Rules of Play as a Framework for the "Magic Circle"

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Play is one of the oldest cultural techniques of mankind going back several thousand years. It has been practiced around the world in a great variety of ways for relaxation, diversion, entertainment or competition. To this extent, we always seem to know what the framework of playing a game is like. In general, rules of play are considered to be frame defining. They give the game a stable and identifiable structure that should provide fair conditions, which are equal for all participants. Whenever there are discussions about the rules during the game, there is an obvious comprehension problem with respect to the scope of the game. During the development process of a game, this usually means that the prerequisites for a fair competition are not completed, and that one of the players receives a slight advantage due to rules that are not fully balanced.

THE FRAME OF A GAME

But rules alone are not enough to fully define the framework of a game. A game is always a dynamic system composed of different formal and dramatic elements combined into a working structure. In addition to clear rules, this includes the definition of the players, the goal, the processes, the conflict, the result, and in the dramatic area a story, characters and the linking of narration in a particular dramaturgical sequence. The game as a system includes all these elements and claims its own (dynamic) game world. The game world is clearly separated from the real world by implementation of its rules and other elements. This creates a clear-cut framework. Nobody has explained this as well as Johan Huizinga in his pioneering anthropologic work of play, *Homo Ludens*, which had already appeared in 1938 (Huizinga 1949). He describes the world of a game as an own

realm, separated from reality, a so-called "Magic Circle", in which the players can follow their own rules and do not have to pay attention to the outside world.

"We found that one of the most important characteristics of play was its spatial separation from ordinary life. A closed space is marked out for it, either materially or ideally, hedged off from the everyday surroundings. Inside this space the play proceeds, inside it the rules obtain." (Huizinga 1949:19)

This can go so far that certain rules of the real world are deliberately abolished or violated within the framework of the game.

"What the 'others' do 'outside' is no concern of ours at the moment. Inside the circle of the game the laws and customs of ordinary life no longer count. We are different and do things differently." (Huizinga 1949:12)

For example, consider the Grand Theft Auto video game series (GTA IV 2008), in which the player must turn into a car hijacker, rip a driver out of his car and run away in the car. In its many missions the player is encouraged to behave as unethical as possible in order to reach a specific goal as fast as possible. To this extent, the game has a certain subversive potential, which of course has always been controversial.

Therefore, it is not surprising that playing games in the past was met with little interest from the authorities and in some locations various prohibitions were issued. For example, in the city of Zurich in 1624, Johann Jakob Breitinger, a reformed pastor, professor and politician and Zwingli's sixth successor at the Großmünster (Great Minster), put a ban on all urban games because he feared the subversive power of games. In his book "Bedencken von Comoedien oder Spilen" (Brunnschweiler 1989), he declared playing games, which ranged from marbles, dice and card games to performances at the theater, as very harmful to society because it deprived citizens of the useful daily chores and schemes and introduced dangerous new ideas or brought risky old ideas back.[1]

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PLAY AS COMMUNICATION

Theatrical performance, card and board games have long been established for contemporary society. In fact, we have crossed a new threshold by comprehending games as communication. Communication between the game and the player plays an important role, especially in electronic games. The game can be understood as a counterpart to the player. The electronic game offers a multimedial interactive cybernetic world that constitutes and controls the game. The communication process between the game and the player is thus a high level of synesthetic communication that must be established and updated again and again. This way the game becomes more controllable and better comprehensible. However, clear control of games in their digital framework is only one reason for the wider acceptance of games in today's society. Electronic games as well as analog games operate similarly to today's society, which is functionally differentiated with subsystems like art, architecture, science or market economy. These subsystems are based on a cybernetic control loop with establishing variation first and next making a selection from it. This is followed by a stabilizing phase. Economic crises, in particular, indicate this trend very clearly. Games in their systemic composition work similarly. They offer variations for actions that players can take and evaluate. The evaluations then lead to a selection being discarded or stabilized. This process is the basis for the progress of the player, it is repeated and becomes a cybernetic control circuit.

According to game and interaction educator Jürgen Fritz (2004), the game consists of three different (combinable) factors or dimensions: behavioral dimension, frame dimension, and a construction dimension. While the behavioral dimension treats the game from the aspect of playful behavior, and the construction dimension defines the game as a construction of appointment and materials into a scope, we will first deal with the framework of the game that identifies the game as an own game world.

