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5.MAKING AND BREAKING GAMES: A TYPOLOGY OF RULES

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ABSTRACT

The paper introduces a particular approach to the study of rules. Different aspects of rules are studied: what are their functions, what do rules govern, what is a ruleset, and what are the elements in a game that rules govern. Five elements are discussed: components (pieces/player characters/etc.), procedures associated with components (moving them or manipulating them in other ways), environments that define the physical boundaries of a game, theme that gives the game a subject matter, and interface which is used to access the game. The author introduces five types of rules, each type relating to a game element. The typology provides a better understanding of rules as a fundamental structure of games, and it can also be applied as a tool for analysing individual games' structure and ruleset.

KEYWORDS

Rules, game environment, game mechanics, game rhetorics, gameplay

INTRODUCTION

The question "What is a game?" has been answered numerous times. Often the answer has been produced in the form of a multi-faceted definition. E.g., Caillois [3], Avedon & Sutton-Smith [1], Crawford [7], and Costikyan [6] have suggested definitions. These and other efforts have been reviewed thoroughly by games scholar Jesper Juul [9].

My interest is not to provide another definition, but to acknowledge the previous ones and lead on from there, onto smaller details. Therefore, we will opt to pose a set of questions from a slightly different angle: "What are games made of?" and "What is in a game?"

What has been lacking from the field of game studies are systematic definitions and analysis of rules, at least outside of mathematical game theory, which is mainly interested in how different outcomes of a game are reached based on the player's decisions (see, e.g. [3]). Any of the above-mentioned theories do not include detailed studies of rules. This paper suggests a particular approach to the study of rules. As the title suggests: how rules *make* a game, and how games can be deconstructed, *broken* down by analysing rules.

GAMES AS STATE MACHINES

An important notion in this discussion is understanding games as dynamic systems that produce various states of affairs during their operation. In practice: the score changes, and/or the challenges take different shapes, and so on. Games are 'state machines'. Juul states, referring to system theorists, that it is the rules that provide a state machine, "a system that can be in different states, it contains input and output functions and definitions of what state and what input will lead to what following state" [9]. When playing a game, the player interacts with the state machine. I will use the term 'game-system' when referring to this systemic nature of games.

An individual game state is a particular state of affairs in the game that the player(s) play within or work towards changing. Often games encourage players to do this by stating different goals and presenting challenges. For instance, individual states change in *Tetris* with each tetramino block that appears, presenting a renewed challenge for the player. Each different position of the tetramino can be seen as an individual game state. The game proceeds in light of the current game state and its resolution. When the player has dealt with the tetramino, the states related to that particular tetramino are resolved, and another state follows.

Game states are always temporary, but their duration varies across different games and genres. Their relation to each other can also be different. Either the states follow each other in temporal hierarchy, or all states are equal. In the first case, the following state is always influenced by the result of the previous one. For instance, the new state might present a more difficult challenge, if the previous one was dealt with successfully. If all the states within a game are equal, their relations are usually evaluated after a pre-determined period of time has passed, or a number of rounds are completed. This is true of most sports games, such as soccer, ice hockey, basketball, baseball, and so on. In 'sudden death' type of situations, the end of the of game, and thus the victory condition, is tied to one change of particular game state. This is the case in simple digital games like *Pong* as well, where missing the ball causes the unfavourable change of game state. This state is possibly a terminal one, i.e. results in 'game over'.

There are also game states of different degree and nature. In Chess, and *Tetris*, individual states are easily distinguishable from each other – a completed move always introduces a new state. Then again, in soccer, there are major and minor game states: major states have to do with the scoreline changing, i.e. when a goal is scored, whereas the changes in possession of the ball are considered minor states as are the positions of an individual tetramino in Tetris. This means that both Tetris and soccer players spend most of the game dealing with minor game states.

In any case, in both examples, the players' general task is to work towards changing the game state. Rules govern both the game-system's and the players' behavior from one state to another.

