CHAPTER 1

LANGUAGE

This is a book about game design—videogame design, specifically. In 2014? Why? We've been making digital games for more than 50 years, if you take *Tennis For Two* (1958) as an arbitrary starting point. You'd think 50 years would give game creators a solid foundation to draw from. You'd think in 50 years there'd be a significant body of writing on not just games, but the craft of design. You'd think so, but you'd be disappointed. Every day, playing contemporary videogames or reading about them, I see evidence that what both creators and critics desperately need is a basic vocabulary of game design.

Signs Versus Design

New Super Mario Bros. Wii, released by Nintendo in 2009 (see Figure 1.1), is a sequel or a remake of *Super Mario Bros.* from 1985. Though the newer game diverges pretty quickly in design from its progenitor, the first few screens of the first level of *New* are arranged in deliberate mimicry of the same screens from the 1985 version. The player (or players, in the case of *New Super Mario*) starts on the left side of the screen; to the right, there's an enticing, flashing block with a question mark on it, floating just above the ground. Then the game's most basic enemy trundles toward the player to the left. After that, you see two parallel platforms made of hovering blocks, some breakable, some that contain rewards, one of which contains power-up items for the players. After that, there's a tall obstacle that the player has to jump over to progress further: a big green pipe in the 1985 game, the side of a cliff in the 2009 one.

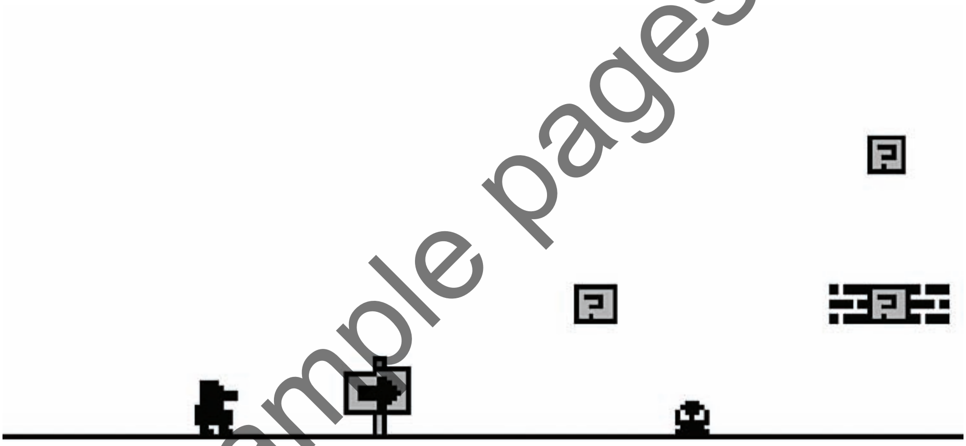

Figure 1.1 *New Super Mario Bros. Wii* starts with an arrow pointing to the right.

Super Mario Bros. was many people's first videogame; there were almost no games similar to it at the time. *New Super Mario Bros*., in contrast, has almost twenty years of related games as precedent. Despite that, the 1985 game leaves one thing out that's present in the 2009 game: a big sign with an arrow telling the player which direction to go.

What happened between 1985 and 2009 to cause game creators to lose that much trust in the player? The player of *New Super Mario Bros. Wii* gets off easy, in fact, as far as "tutorials" go. Lots of contemporary games feel the need to explain to the player, via game-interrupting exposition and big stupid dumps of instruction text, how they are played. Many games even keep the player from starting the game until she's proven she knows how the buttons work, making her jump in place, in a contextless situation, like a trained pet.

This is shockingly popular. I see it not just in the big-budget commercial games that have the economic incentive to keep as few players from getting confused as possible, but also in smaller games, in freeware games, in games created by one or two people working out of their bedrooms. When I met Pietro Righi Riva, one of the creators of the downloadable game *Fotonica*, at the 2012 Game Developers Conference (GDC), the first thing he said to me referred to my take on *New Super Mario Bros. Wii:* "You were right. That game didn't need a tutorial." This kind of blunt instruction speaks not just to a disrespect for the player's intelligence—and one that influences how she feels about the game, make no mistake—but also to a lack of confidence on the part of the creator.

