field to a black-and-blue underground, to treetops, to the mushroom forest, and to Bowser's castle, and the way each of these sights—withheld from the player until her skill develops to give her access to later areas—provides a sense of progression through the Mushroom Kingdom.



I don't mean to imply that non-digital games are incapable of the things I've described, or that digital games are in some absolute sense better or more worthy of interest. There are many different kinds of games, all of them suited to different things. Digital games, because of their ability to withhold and pace the player's access to information, because of the strict narrative control the author is able to have over the player's experience (because the machine enforces the rules), and because of their capacity for generating a wide variety of sights and sounds to enhance or even define the playing-out of the rules, are particularly well suited for the telling of stories. And the telling of stories—games becoming more personal—is what especially interests me about games as a form.

Role-Playing Games

Digital games have certain strengths for telling stories, but

the nature of games in general—even without the advantages the machine provides—makes them good for storytelling. And I do think, in the way that film and photography have generally changed the focus of novels and visual art, the mechanical rules keeper that videogames provide has caused similar focus changes in other aspects of games. In the last chapter, I couldn't discuss the earliest mainframe computer games without mentioning role-playing games like *Dungeons & Dragons*. Role-playing games came out of the tradition of "miniatures wargaming," a set of rules for moving armies of dolls around a tabletop battlefield and pitting them against one another in combat. Later role-playing games kept the rules for combat and situation resolution, gave players the responsibility for a single combatant rather than a larger number of soldiers, and largely got rid of the dolls.[36] But the important thing that games like *Dungeons & Dragons* introduced was the concept of a "Dungeon Master," or "Game Master." This is a player who manages the game for the other players, laying out the scenario and directing the world's responses to the players' actions. The Game Master essentially inhabits the role of storyteller, preparing and guiding the players through a story in which they make decisions.

This aspect of role-playing games—an overseer who negotiates the player's choices using a set of rules—was eagerly adopted by many of the first digital game authors. Early digital games like *Rogue*, a graphical game of maze exploration and combat, lifted its rules and probability calculations directly from *Dungeons & Dragons*. And text adventure games like *Zork* took the idea of a narrator who relates the world of the game to the player using a consistent voice. Many early digital games are, conceptually, role-playing games in which the computer takes on the role of Game Master.

The computer's adoption of the responsibilities of rules keeping and number counting has shifted the focus of many tabletop games away from their original focus—providing players with an extremely finely grained simulation of combat and other adventuring situations. Why spend thirty minutes rolling dice and looking up random treasure and critical hit information from lengthy tables when you can play a computer game that resolves everything, with far greater mathematical complexity, in seconds and in color? Instead, tabletop role-playing games have been able to move away from a mathematically dense combat situation and toward collaborative storytelling and improvisation.

Take, for example, Paul Czege's *My Life with Master*, in which the players invent a Victor Frankenstein–style mad scientist under whom they will serve as Igors. The Game Master, as the titular Master, assigns the servants duties that enable the players to act out the conflict between their duty to obey and their desire to reclaim their humanity. The dice rolls aren't to test the player's ability to penetrate leather armor with her sword, but rather to test the player's "love" versus her "self-loathing": if a player "fails" her roll, her character must either perform the duty assigned her or refuse to perform it, regardless of which outcome the player might prefer, a simulation of the state of being in emotional servitude. In the end, one of the servants will rise up and destroy the Master, a result that the rules of the game make inevitable: the destruction of the Master is the climax of the story, which each player finishes in turn by creating an epilogue for her character.

What interests me about *My Life with Master* isn't just its use of rules as a unique device for telling a story of personal, internal conflict, rather than as a means of resolving physics simulations in a fantasy world. I also find Czege's distribution

method interesting. *My Life with Master* is sold on Czege's website as both a book, sent in the mail, and as a downloadable PDF file that the buyer may print herself if she's interested. Digital distribution! In the past, the rules for tabletop role-playing games were so elaborate that they required hardbound books, distributed through traditional bookstores and novelty stores, which is still the method used for distributing recent editions of *Dungeons & Dragons*. But authors of small, more experimental role-playing games like *My Life with Master* are avoiding or mitigating the costs of publishing and distributing by selling their rules online as digital downloads, or in some cases simply posting them for free on the Internet.