WHAT ARE RULES, ANYWAY?

'Every game *is* its rules',
for they are what define it. [12]

David Parlett's statement provides a simple answer. However, it is obvious that there are other, more or less minor elements to games than rules. But are there elements that function outside the rules, or have any meaning outside the rules?

The answer is yes and no. There are certain traits having to do with the so-called theme of the game that are not directly rule-bound. These elements

could be replaced with others and the game would not change, at least in formal sense: *Star Wars Chess* is still Chess, albeit with Star Wars characters replacing the traditional pieces. Generally, if such elements in a game, that both function in relation to rules and have meaning in relation to them, are changed, this change results in changes in the gameplay as well. In this way, rules having to do with the theme function on a different layer of a game's formal structure than the pieces and the Chess grid. These elements and layers will be conceptualised later.

Merriam-Webster's Collegiate Online Dictionary defines "rule" as follows:

> 1 a : *a prescribed guide for conduct or action* b : the laws or regulations prescribed by the founder of a religious order for observance by its members
> c : *an accepted procedure, custom, or habit* d (1) : a usually written order or direction made by a court regulating court practice or the action of parties (2) : a legal precept or doctrine e : *a regulation or bylaw governing procedure or controlling conduct.*[1] (Italics by AJ.)

The emphasised phrases are relevant in the context of games. Based on this, my premise is that rules of digital games are accepted and prescribed, and they govern action. This governance adopts the form of procedures that lead to so-called game mechanics, which give birth to the more or less 'guided' player behavior and 'habits'. The definition focuses our attention to the 'conduct' within a game, i.e. how gameplay is circumscribed, and with what elements is this achieved.

Rules are based on principles, i.e. assumptions of what the player can, should, and cannot do: "this is the purpose of the game", "the player is allowed to do this", "the player has to do this", "the player can not do this". These are tied to specific states of the game, which take the form of specific game elements: components, procedures, environments, and interfaces, and the specific challenges they each present.

FUNCTIONS AND REQUIREMENTS OF RULES

Why do games need rules? First, so that we would have a game that can be played more than once, and so that the game could be communicated to others than the one(s) who invented the game.

Second, games need rules in order to begin, progress, and end. If the rules are not fixed and prescribed, the game will not advance: the game-system will stall on one state of affairs until the rules are negotiated and accepted for good. There should also be a clear definition of when the game will end. Therefore, rule design is about anticipating and mapping all possible states of affairs – states of the state machine – in the game. It is about adding rules, testing them, and after that, possibly removing or modifying them.

Third, rules give games their structure, a particular structure that makes them interesting and provides enjoyment from playing the game. Rules both allow and disallow actions, giving the players at once possibilities but also constraints. Rules define the margin of error that the player can play and test her skills within, and/or they set up the boundaries for performance and expression. As Caillois puts it: "The

[1] 'Rule', Merriam-Webster's Collegiate Online Dictionary. http://www.britannica.com/dictionary?book=Dictionary&va=rule&query=rule

game consists of the need to find or continue at once a response *which is free within the limits set by the rules*. This latitude of the player, this margin accorded to his action is essential to the game and partly explains the pleasure which it excites." [3, 6–7.]

Rules are guides in this sense, as mentioned in the definition above – they are guides for dealing with individual game states. The psychologist Mihail Csikszentmihalyi states that "the rules of games are intended to direct psychic energy in patterns that are enjoyable" [7]. Rules confine players' actions into specified procedures, and playing within these boundaries is what makes games (at least potentially) enjoyable.

There are few games that have few rules. Usually a game has a combination of numerous rules, some of which govern everything that takes place, and some that govern a specific situation in the course of the game. Every rule does not have to be consulted or executed each time a game is being played, or between each game state. Rules' meaning and operation are contextual, but not in any other context than the game being played. This combination of different contextual rules in a particular game is called a *ruleset*. It functions as the superstructure that governs the game.