Super Mario Bros., 1985, didn't need a tutorial. It used design, a communicative visual vocabulary, and an understanding of player psychology—gained from watching players play the game, changing it, and watching them again—to guide the player to understanding the basics of the game. Those first screens teach everything the player needs to know: Mario starts on the left of an empty screen, facing right. The floating, shining reward object and the slow but menacing monster—set in opposition to Mario by walking in the opposite direction—give the player an incentive to jump. The platforms are a kind of jungle gym where the player can experiment with jumping, discover the properties of various kinds of blocks, and encounter her first power-up. Even if the player's not sure whether the power-up is dangerous, it moves too quickly and in too confined a space to be avoided. When the power-up turns out to benefit Mario by making him grow, the player has learned something about how monsters and power-ups look and behave in this game. Then the final pipe barring access to the rest of the game makes sure she knows that the height of her jump is dependent on how long she holds down the button.

You can argue that coding a game in 8605 Assembly for the Nintendo Entertainment System in 1985 was much more demanding, and building a dedicated "tutorial" into the game would have been harder. People like to point to technological justifications for things in digital games because most videogame fans are sold on the idea that the history of games is a history of technology. If there were technological reasons that dissuaded the designers of *Super Mario*—Shigeru Miyamoto and Takashi Tezuka—from training the player through instruction text and encouraged them to use design to teach the player, then God bless the limitations of 1980s game machines. Design is not technology. The printed manual packaged with the game contained more information about how to play, but perhaps keeping in mind how often manuals go unread or get lost far before the software they accompany, Miyamoto and Tezuka made sure that the game itself could convey understanding through playing.

Someone in 2009 looked at the opening screens of the original *Super Mario Bros.*—someone had to, to copy these screens note for note into the first level of *New Super Mario Bros. Wii*—but didn't understand what they meant or why they were so effective. Why are game creators unable to understand and learn from their own history? Why are they bumbling over problems that were solved almost 30 years ago?

Digital games have exploded commercially since 1985—in fact, *Super Mario Bros.* was proceeded by more than a decade of successful videogames—and we've consequently learned a lot of new words with which to talk about and describe videogames. Unfortunately, those words come from marketers, brand-loyalty Internet arguments, and magazines that exist as extensions of publishers' PR departments. The language that exists to describe videogames is facile when applied to the very real problem of discussing design.

Most designers, lacking the vocabulary with which to discuss, analyze, and criticize game design, operate largely by intuition and instinct. And there's a lot to be said for intuition and instinct: A lot of radical decisions are made by instinct and then only understood in hindsight. But what if a designer is working in a team? What if someone else is drawing the characters that will appear in a game? What do they need to convey, and what does the designer need to tell them? What if a designer is working with another designer? How will the two communicate about the needs and direction of the game?

I'm not the first person to notice this problem. Back in 1994, game designer Greg Costikyan wrote an essay all about it, called "I Have No Words & I Must Design." At the beginning, he says, "We need a critical language. And since this is basically a new form, despite its tremendous growth and staggering diversity, we need to invent one." He was right then, and he still is.

Consider that we're all in a team—difficult in light of the practices of most contemporary publishers, I know—and that we all have access to this tremendous, growing resource of game design solutions: every videogame that has ever been made. By understanding those games—how they work or don't work, what they're doing and why—we get better at making our own games. We don't repeat problems that were long ago solved, like how to convince the player to go right. But how can we understand those games if we don't have a language with which to talk about them? How can we have a discussion?

Once upon a time, I studied creative writing. Someone would submit a story, everyone else would read it, and then we'd sit in a circle and people would offer their critiques, with the goal of allowing the author to improve the story and, in the process, improve her own writing ability. This was called "workshopping" a story. We would talk about things like how a story was paced, how certain passages or phrases helped—or failed—to characterize the characters of the story, which parts were weak, and which succeeded.