Role-playing zinesters! And ones who, through their change of focus from complicated and expensive rule books full of encounter tables to simple rules that create conflicts and guide the players in creating a story, offer useful lessons that the designers of digital games could stand to learn.

Grown-Up Games

Games are useful, I wrote earlier, for exploring and teaching about dynamics and relationships. *Gang Rape* is a role-playing game made by Tobias Wrigstad in 2007. Outraged by how many rape cases the courts in his native Sweden dismiss without charges, Wrigstad wrote a game that he hoped would allow players to explore and talk about the experience, and the horror, of rape.

Most games are designed to be pleasing and stimulating to play in an immediately rewarding way: they're intended to be fun. This game is not like those games. In fact, the rules—which are only available by directly and personally requesting them from the author[37]—open with the sentence: "A scenario about gang rape is not meant to be fun to play." The game

is intended to be harrowing; its goal is to give players some respect for the severity of its subject.

A game isn't defined by being fun just as comics aren't defined by being funny. A game is defined as an experience created by rules. Wrigstad's *Gang Rape* is like any other game in this regard.

In the traditional role-playing games we've discussed, one player takes the role of Game Master. That player then guides the other players' experiences by telling another player, for example, what things her character "sees." *Gang Rape* has no Game Master—one player is a victim, the others are her attackers—but it gives each player limited, Game Master–like control over the characters the other players are playing. Specifically, the rapists can tell the victim how her body reacts to their actions, but not how she feels about those actions. The victim can tell the rapists how they feel while they perform those actions. Rape is about control: these rules are designed to give the players an impression of the power a rapist has over the person being raped. There are additional rules that allow the rapist players to dictate each other's behavior, and to allow the players to explore the role of peer pressure and "egging on" in the dynamic of a gang rape. All the rules are clearly crafted to create a sense of the dynamics at work in a situation where two or more people have power over another, and to give the players the liberty to explore and better understand those dynamics. (Though the scenario the author had in mind is clearly a woman being raped by two or more men, he admits that the characters involved—and their players—can be of any gender, and that the rules can apply to a scenario like bullying and mobbing instead of sexual assault.)

This game (which, again, is distributed exclusively digitally, and with the special limitation that anyone wishing to

play it must identify herself directly to the author) is an example of using the capabilities of games—experiences created by rules—not to indulge an escapist fantasy but rather the direct opposite: to try to educate players about the dynamics at work within a horrible real-life experience, and how those dynamics might come to be as a product of individual choices and responses. The players narrate, through their characters, the events prior to the assault, the events of the assault, and the aftermath.

Games can be topical; they can be relevant to our lives as human beings. They can be relevant without having to be about rape. But *Gang Rape* is one example of what we gain when people other than commercial publishers author, publish, and distribute games that commercial publishers could never touch.

The World's a Stage and We are Players

Often, games—particularly digital games, with their use of video and audio—are compared to film, probably because the videogame publishing industry strongly resembles the Hollywood studio system. But I don't think this comparison is particularly constructive, in that it gives us little insight into what the game, as a form, is capable of. Film tells a static story; what's exciting about the game is that it allows the audience to interact with a set of rules. This doesn't mean the game can't tell a story: in the role-playing genre, the players aren't merely watching a story but playing the roles of the characters within the story.

A better comparison than film is theater, which is where a lot of our game vocabulary ("the player," "stages," "set pieces," "scripting") comes from. A play defines the roles, events, and scenes of a story. An individual performance of those roles and scenes will always be different: different actors will per-

form the same role in different ways. Every performance and interpretation of a particular play is different—sometimes in minute ways, sometimes in radical ways—but we consider the play itself and the scene itself to be the same.

Compare this to a game story, particularly a videogame story. Every player will perform the story called *Super Mario Bros.* differently (and the same player will perform the story differently each play), but the role of Mario and the actions Mario is capable of taking remain the same. There is always a scene called "World 1-2," although each performance of "World 1-2" will be different. In a more contemporary videogame such as *Half-Life 2*, a very clearly cinema-inspired game, each player will always pass through the events the designers have scripted in the order in which they are presented, but each player's (and each play's) performance of Gordon Freeman, the game's protagonist, will be at least subtly different. The player will always get chased across the rooftops by cops, but in one performance she might hesitate, unsure of where to go, in one she might head straight for the escape route, in one she might panic, almost getting Gordon Freeman killed, and in another she might walk a little too close to the edge of the roof, fall, and have to start the scene over.

