

## DEFINING RULES



**formal structures**

**artificial**

**limits**

**unambiguous**

**fixed**

**binding**

**repeatable**

*The rules of chess, of course, state how the pieces may be moved; they distinguish between legal and illegal moves. Since the knight, for example, is permitted to move only in a highly restricted manner, it is clear the **permitted***

*means for moving the knight are of less scope than the **possible** means for moving him.—Bernard Suits, Grasshopper: Games, Life, and Utopia*

What are game rules? Let's begin with a simple example, one of the most minimal games we can find: Tic-Tac-Toe. The game of Tic-Tac-Toe is defined by the following set of rules:

1. Play occurs on a 3 by 3 grid of 9 empty squares.
2. Two players take turns marking empty squares, the first player marking Xs and the second player marking Os.
3. If one player places three of the same marks in a row, that player wins.
4. If the spaces are all filled and there is no winner, the game ends in a draw.

These four rules completely describe the formal system of Tic-Tac-Toe. They don't describe the experience of playing the game, they don't describe the history and culture of the game, but they do constitute the rules of the game. These four rules are all you need to begin playing a game of Tic-Tac-Toe.

Astonishingly enough, these simple rules have generated millions and millions of hours of game play. Armed with these rules, any two Tic-Tac-Toe players can be assured that when they begin play, they will both be playing the exact same game. Whether played in front of a computer terminal or scratched in the sand of a beach, every game of Tic-Tac-Toe shares the same basic formal identity. In this sense, rules are the deep structure of a game from which all real-world instances of the game's play are derived.

## A Deck of Cards

In exploring games as formal systems it is important to determine exactly what are and are not rules. Rules are the logical underbelly beneath the experiential surface of any game. But because games are innately structural, it can be tricky to distinguish which structures in a game are part of the rules and which are not. For example, what elements of the game of Poker constitute the rules of Poker? Some structures are unambiguously part of the rules. The guidelines that dictate how many cards to deal to each player, how to bet, and the

value of different combinations of cards all clearly seem to be part of the game rules.

Any complete set of rules of Poker will also reference a deck of standard playing cards. This deck of cards is part of the rules, because the particular mathematical qualities of the deck (the exact number of cards, the fact that each card is defined by a number and a suit, etc.) are a crucial part of the game. Most variants of Poker, for example, specify whether or not Jokers are to be used. The constitution of a deck of playing cards is always part of the rules of Poker, even though this element of the rules usually goes unstated. The relationship between stated and unstated rules will come up again in later chapters. For now, it is enough to know that the rules of Poker contain—or at least imply—the precise structure of a deck of playing cards.

What if the deck of cards was altered by changing its four suits? Would we still be playing the same game? Perhaps Spades becomes Death, Hearts becomes Love, Clubs becomes War, and Diamonds becomes Sex. The change might entail a graphical alteration to the suits as they appear on the cards or the name by which players refer to the cards. (*“I’ve got an eight of War.”*) This seems like a radical change to make to a deck of cards. But on a formal level, nothing has changed at all: the game remains the same. Players could, with this deck, still play a game of Poker, as long as the deck was composed of four suits in a rank order and 13 numbers. Some aspects of certain Poker variants, such as playing with Red Queens as wild cards, might require a translation to the new deck, but as long as the game’s formal structure remained intact, designating the Queens of Love and Sex as wild cards is the same as making the Red Queens wild in a regular deck. Of course it goes without saying that the *experience* of playing Poker with such a deck would be different than the experience a player would have with a standard deck. But the formal system of a game, the game considered as a set of rules, is *not* the experience of the game. Therefore, when looking at games from the point of view of rules, we are less concerned with player experience than with the rules

constituting the experience. Although this distinction creates an artificial separation between the structure of a game and players' experience of the structure, the separation allows us to look at games as formal systems.

Formally speaking, as long as a deck of cards has the proper mathematical qualities, it can be used to play Poker. In fact, as long as the game "cards" have the right kind of  $4 \times 13$  information and can be randomized (shuffled), distributed (dealt), and properly kept hidden when necessary (in a hand), they would not have to be cards at all. They could be, for example, carefully marked Popsicle sticks. It would be possible to play a game of "Poker" that would not resemble Poker on the surface, and might not be recognized as Poker by observers, but would still possess the formal structure of Poker.

How is this possible? When we talk about the rules of a game—the formal identity of a game—we are not referring to aesthetic qualities (such as the names of the suits) or representational identity (such as its ability to be recognized by an observer). We are limiting the focus to the set of rules, or formal structures that constitute the game. Looking purely at the rules of a game means repressing many other fascinating qualities of game play and game culture. This is not an easy thing to do. But as we will see, the rules of games are among their most unique features and deserve careful study—analytic study that can be of great benefit in solving game design problems.