Thus, when we speak of the framing dimension of the game, we point to the already mentioned delimitation to the real world. Where does the game world stop and where does reality begin? Or where does reality cease, and where does the virtuality of the game begin? How permeable are these worlds or their frames? Finally, the question arises in digital games: What is outside the bounded game world? Can I break out of this artificial world? What are the status and setting of the limitations? Are they perhaps transparent and permeable or solid and impervious? This leads back to Jürgen Fritz, who developed an updated version of the "Magic Circle" when he stated:

"Initially the game is a process of framing, that endows a concrete event with the status that it does not have to meet the standards of the real world, but to suffice different standards. The behavior is framed as a 'game' and belongs to a game world and as long as the framing action is valid, does not belong to the real world." (Fritz 2004: 16/17)

SCOPE OF ACTION

First and foremost, what applies to action and events in real life is likewise true for playful action in a game world: it must be meaningful for the subject. This is the framework's task. It creates not only sense, but also commitment (Goffman 1980: 376). Commitment means that you make a commitment to participate in the game, which can go as far as captivating you completely. This also creates normative expectations for the subject, which in their depth and nature can be quite different depending on the organized contexts into which they are incorporated. This applies to digital game worlds as much as to analog game worlds. Players expect a clearly defined and delimited world in which they can perform their individual actions. This means it is all about organizing space, action or an event, that corresponds as much as possible with the player's normative expectations.

Once the framework is set, the questions about structure, rules, communication and behavior within the "Magical Circle" can be asked. These questions on structure, design and effects of the rules are becoming ever more important against the background of the growing importance of game design for virtual and real-world connections, because it affects not only the game, but also technology, urban culture and the entire media communication. The investigation of these connections is to be further discussed.

MOTIVATING SYSTEMS OF RULES

Games are specifically motivating control systems within a defined framework. By means of motivational design, game designers develop such control systems. The aim is a motivational design for the player. For the time being, we do not assume the player's perspective, but the designer's. The simplest rule system for the designer is to raise a challenge by offering opportunities for action and allowing them to be evaluated. To evaluate is to reward or punish, to give a positive or negative feedback. Each game has its own design, which, in its execution, acceptance of the rules and processing on a computer, becomes the actual game

and encloses the player in the "Magic Circle". Inside the circle, inherently different rules apply than outside the circle in the real world. Thus, reward and punishment can also be conveyed more clearly and in alternative ways.

However, the interaction between inside and outside can be influenced by both of the sides. It is also possible (today) to define the limit of the "Magic Circle" as a permeable membrane, which allows the game with its rulework to go beyond its original circle into the real world. For example in an augmented or alternate reality game, the players are confronted with parts of the regulatory structures of a city and have to adapt accordingly. It is therefore quite possible to create a new set of rules for a game as a layer on an already existing real set of rules. This new rule set connects with the existing set of rules, so it is compatible with the rules of the real world, and is in force as long as the game is running.

Conversely, a set of rules from the real world can sometimes influence a set of rules within a game. However, it may become a case of censorship when rules and formats of a game have to be changed under pressure from outside. This clearly shows that the "Magic Circle" cannot be viewed as a completely law-free space or zone. It is always exposed to the supervision and control of the real world. On the other hand, the real world's rules simply formulate the rules of access to a game, so they frame and regulate the transfer of the subject from the real world to the magical circle of a game, but they do not interfere directly with the rules of the game.

Live Action Roleplaying (LARP) is a genre that is freer in dealing with the permeability of the real world and the virtual world. In a live role game, the player is physically present in the game as a game character. The player is allowed to freely interpret and improvise his role. It is not only the behavior of the game character that is regulated by the life-world experiences of the player, but individual rules as well. Thus the character cannot kill or hurt the opponent in a sword fight, but must simulate this as on stage in the theater, because the physical presence of the opponent is simply regulated by the laws of the real world. Where the consequences of a killing or injury do not correspond with real world life as for example in an ego-shooter video game, rules may be set differently. In any case, a LARP game is also part of the real world and therefore its "Magic Circle" is permeated with real world laws.

GAME MECHANICS

What are game mechanics? If we ask the question about the mechanics of a game, first, we can assume that establishing a "Magical Circle" sets the frame-

work for the game and its mechanics. Within this framework, we can now begin anew, build a new world, create our own game and create our own system. But before we actually build this world, we have to set the parameters for this world and the activities in it. That is, we create a simple set of rules for our characters and/or objects, their behaviors and their relationships. This world can be perceived as object-oriented. To this we add more mechanics with the actions the player can perform. We start with creating objects, their scene (their playing field) and their movements. What kind of physics do the objects need? How large are the objects, how do they behave, how do they relate to each other, how can the player act with them, what is the goal and how can it be achieved?