No game creator wants to put a tutorial into her game, to make the player press the jump button five times before being allowed to press the shoot button five times. A game creator puts a tutorial into a game because she lacks confidence in her ability to teach the player the rules of her game without explicitly stating them upfront. In a board or card game, it makes sense that the players should be aware of the rules upfront because they're the ones keeping the rules. But the great strength of digital games is that, because the computer is performing the task of enforcing the rules and tracking the numbers, the game can withhold some of the complexities of the rules from the player. When the player discovers those complexities later, it feels like a story is developing.

How do we lead the player to those discoveries? That's called "design." And, frankly, I don't think we, as designers, are doing enough of it.

What game designers need is a workshop—the means to design, have their design critiqued, and improve their craft. We need to be able to discuss design as a craft. And if we're going to discuss game design, the first thing we need is a vocabulary.

Failures of Language

We're not lacking for words to use to describe videogames. But those words were created to sell videogames, not to describe the process of creating and understanding them. Our games vocabulary is peppered with buzzwords, invented by someone in marketing for a press release and regurgitated into a games magazine. Next the words are on the Internet, slung back and forth by forum posters, and then, finally, I hear an otherwise intelligent game developer use a meaningless word to describe a game.

Here's a brief glossary of some of the words I hear a lot and what they might mean:

- **Immersive**—Game takes place underwater
- **Fluid**—Game is actually made of water
- **Flow**—Current of the liquefied game

These words don't have to be nonsensical. In fact, we'll be talking about meaningful ways to talk about "flow" later in this book. When buzzwords are used without context or nuance to promote a game, as part of a press release or blurb, they might as well be meaningless.

When we use meaningless words to talk about games, our ability to describe them becomes more confused; our language for describing them becomes less concrete. But we've bought into this sort of thing in a big way, the same way we've bought into the idea that a game is composed of "graphics," "audio," and "replayability." We're used to thinking of games in those terms, but who gave us those terms?

It was the games press. The terms we think about videogames in are taken from *Consumer Reports*–style reviews of games. *GamePro* magazine would divide games into "graphics," "sound," "control," "fun factor," and "challenge" and then give the game a score of one to five in each of these categories. Doesn't the way a game looks have a relationship to how it plays, though? Don't the way things move in a game tell you a lot about how the game controls? Don't sounds characterize the interactions that they accompany? Doesn't the challenge of the game affect what the experience of the game is—the "fun factor"?

The fact is that although these categories may seem dated, we nonetheless allow them to inform the way we think about games. Instead of considering a game holistically, we mentally divide games into categories. It's especially easy to do within a bigger group or studio, where all these categories may be separate jobs performed by separate people. But what something in a game looks like, for example, tells the player what to think about it, what expectations to have. "Graphics" are part of design. So is sound, and how the game controls, and every part of the experience of a game. We're trained to think of all these parts of a game in isolation.

Our language limits us in other ways. We've bought into the established "genres" of video-games: the shooter! The strategy game! The platformer! These categories make it hard to describe, to pitch, to even imagine games outside of the ideas that are already established. When I created *dys4ia* in March 2012, an autobiographical game about my own experiences with hormone therapy, many players and critics, though they admired the game, questioned whether it actually was a game after all, because it didn't fit their genre-influenced preconceptions of how games should work and what "ought to" happen when you play them.

The language that we use to talk about games constrains the way we think about them. We don't have a vocabulary that can fit games that are as diverse as, say, a game about hormone replacement therapy that relates events that really happened to me and isn't a struggle for victory or dominance. And so the language of games is a language of exclusion. Game culture's vocabulary frames discussions in such a way as to perpetuate the existing values and ideas of that culture, which is problematic when that culture is so insular to begin with.

dys4ia is a traditional game in many ways. It borrows a lot of established game vocabulary to tell its story. Most scenes involve guiding some player-controlled character around the screen to perform a given task. The reason both players and creators fail to recognize it as a game is superficial—we lack the design vocabulary to connect a game about hormone replacement with related games that have more traditional themes.