ELEMENTS OF GAMES

A typology of rules has to based on an understanding of what are the elements that rules relate to. Rules do not mean anything by themselves. They need to be assigned to actions that the players are supposed to take, tools used in the process, and the means that the game-system treats player behavior with.

In an individual game, these actions are produced in the interaction between a ruleset, and the *procedures* it defines in relation to game components (both players and objects) within the game *environment*. These three elements are optionally contextualised with a certain subject matter (quest, conflict, trade, etc.) that provides the game with a *theme*. In digital games, there is often a specialised *interface* that allows the player to access the other elements via procedures, and soforth play the game.

Rules produce each individual possibility and constraint that a game has to offer for its players, and rules are communicated to the players via the internal structure of a game, i.e. the elements. For instance, a wall or a board that bounds the player is an element that, as a part of the game environment, communicates a rule that constrains player movement.

At its core, designing games equals designing rules, or implementing existing rulesets for new games. It is obvious that there are lots of different types of rules: ones governing the number of participants and their interrelations, ones that tell in what succession the game advances, ones that set a point system, ones that take the form of the game environment (board/field/level/world, depending on what kind of game one is playing), etc. A better understanding of different rule types is achieved by defining game elements.

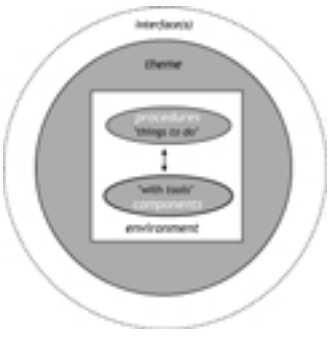

Figure 1. Game elements' relations to each other illustrated.

Figure 1 illustrates on an abstract level how game elements relate to each other and build up a game. As the player invests effort in affecting the outcome and works towards goal(s), she needs to be given something to do, and the tools to do it with. Procedures and components provide these elements, and the game environment provides boundaries for them to be operated within. If there is a theme implemented, it affects both how the environment, procedures and components are put on display and available to the player(s), and which mechanics affect what and with what consequences. Especially with digital games, a specific interface needs to be designed on top of these elements, so that the other elements are accessible to the player.

Star Wars Chess presents a game that uses at least four of the elements: 1) it has components in the form pieces, 2) procedures that state how the components can be moved, and 3) a traditional chess board as the game environment. These three elements are enough to produce the game dynamics of Chess. However, there is also 4) a theme adapted from a popular fiction franchise. The Star Wars license is visible, on one hand, in transforming the traditional pieces into Star Wars characters, but also apparent in how the generic conflict of 'black' and 'white' troops becomes thematised as a war between the 'Empire' and the 'Rebel' forces. Finally, a digital version of the game would require 5) an interface: a mouse, a keyboard or a specialized gaming periperal for enacting procedures.

The five elements are discussed in more detail in what follows.

COMPONENTS

Components are usually represented by objects, or a single object, that the player is able to manipulate in the course of the game. In board games, these objects are usually pieces, cards, credits, etc. In digital games, the objects usually take one of the following forms: a character (from Pac-man and Super Mario to Lara Croft) or a group, a vehicle, a piece (an individual tetraminoe in *Tetris*), a tool (weapon, key, etc.) or a resource (experience or health point, money, energy, etc.).

So, the character or object that the player manipulates is the primary component. We will call it player-object. The *player-object* functions as a representative of the player within the game. It might be a character, a spaceship, a piece, for instance. Player-objects function as the protagonist(s) or they serve to point out the player's success or standing in the game. The players' points and possessions are player-objects, too: money and the houses in *Monopoly*, roads and resource cards in the board game *Settlers of Catan*, the squad of players with certain abilities in a sports game, and furniture, clothes, etc. in *Animal Crossing* (Nintendo 2002).