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## Rules and Strategy

One note of clarification about the difference between the rules of a game and rules of strategy: rules as we understand them here as the formal structure of a game are not the same thing as strategies for play, even though the two might seem similar.

While playing Tic-Tac-Toe, you might devise a "rule of thumb" to assist your play. For example, if your opponent is about to win, you need to place a mark that will block your opponent. This kind of strategic "rule" is an important aspect of games (for example, you might use rules like this to program a computer opponent for a

Tic-Tac-Toe game), but these rules of strategy are not part of the formal rules of the game. The actual game rules are the core formal system that constitutes how a game functions. Rules that help players perform better are not a part of this formal system.

## Other Kinds of Rules

Often, when we investigate a particular quality of games, we compare them to other forms of culture. Comparison helps situate games within a broader context and also highlights the qualities of games that make them unique. One of our primary intentions is to understand what makes games distinctive and what makes game design unique as a field. But that does not mean that the only kind of comparisons to make are the ones that set games apart from everything else.

Case in point: in trying to figure out exactly what game rules are, it is helpful to ask, *Are rules unique to games?* The answer is both yes and no. There are certainly “rules and regulations” in many kinds of activities. For example, conventions of etiquette are behavioral rules; so are laws of a state or the international “rules” of war. A sign to “keep off the grass” communicates a rule, and so does a memo about a school policy that forbids cheating on tests. Some might define science by saying that it uncovers hidden rules of nature, that molecules, for example, obey certain rules when they combine. If rules are guidelines that guide and direct behavior, there are many contexts in which people or phenomena do seem to “follow the rules.”

The word “rules,” like the words “play” and “game,” can be used in many different ways. For the purposes of game design, it is important to consider in what ways games make use of rules. Perhaps a better question than “Are rules unique to games?” is, “What is unique about the rules found in games?”

Games are artificial systems, separate in some way from ordinary life. The authority of game rules only holds sway within the limited context of the game. The laws of a state, on the other hand, permeate the lived experience of its citizens in a much less limited way. It is true that laws are a social construct, as are game rules. However, from a formal point of view, the artificiality of

games keeps their rules from having an impact outside the magic circle of the game. As game designer and philosopher Bernard DeKoven states, “I consider a game to be something that provides us with a common goal, the achievement of which has no bearing on anything that is outside the game.”<sup>3</sup>

## Qualities of Rules

*The rules of a game are absolutely binding and allow no doubt.*—**Johann Huizinga**, *Homo Ludens*

*Rules are what differentiate games from other kinds of play. Probably the most basic definition of a game is that it is organized play, that is to say rule-based. If you don't have rules you have free play, not a game. Why are rules so important to games? Rules impose limits—they force us to take specific paths to reach goals and ensure that all players take the same paths. They put us inside the game world by letting us know what is in and out of bounds.*—**Marc Prensky**, *Digital Game-Based Learning*

What are game rules like? What sets them apart from other kinds of rules? How do they function in a game? Consider the following list of rule characteristics:

- **Rules limit player action.** The chief way that rules operate is to limit the activities of players. If you are playing the dice game Yatzee, think of all of the things you could do with the dice in that game: you could light them on fire, eat them, juggle them, or make jewelry out of them. But you do not do any of these things. When you play a game of Yatzee, you follow the rules and do something incredibly narrow and specific. When it is your turn, you roll the dice and interpret their numerical results in particular ways. Rules are “sets of instructions,” and following those instructions means doing what the rules require and not doing something else instead.
- **Rules are explicit and unambiguous.** Rules are complete and lack any ambiguity. For example, if you were going to play a board game and it wasn't clear what to do when you landed on a particular space, that ambiguity would have to be cleared up in order to play. Similarly, rules have to be totally explicit in what they convey. If you were playing baseball in an abandoned lot and a tree was being used as second base, ambiguities regarding what counted as second base could lead to a

collapse of the game. What can you touch and still be on second base? The roots? The branches? Or just the tree trunk?

- **Rules are shared by all players.** In a game with many players all players share the same set of rules. If one player is operating under a set of rules different than the others, the game can break down. Take the abandoned lot baseball game example. If one player thinks that touching a branch of the tree is legally touching second base, but another player thinks that only the trunk is the base and tags the runner when he is holding onto a branch of the tree, is the player “out”? When the disagreement is raised, the game grinds to a halt. For the situation to be resolved, allowing the game to continue, all players must come to a common understanding of the rules and their application within play. It is not enough that rules are explicitly and unambiguously stated: the interpretation of the rules must also be shared.
- **Rules are fixed.** The rules of a game are fixed and do not change as a game is played. If two players are playing a game of Chess and one of them suddenly announces a new rule that one of her own pawns is invulnerable, the other player would most likely protest this sudden rule improvisation. There are many games in which changing the rules is part of the game in some way; however, the way rules can be modified is always highly regulated. In professional sports, for example, changes to rules must pass through a legislative process by governing organizations. Even in games in which the rules are changed during play itself, such as the whimsical card game Flux (in which playing a card can change the overall game’s goals and rules), the ways the rules change are quite limited and are themselves determined by other, more fundamental rules.
- **Rules are binding.** Rules are meant to be followed. Part of the “magic” of the magic circle is that the rules contain their own authority. The reason why the rules of a game can remain fixed and shared is because they are ultimately binding. In some games, the authority of the rules is manifest in the persona of the referee. Like the rules themselves, the referee has an authority beyond that of an ordinary player. If players did not feel that rules were binding, they would feel free to cheat or to leave the game as a “spoil sport.”