When I mention "story" in a game to most players and developers, what they think of is cutscenes: an interruption of a game to show a five-minute movie, directed in obvious imitation of a Hollywood production. Or they think of a wall of expository text that the player has to stop and read or, more likely, skip annoyedly past. This is just another symptom of designers' fear of design. The truth is that we already have all the tools we need to tell stories in games—to tell real stories, not exposition—but we don't understand those tools.

Until we learn how to tell real stories in games, "story" is always going to mean "cutscene." Until we learn how to design holistically, games are always going to be broken into "graphics" and "sound" and "control." Until we have a language that can describe games in all their diversity, we will only design "shooters," "strategy games," and "platformers."

By equipping ourselves with a language for talking about design, we are giving ourselves the ability to design.

A Voice Needs Words

When I was little, game development was mystifying to me. I couldn't imagine how any human being could create a game and had no idea where one would even start. By creating a real discourse on game design, we're not only helping existing game creators become sharper, but empowering new game makers with a vocabulary with which to start thinking about and planning design. We're actually giving established creators a means of communicating ideas about design to a newer generation. We're enabling all creators to communicate with and improve each other.

And though people who create games naturally have the most to gain from a real conversation about design, they're not the only ones who would benefit. I'm thinking of critics of games, but not just journalists. We would all become better critics of games—better able to understand them, to analyze them, to communicate about them—if we could cultivate an environment where real talk about games and what they're doing and why was commonplace.

We could have a culture that better appreciates and values games. It may seem ridiculous to suggest that games are undervalued in a culture where tens of thousands of fans flock to conventions like the Penny Arcade Expo to reinforce the great myth that developers and publishers are greater than human. But this isn't appreciation; it's fetishization. Because the myth that game developers are something other than human is just that: a falsehood. But it was this falsehood that kept me, as a child, from realizing that game design was something that I could do and even earn a living doing.

Imagine an audience of players equipped with the understanding to follow and appreciate what game developers are doing rather than merely idolizing them. Certainly there's a "magician's bag of secret tricks" brand of appeal to designing games. After all, we're designing experiences that manipulate players' mental and emotional states (consensually and nondestructively, I would hope). There might be a fear that once players can see the smoke and mirrors, they'll lose a sense of wonder at the trick.

Discussing pacing and expository and characterization techniques in writing has not diminished my appreciation for the written word and admiration for those who can use it well. In contrast, my respect for writing has only deepened with my understanding of technique. I think the average reader is more literate than the average player—not "literate" in the dumb, obvious sense of having read more books, but in the sense of having a wider understanding of the craft that goes into the form they enjoy. It's not surprising that readers might have a better understanding of what they're reading than players have of what they're playing. Not only have the novel and short story been around longer, but writers, being writers, are much better equipped to write *about* the craft of writing and have done so at length.

A "literate" player wouldn't necessarily be a more jaded and dismissive one (we have plenty of those already) but could be a more attentive one, one who was more receptive to weirder ideas.

In my experience as a designer and creator of games, I've had only a precious few experiences where a critic really impressed me with her insight into and attention to one of my creations. Those experiences remind me why I create—to have someone connect with and understand the thing I have designed.

They were also experiences that gave me a better understanding of my own work. What a critic does is articulate an idea that's at work in a game, puts it in a context with other games, with other schools. They help explain the work to others; they start a discussion.

That's what we do when we talk about design and our design decisions: we start a discussion. And we allow others to join in that discussion, to participate in the dialogue, to contribute. Why is this subject important enough to warrant a book? It's not just so that a handful of industry developers can consider themselves a little more savvy. It's because shattering the silence around game design creates a conversation that everyone can learn from, whether they want to become game creators, whether they didn't realize they wanted to make games until they learned that developers are just as human as they are, whether they want to be informed critics, or whether they're content just to be better-educated players. An open conversation about game design demystifies this form that we care about and empowers us with the means to better understand, think about, and, if we wish, to make digital games.