When the player-object is represented as a character, or simulates the behavior of one, it is relevant to call it a player-character. All games do not have components that function as a representative of the player(s). However, all games have components that the players' actions are directly or indirectly related to. A ball or a dice are this kind of components. These *game-objects* function as antagonists, co-operators, systems, resources, or props in the game. *Tetris* has only game-objects, but the player plays the game in relation to them and the specific procedures and environment that make *Tetris* the game it is. In a game like *SimCity*, the shaping city presents game-object in the shape of a system that simulates the behavior of urban infrastructures. The 'Sim' characters in *The Sims* are game-objects somewhere in between a prop and a system, as they are basically 'moving dolls'. A co-operator type of game-object is either a fellow human player, or a so-

called non-player character (NPC) who behaves according to certain rules implemented with the methods of artificial intelligence (AI).

Components may have different functions and/or values assigned to them. All types of components have rules governing their behavior, but in an individual game, some components usually are defined as more significant than others. The hierarchy of Chess pieces presents one excample. Their meaning is contextual, the context being shaped by other elements of the game, such as game states and theme. In multi-player games where the player competes against others, the player's own components are often player-objects, and the opponent's components are game-objects. Depending on the game and its rules, it might be possible to convert game-objects into player-objects. Gathering resources and objects into an inventory is one example of player means for changing game components' status from game-objects to player-objects.

Core and marginal components

The distinction between player-objects and game-objects serves to explain the player's relation to different components. Another aspect to note is that components are not equal. First, it is possible that components have been assigned different (contextual) values. Second, there are numerous digital games where we have *core* and *marginal* components. Their status is not necessarily fixed but can be made to differ according to individual game states. Marginal component can be made a core component after a certain change in the game state, and vice versa. Often game-objects function as props that have meaning and use regarding some states of the game but less, or even none, in previous or later states.

For instance, *The Legend of Zelda*: *the Wind Waker* (Nintendo, 2003) starts on an island where there are numerous game-objects that the players actions relate to: trees, grass, characters, etc. One set of game-object are represented as pigs, and their main function is to teach the player to crawl behind an unsuspecting game-object and grab it to carry around. The 'pig-game-objects' serve as tutorials for a game mechanic that is used for manipulating game-objects, the mechanic being represented as an ability to carry objects around and throw them. After the player has done this and moved on, the momentarily core status of the pig-game-object changes into marginal at best, as the pigs' function transforms into a prop that adds thematic meaning to the game environment.

In similar fashion, at the beginning of a Chess game, a pawn might not seem worth much, but after numerous game states, during the so-called end game, a single pawn might have become extremely valuable, whether it has been transformed into a Queen (as the rules allow) or not. Chess also illustrates the aspect of a game component being connected with the victory and losing conditions of a game: the one who loses her King loses the game. In similar manner, in many digital (and board) games, the losing condition is often connected with the player-object(s): if the player's character perishes or she loses her possessions, the game is over.

The number of components does not have to be fixed: new components with new functions can be introduced to the game based on the player's progression in the game, or her development of skill. Even though components might be modified or added into the game, they may fulfil the same function than components that were removed or abandoned in the game's previous states. Opponents that become gradually more difficult, in a martial arts game for example, present one popular example.

The traits of games discussed above are all examples of how rules are introduced to govern components. Let us conclude by asking a simple question: Why do games have components? There are two reasons, which run parallel to the distinction of player-objects vs. game-objects:

1. Components provide a source of identification for the player, usually in the shape of possessions, resources, and/or representatives (characters/ pieces). In other words, player-objects are the reference point for the player's motivation to play the game, and succeed in it. Components might enable certain ways to play the game and achieve its goals, or prevent others.

2. Components provide the player with challenges in the form of adversaries, obstacles, resources to be had, etc. They are potential objects of interaction, tools to play with and against. Game-objects are the reference point for the player's needs and desires, the actions she wants to take in order to influence the course – i.e. the states - of the game. From the perspective of the game-system, components are means to give birth to certain player procedures and game mechanics. Players are encouraged, or enforced, via components and environment constraints to play the game in a specified, rule-bound way.