As game storytellers, we are not directing static stories take-by-take but rather arranging the scenes that will comprise the shape of our story. We can begin to think of the player as someone performing a role we've written rather than as an audience who experiences our story without any input as to its outcome. We allow room for improvisation, room for the player to make a role her own. The audience of a game can be more usefully compared to the audience for a play than the audience in the movie theater. In videogames, the audience is there, live, with the actors—or as the actors—experiencing

a single performance that is unique, despite the story having been performed and continuing to be performed many times.

Some players record videos of their performances, either for documentation or for the purpose of recording a specific achievement, such as reaching the game's conclusion as quickly as possible—what is usually called a "speed run" (YouTube has given lots of these videos a means of reaching an audience). That there's an incentive to capture individual performances of a game testifies to the amount of variance there is within a game depending on who's playing it.

Games and Chance

The board and card game traditions have also given a lot to digital games. What I think digital games have taken the most from board games and card games is the way they manage chance. Both contemporary designed games and older folk games have invented many systems for managing chance. The six-sided die, for example, allows for the random selection of six equally likely outcomes (and can then be further used to access other percentages and ratios; for example, three outcomes, each represented by two sides of the die, or eleven outcomes with different likelihoods represented by two rolls of the die, and so on.)

Card games themselves are designed as a system for managing chance and gradually revealing information. When all cards are in the deck, every card in the game has (as far as the player knows) an equal chance of being in any position. Once a card has come into play and been seen by the players, though, the players then know where it is and can use that information to make guesses about the remaining cards. Cards also allow players to manage the pace at which they reveal information: a player might have a hand of seven cards

hidden from the other players, who don't know whether those cards have come into the game yet or not. Poker is a classic game of using limited knowledge of the cards in play to predict the positions of cards not yet in play. This is what makes Poker an elaborate game of bluffing. One player tries to see through the other's "Poker face" because the decisions she'll make are based on what she can predict about the information the other player is concealing. Contemporary game designers have contrived even more rules to control the revelation of information.

Aside from hiding information, chance is frequently used to break symmetry. Having different starting conditions between players prevents both players from having the same set of ideal moves, and thus having the game become a stalemate. Having different, randomly selected values between one play and another, or having different game events happen at different, impossible-to-predict times (or not at all), means that each game will demand a different strategy, keeping play from becoming stagnant.

Franz-Benno Delonge's and Thomas Ewert's board game *Container*, for example—a game where players trade and transport commodities—uses chance to ensure that all players do not value the commodities identically. At the start of the game, a number of cards are shuffled and randomly distributed, one to a player. These cards describe how valuable the different commodities are to the players who hold them, and each card values the commodities differently. The cards are also kept hidden until the end of the game, each card seen only by the player that holds it. Because each player is aware of the entire possible set of values on the cards—she knows which cards are in the game, and which card she, and therefore not the others, possesses—she can watch the other players' decisions and

make deductions about which players have which cards, and therefore which commodities are valuable to which players.

Computers have an innate capacity for manipulating chance. Though true randomness doesn't exist, computers handle numbers easily and are capable of generating reasonably unpredictable probabilities of any size on the fly. Every computer has access to an infinite number of monkeys rolling an infinite number of dice.

Why is this useful? Because, as we've discussed, games have a unique capacity for improvisation! Though each scene has the same shape—Link battles a gang of Moblins—each performance is different. So what if, in one performance, one of the Moblins comes from the left instead of the right? Digital games have the capacity to create variations on many subtle details in every play, keeping the experience from becoming stagnant.

The differences don't have to be subtle, either. In Chris Klimas and Joel Haddock's online game, *Where We Remain*,[38] for example, the player is a boy searching for a girl on an island patrolled by monsters that are intended to evoke characters from Greek mythology. The layout of the island—what tools are hidden in which caves, what areas which monsters patrol, and in which cave the girl is hidden—is different every time, decided by a random number generator. In effect, this randomness makes the characters and events of the game more archetypal because the emphasis is on the shape of the game—the boy's search for the girl while monsters pursue him—rather than on the details like what treasure is hidden where. Games have lots of room for improvisation, for every play of a game or scene to be unique, and digital games in particular have easy access to a great degree of chance.