A Beginning

What is this book? It's my attempt at furthering the discussion of design that we need so badly. We need more books that can kick off this conversation and give it places to start. For a while I was attending a game school called The Guildhall at Southern Methodist University, majoring in level design (I got kicked out after a few months), and it was pretty clear to me that my instructors didn't know where to begin teaching design. We watched videos about parallax scrolling in Disney movies, and we took a test on *The Hero's Journey*.

Now, I'd be the first to admit that game design is "interdisciplinary"—that game designers benefit from having a lot of different skills, from understanding things like how to animate depth to what kind of stories players expect—but I still saw this wild grasping for subjects as a symptom of the lack of a foundation from which to teach game and level design.

I also vaguely remember the level design textbook we had to read, which was biased toward a single kind of game. Remember what I said about games discourse reproducing the same kinds of games over and over? The book was clearly written with first-person shooters in mind; I remember a whole chapter on lighting. And while the principles of using lighting to create a mood are interesting and definitely of use to a level designer, we should save the specifics for after we have a grasp of the basics.

Since Greg Costikyan pointed out how badly we needed a vocabulary, many books on game design and development have been written. Some revolve around a particular kind of game; others talk about how to work on big teams with programmers, artists, and project managers, which is great if you're going to work at a huge company, but it's not quite as useful if you're part of the growing number of game creators working in really small groups. We've got game design books that focus on theoretical questions about games and fun, or on how to study games like the cultural artifacts they are. There are even books that have made strides toward establishing a new vocabulary to talk about games. We still have very few books that are meant to serve as a beginner text for game design—especially books that are applicable to games in all their dazzling diversity.

It's my hope that this book can be as universal as possible, that the framework described within can fit as wide a body of games as my perspective can manage. But I'm not unbiased. This book began life as a guide to designing platform games like *Super Mario Bros.*—or my own *Mighty Jill Off* (2008) and *REDDER* (2010)—before it became something else. If my tendency toward a certain kind of game in this text shows, I apologize.

This book is also specifically about digital games, or videogames. This isn't because board games, card games, folk games, or other nondigital games aren't worthy of interest or design. In fact, videogames share a history with this vast continuum of games, and we have a lot to learn from them. (In fact, many design ideas in digital games are borrowed from nondigital ones.) Because the human players of nondigital games are the ones required to keep, and internalize, the rules, there's a stronger existing discourse about design among board game players and authors than digital games have ever possessed.

What makes videogames so worthy of discussion is their capacity for ambiguity and, hence, storytelling. The computer keeps the rules in a digital game, so a player on level one might not know what level three looks like, that her character is going to lose her legs before the end, or that there's some playing technique she will have to become aware of and master in time but is unaware of this early. The ability to withhold information from the player, and to give her the liberty to discover rules and complexities of those rules on her own, makes the design of digital games so interesting. Plus, their capacity for using visual art, animation, and sound, while not completely unique to digital games, is a facet of design that warrants more discussion.

What *isn't* this book? It's not a guide to any single tool or technology. This book won't help you learn how to edit *Unreal* maps. There are resources for that and for any other game-making tool or editor you're called upon to use. To write this book with any one technology in mind would be to write a more limited book. This book is about design. Design is not technology.

This book can't be the perfect tome that covers all games and all aspects of design. It can't be the ultimate book on game design—the last and only book you'll ever need on your shelf—because it's one of the first. So this book will have a few holes. If this book has the intended effect, readers like you will step forward and write the words that are missing.

This book is intended above all to start a discussion, to be a starting place for a necessary talk about design that hopefully will continue long after. Once you break a silence, it's impossible to get folks to shut up. Criticize this book and tear it apart—as long as we keep talking about what design is.

Here is a book on digital game design. May many more follow.