PROCEDURES

According to E.M. Avedon, game procedures are "specific operations, required courses of action, method of play" [2]. We will define procedures as operations that the game-system makes possible with following purposes: 1) empowering the players with means to play the game, 2) assigning value to the different game states and outcomes by handing out rewards or penalties, and 3) governing the interrelations of components.

Any action either by the player or the game-system, if allowed and encouraged in the rules, constitutes a procedure. Procedures are, however, closely related to another gameplay pheneomena, i.e. game mechanics. When players take procedures that combine with other game elements, and these combinations and their respective success criteria are specified in the rules, they help the player to advance towards the goal (or goals) of the game. This is usually due to a change in the game state that produces a reward in one form or another (such as gaining points or resources).

It usually takes game-specific knowledge (understanding the rules, specific skill, etc.) to turn a procedure succesfully into a mechanic, i.e. to combine a procedure into a specified combination of other elements. Moreover, often the combination has to be achieved in a specified way (with certain components, in specified time or tempo, sequence, location, etc.).

Let us look into examples of procedures: In *Monopoly*, players roll the dice one by one. This is a procedure, which, when combined with moving on the board (the game environment), becomes a movement mechanic particular to *Monopoly* and various other board games. Another procedure in *Monopoly* is carried out when a player lands on a specific chance card square: the player has to pick up a card which potentially changes the game state by handing out a procedure usually in the form of a reward or a penalty. If the player ends up in on a property owned by another player, she has to pay her rent according to the rules. The two last instances present procedures that do not directly originate form the player, but are imposed on the player by the game system, as it operates according to what the rules define regarding a particular game state.

Again, why do games need procedures? The answer is that procedures start up the game and keep it going; they assign the player into an active role as participant in the game. Through procedures, the players can invest their effort in the game. Components are tools that are used in making these investments. These investments turn out favourably for a player if she is able to combine procedures into other game elements in a way that, first, is required in light of the game's goals, and second, accepted in the rules. These are the preconditions of employing game mechanics, i.e. playing the game.

ENVIRONMENTS

Game environments provide the space for components and procedures: the physical constraints of gameplay. Components reside within the game environment or are introduced there, and in case of a specific game environment (such as a board), often procedures and mechanics are enacted in relation to it.

One particular characteristics of digital games rises namely from their need of a specific environment. All games need to have at least components and procedures, but the environment does not always need to be specific. This is true with numerous card and dice games. With digital games the game environment is a fundamental aspect of the game and very specific to each individual game. Moreover, it presupposes a specific interface. For example, the Solitaire in Windows OS is played with familiar components and procedures but within a specific setting, i.e. a game environment represented on the screen and accessed via the interface.

Digital game environments can be broadly classified into the two following types:

1. Boards/fields: These are either static individual environments that are used to confine the interaction of components and procedures (*Pac-Man, Tetris*, so-called maps in *Unreal Tournament* etc., arenas and fields in sports games), or ones which provide the basis for adding components (*Civilization*).

2. World(s): Often these kinds of environments are divided into parts (many adventure games such as the *Metroid* series) or levels, but game-worlds also exist as seamless, simulated eco-systems or urban environments (the online worlds of MMORPGs, the 'Liberty City' in *Grand Theft Auto III*).

Usually these environments are designed according to certain principles that guide, and confine, the player into certain paths, events, and atmosphere within the environment. These principles are used to communicate environment rules. Forms of spatial organisation (see [5]) are used to create the paths, which allow and constrain movement. They function as the rules that govern the game environment. The more abstract the game is, the more visible the spatial organisation is: examples include boards games with circular or linear paths, and also other forms that adapt to games, such as grids and mazes. With digital games' level or world design, architectonic types and expressive forms (see [11]) are used in communicating the theme of the game: archetypal settings such as castles, planet surfaces, space stations, industry complexes, dungeons, urban streets, etc.