- **Rules are repeatable.** Rules are repeatable from game to game and are portable between sets of different players. In a Magic: The Gathering tournament, all the players in the tournament follow the same rules when they square off against each other. Outside of the limited context of an individual tournament, the game rules are equally repeatable and portable. Although games often have “home rules,” such as the many different versions of rules for the “Free Parking” space in Monopoly, these rule variants are just local variants on largely consistent rule sets. In any case, players must resolve ambiguities between sets of “home rules” in order to play a game.

These qualities of rules are in operation whenever one plays a game. If any of these qualities are not in effect, the game system may break down, making play impossible. If rules are ambiguous, players must resolve the ambiguities before play begins. If rules are not binding, players won't respect their authority and might cheat.

The characteristics on this list constitute the qualities of rules. Describing rules in this way is quite a classical way of understanding games. It is possible, for example, to design a game in which players do not share the same rule set, and resolving this discrepancy is what the game is all about. Or perhaps you want to play a “practice game” with someone, and you won't be obeying all of the rules in order to learn how to play the game. Clearly, the authority of rules is not always strictly obeyed: cheating does happen. As we examine the rules of games from many different angles, some of these qualities may be called into question. But from a strictly formal point of view, these are the general characteristics of all game rules.

### **Rules in Context**

If you think all of this talk about fixed and authoritative rules makes games seem a bit constraining, you are right. Out of all of the possible forms of play, from casual Frisbee-tossing to playful lovemaking, there is something slightly stuffy about games. A completely open-ended game, where rules are constantly invented (such as the example of invulnerable pawns above) is probably not a game by our definition. Although game play can be freewheeling and



highly spontaneous, there are other forms of play more improvisational than the play typically found in games. But there is a special kind of lucidity and intelligibility about games. “Real life” is full of ambiguities and partially known information, but that is one of the reasons why games as designed systems are artificial and distinct from daily existence. In ordinary life it is rare to inhabit a context with such a high degree of artificial clarity. These peculiar characteristics of games give rise to the wonderfully unique qualities of game experience. But experience comes into play in later chapters: let us return to rules.

From a formal, rules-based point of view, what does it mean to take part in a game? To play a particular game, players voluntarily submit to the game; they limit their behaviors to the specific restrictions imposed by the game rules. Once play begins, players are enclosed within the artificial context of a game—its magic circle—and must adhere to the rules in order to participate. If you are playing Candyland, who cares which plastic piece reaches the final space first? The other players do, of course. They are the ones who, like yourself, have stepped into the game’s magic circle, a shared space of play created by the rules.

There is a vast gap between the rules of Candyland and the experience of the game in play. In the rest of the chapters within **RULES**, we begin to cross that gap by looking at how sets of rules become systems of play. A number of different game design schemas will assist in this task, as we consider games as systems of emergence, uncertainty, information, feedback, decision making, and conflict. We even consider games as systems of rules to be broken. But before leaping into these schemas, it is necessary to understand rules in and of themselves, as formal systems. In the next two chapters, we build a more concrete foundation for understanding exactly what rules are, including the rules of digital games.

## Defining Rules

### SUMMARY

- **Rules** constitute the inner, formal structure of games. All games have rules, and rules are one of the defining qualities of games.
- Rules are not the experience of play. It is possible to make experiential changes to a game (such as changing the names of the four suits in a deck of cards) without changing the rules or formal structures of a game.
- Game rules as considered under the Primary Schema of **RULES** are different than rules of strategy. Strategic “rules of thumb” help players to play a game, but do not define the formal identity of a game.
- Game rules are different than the rules of etiquette, law, war, or other social rules. Games are intrinsically artificial and separate from “real-world” contexts, whereas these other forms of rules are not separate from ordinary life.
- Following are the general characteristics that all game rules share:
  - **Rules limit player action**
  - **Rules are explicit and unambiguous**
  - **Rules are shared by all players**
  - **Rules are fixed**
  - **Rules are binding**
  - **Rules are repeatable**

Although some games question and violate these characteristics, these are the common traits of game rules considered from a strictly formal point of view.