Games as Culture

I keep bringing up the profound influence role-playing games like *Dungeons & Dragons* have had on digital games. Both Eastern and Western videogame trends have their roots in *Dungeons & Dragons*, but both experienced and responded to that influence in different ways, much as Chess and Hnefatafl reflect different experiences of and responses to warfare.

Character creation is an important feature of role-playing games: the players literally describe the role they intend to play, both in narrative terms (what is this character's background and personality?) and in mathematical ones (how many times can this character be hit by dragon breath before she collapses?).

The American game *Wizardry*, created in 1981 by Andrew Greenberg and Robert Woodhead, was an attempt to bring the dungeon exploring and monster battling of *Dungeons & Dragons* to the computer. (It has plenty of peers with similar intentions and similar properties, but it's a good example for discussion.) In *Wizardry*, the player controls a team of up to six adventurers, similar to a team of player characters in *D&D*. Each of these adventurers is, fundamentally, a set of statistics (Strength, I.Q., Piety, Vitality, Agility, Luck, Age), a Class (the character's job or specialization), and a list of Spells (tactical magical abilities characters can use to help with combat or exploration). Character creation is held over from tabletop role-playing games, but in *Wizardry* it loses its narrative dimension. Players "roll" statistics (as with dice) and assign character classes and ability sets based on those random "stats," and that is the extent of characterization.

Character creation is present in many Western digital role-playing games, though implemented in different ways. The *Ultima* games, which I've mentioned before, ask the player a

series of moral choices that determine which character class she plays as. Games like Michael Toy and Glenn Wichman's *Rogue*, which borrows its combat rules directly from *D&D*, skip character creation but assign the player's character no properties beyond this set of stats.

Yuji Horii's *Dragon Quest*[39] is similar to early Western digital role-playing games: character creation is limited to entering a name, which also determines your stats via a hidden algorithm. *Dragon Quest* was widely imitated in Japan, in addition to receiving many of its own sequels, but over time Japanese games broke with the mathematical focus of character creation in Western games. The trend Japanese digital role-playing games tend to follow is to have the player character be increasingly designed by the game designer. In the *Final Fantasy* series, characters wear outfits designed by the authors, answer to names chosen by the authors (though the player is sometimes given the choice of changing these names), and speak scripted dialogue that the player has little say in.

Compare a 2002 Japanese game like *Kingdom Hearts*, a collaboration between the authors of *Final Fantasy* and the Disney corporation, to a 2008 American game like *Fallout 3*, produced by Bethesda Game Studios. In *Fallout 3*, the player not only names her character, but also designs her face and appearance and decides on her race and gender. In *Kingdom Hearts*, the player plays a character named Sora, who is given clear motivations by the writers and dialogue by voice actor Haley Joel Osment and whose name cannot be changed. Sora's appearance in *Kingdom Hearts* is mostly static: he changes appearance to fit some of the worlds he visits, but the only part of him the player is allowed to change is what his weapon looks like when he's swinging it. His outfits, designed by the game's art staff, are law, as is his race and gender: white and male.

Why has character creation remained such a fixture of American interpretations of digital role-playing games while Japanese role-playing games have phased it out? It could possibly reflect that America is a young country, and a nation that has been capitalist almost since inception. American culture sells the idea of individuality and ego. In Japan, a much older country in which social roles are valued (and connected to uniforms), role-playing might more easily mean playing the role to which you've been assigned. (In Yuji Horii's *Dragon Quest*, the protagonist's sole characterization is that his ancestor is a hero.) There's an ongoing dialogue between Eastern and Western design these days, so none of these trends are exclusive (and they've never ruled all of design, obviously), but there are clear patterns in games that we can trace to the values of the people who created them.

Games tell stories that communicate the values of their creators in a unique way: not just through their explicit content but through the logic of their design, and the systems they choose to model. And if games communicate the values of their creators in a unique way, then it's absolutely essential that there be more creators passing on more values, more perspectives. Games must become more personal.