THEMES

Most digital games have an element called 'theme'. Game theme is the subject matter that is used in contextualising the ruleset and the player procedures and mechanics that it allows. Game theme provides a meaningful context for everything that takes place in the game. If there is no specific theme, as in abstract games, the game's rules replace the theme element (as in Chess, Poker, lottery games, sports, etc.).

Usually themes in board and digital games employ conventions of popular fiction or sports genres. The science fiction setting of *Metroid*, the horror in *Silent Hill*, urban crime in *Grand Theft Auto*, the fantasy of *Zelda*, 1960s agent fiction of *No One Lives Forever*, espionage and anti-terrorism of the Tom Clancy games (from *Rainbow Six* to *Splinter Cell*), domestic neighbourhood life in *The Sims*, rollerskating and graffiti in *Jet Set Radio*. These are all examples of how a specific game theme is used in a popular digital game series.

A game theme formally consists of how the underlying game components and environments are contextualised by specific means and styles of representation and rhetoric. It consists of a setting (era, location) and a motivational psychological element, such as conflict. Game theme materialises in the representation, and possible simulation (modelling of behavior) of game components, procedures, mechanics, and environments. To give an example: a psychological game theme like 'betrayal' would probably require that the components are characters, and the procedures govern their social interaction, formalising such feelings as trust and hate into game mechanics.

Theme can be used to 'disguise' familiar game mechanics, i.e. combinations of components and procedures, into new forms. Even though theme or technology between two games may be different, there might exist similar or even identical mechanics beneath. This becomes apparent when comparing two games or game series: for instance *Civilization* the board game, which simulates diplomacy, war and trade in a historical context, versus *Master of Orion* (a game series played on a personal computer), which offers rather similar gameplay but in the context of an intergalactic science fiction theme, and complemented with simulational elements enabled by the fact that computer functions as the game technology.

After employing one or numerous game mechanics, the most visible layer of the game theme emerges from the audiovisual style that is chosen: In a fighting game, if the fighters are represented as robots according to the *mecha* tradition of Japanese popular culture (like in numerous games, such as the *Zone of Enders* series), instead of human martial arts experts (as in the *Virtua Fighter* or *Tekken* series), the game ends up somewhat different in flavour due to the difference in themes. For instance, these two different themes quite possibly require different implementations of combat and weapon mechanics. These thematic observations point out how rhetorics function in games.

The game theme is also embodied in the literal and verbal rhetoric of the game, i.e. what names and descriptions are given to actions that take place in the game. This rhetoric is an element that is used in creating the 'meaningful context' that the game theme provides. Also, the theme can be subordinated to an over-arching narrative that dictates the progress in the game via characters, challenges, worlds, etc., and through the different environments, components, and procedures employed in them. Therefore, theme can be used to maintain the diegetic coherence of the game. It also produces potentially different audience interpretations and expectations, which can be motivated not only by actions related to the goals and purposes of the game, but also by theme-related characters and conflicts (see [10]).

INTERFACE

On a very general level, there exists an interface to any kind of game. Cards, tokens, boards are all accessed or used to access a game or take part in it. In physical games, such as many sports games, one's physical abilities function as an 'interface' to the game.

However, we'll focus the attention to specific interfaces that are built into digital games. There, the interface is the reference point of players' attention on the physical layer of the game. This means that when playing digital games, the interface is constantly present as a part of the the player experience. Therefore it can be used – deliberately or undeliberately – in increasing the difficulty of a particular game, or more generally, emphasizing interface mastery in player procedures. The more complex the interface, the less visible are the game mechanics, for instance.

The specific design and integration of such interfaces are one of the particular traits of digital games. Whereas in other kinds of games it is usually the components and procedures that are used directly to access the game and employ the required mechanics, digital games add a specific interface to mediate and govern this process. Interface functions as both the gateway and the gatekeeper to playing digital games. As the interface is the only way to enact procedures and thus mechanics in the game, it gets emphasized to some degree in all digital games. Learning how to play digital game presupposes learning how to use the interface, which means that interface becomes part of the game's rules.

THE FIVE RULE TYPES

Now that we have covered the basic game elements, it is time to construct a rule typology based on them. There are five types of rules. Thw first two types are mandatory for any kind of game:

1. Rules that govern game components by stating their number, status, value, etc. Also, component functions, i.e. roles within a mechanism, are specified.

2. Rules that govern procedures' relation to other elements, i.e. define allowed mechanics and their consequences.

3. Rules that define game environment(s): the physical boundaries of components and procedures.

4. Rules that dictate how game theme is implemented.

5. Rules that define how the interface is used to enact procedures and mechanics within the game environment, complemented with rules about providing the player information about her progress.

RULES IN DIFFERENT LAYERS

The figure below illustrates the five-fold typology of rules as an expanding half-circle. The two mandatory rule types make up the core, and the remaining three are presented as layers that are optionally added on top of the core layer. The need for a specific interface depends on the technology with which the game is organised.

Figure 2. The rule types in relation to each other, and the layers that different player and game-system actions refer to during a game.

As rules govern the player, they govern her relation to the game-system. This is conceptualised as the four layers – physical, rhetorical, spatial, core – at which (one or several) the player's attention is focused at any time during the game.

Component and procedure rules make up the core of a game. They are mandatory for any type of game: there can not be a game without players having particular means to play, and rules conducting these

actions and assigning values to their execution. Card games and dice games are types of games that do not necessarily need the other layers the player remains on the core layer. They consist of components (dices, cards) and procedures (throws, turns, rounds, raising stakes, etc.).

The spatial layer of rules consists of the limitations set by the game environment. Any game that assigns its components and procedures to be operated within a specifically crafted environment implements this layer on top of the core. Card and dice games do not necessarily need a specific *spatial* layer, as the players focus on components and procedures.

The rhetorical layer has the theme rules. This layer is optional in any type of game, but often highly necessary, especially regarding non-abstract games. As the layers of rules increase, from core up, so increases the degree that the actions within the game are open to informal interpretations, i.e. such interpretations that are not directly referred to or governed by the rules. Implementing a theme, and soforth the rhetorical layer, to a particular game means taking advantage of methods (narrative, simulation, representation) that produce meaning on top of the formal structure of the game.

Finally, in digital games interfaces are prominent and specialised in nature. Interface constitutes the physical layer of rules: if the player enacts procedures via a specific interface, she is attached to the physical layer and bound by its rules.

WHAT MAKES A GAME DIFFERENT FROM ANOTHER?

The answer lies in analysing game elements and the rules governing them. The five game elements and the rule types introduced here help us to understand the particular nature of different games. This becomes evident, when the elements and their specific implementation are analysed. For instance, we realise that the characteristics of so-called 'rhythm *games*' (*Parappa the Rapper*, *Space Channel 5*, etc.) are based on their particular ways to employ procedures based on rhythm and music. In the case of the popular *Parappa* series, there is a cartoonesque rap theme at work.

Then again, RPGs emphasise types of procedures and mechanics that are based on narration and performance, or evaluated by criteria appropriate to them, and governed by the game master. Games such as *Civilization* and Poker emphasise manipulation of components (often in the representational form of handling resources) via specific mechanics, which usually means that their tempo is quite different when compared to the rhythm games mentioned above. Many digital games emphasize skill in interface-bound procedures: e.g., skateboarding games where theme-related tricks are mapped into combinations of button presses, i.e. interface functionalities. Digital games also enable automated procedures.

There is no room to put this the typology into practice as an analysis model here, but as the examples used have illustrated, basically any kind of game can be deconstructed into the elements discussed. This serves distinguishing the particular rule types employed in a game, which serves to point out general layers of emphasis regarding the gameplay a game produces. Moreover, analysing the player procedures, and how they become game mechanics, sheds light on the players' relationship to the formal structure of a game and its different layers.

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