We have found that games are rule systems with special motivational mechanisms. The player needs incentives and the rule system has to provide them for example in the form of a reward with gold coins, a higher score or an extraordinary experience. The game designer develops progressing cybernetic control systems (such as *Tetris* (1989)) from motivation (such as cleanup and alignment). The most basic rule system of game mechanics is the constant challenge of the player and his avatar: the game presents the player with a clear challenge (*Tetris*: falling rocks and overflowing containers) and offers opportunities to solve the problem (*Tetris*: moving and turning the stones). Subsequently, the game evaluates the decision of the player: "right" decisions are rewarded (*Tetris*: a line disappears, positive sound, points, longer playing) and wrong decisions are punished (Tetris: blocked situation, gloomy sounds, exclusion from the game). Perfectly challenged, with dosed punishment and well rewarded, the player cruises or floats through the game. This is the experience of flow (cf. Csíkszentmihályi 1990) that captures the player and persuades him to identify with gameplay and sequencing (via his avatar). He is highly focused, progresses into a state of complete absorption and starts to believe that he is in the game himself. The immersion may become so advanced that he automatically continues to play his avatar role. Temporal concerns like time and food are ignored, the player's real self falls away, his virtual and real role merge into an avatar self and he does not want to leave the virtual "Magic Circle" anymore.

Games, however, do not only differ in short-term game mechanics (micro mechanics), but also in long-term mechanics. These macro game mechanics are the ones that motivate for hours, if not for days and weeks. Often progression strategies or intrinsic narrative strategies are used as macro mechanics, such as, in form of new (visual) worlds, additional new challenges, superordinate comparisons, and (complex) stories. For example, the game *Tearaway* (2013) is visually and narratively convincing with its unique unfolding paper world. And as player you can even push your finger via an additional touchscreen on the back-

side of the mobile console PS Vita through the thin paper. The *LSD Logic Dream Simulator* (1998) amazes with a psychedelic surreal dream world that tries to act and react like a real dream. With additional new challenges, the game *Chips Challenge* (1989), gradually brings well-matched new elements into play and keeps the player busy. The challenge is growing steadily by ever-increasing level development in a game like *Ikaruga* (2001), or by consciously changing game mechanics like the Indie game *Feist* (2015), that develops from an exploration game into a fight and survival game. Superordinate comparisons are used in games that work with highscores, such as *Space Invaders* (1978), *Tetris* (1989) and *Pac-Man* (1980). Finally, challenge can also come in form of a story that you wish to fully pursue. In games like *The Witcher 3* (2015) and *The Last of Us* (2014) you strive to unravel the next plot points. In games like *Lumino City* (2014) you long for the appearance of new characters. And in *Gone Home* (2013) or *Papo & Yo* (2012) it is all about uncovering the story of a mysterious character, accessing memories and creating new relationships.

The player's interaction and commitment mean that he accepts the rules, and the computer processes these rules for him. Through interaction and commitment the game becomes magical reality. Rules can be rather unique and surprising. We have seen that only the rules of the game apply (cf. Huizinga 1949) within a "Magic Circle". Here it is possible to fly as in *REZ* (2001), to save cities from nuclear missiles as in *Missile Command* (1980), destroy worlds as in *Ikaruga* (2001) or color worlds and environments as in *Wizball* (1987) – and you can even be resurrected as in *Golden Axe* (1989).

It remains unclear though whether the player adopts the rules that are designed for him as planned and makes the intended game experience. Or whether the player may bring quite different mechanics to life – for example, in games like *LSD Logic Dream Emulator* (2001) or *GTA IV* (2008). While as in *LSD* he might try not to bump into walls or objects and extend a dream, he has the choice of not pursuing quests in *GTA*'s open world and start his own missions as for example wrecking as many cars as possible, trying to do risky stunts or killing as many pedestrians as possible or just quietly drive endlessly through the streets and obediently follow all traffic rules.

Tetris

Choosing *Tetris* (1989) as a simple example, we are easily able to represent the entire rules of the game by means of a few bullet points. The frame is as follows: The playing field is limited; a box of 10 x 20 square fields is enclosed by two brick walls. The container is open at the top, closed at the bottom. From above,

the Tetromino stones fall down slowly and must be arranged by the player. The Tetromino or Tetris Stones are the only objects of the game, seven different forms of four squares each.

If we now classify the rules according to the well-known Mechanics-Dynamics-Aesthetics (MDA) theory (cf. Hunicke et al. 2004), which attempts to formalize the consumption of games by means of analytics, and in which mechanics are the basic components or rules (possible player actions, algorithms etc.) of a game, there are five specific rules in *Tetris*.

- First of all there is a kind of gravitation that gradually drops the stones (and accelerates them according to the score).
- The score increases by one with a completed line of squares.
- The destruction or deletion of a line changes the configuration of stones above. All stones above the line slide down one unit. In case of holes they can slide further downwards.
- There is the condition that stones can fill the entire container up to the top. If a stone tower touches the upper end of the container, the game is finished.
- The determination of the next stone is random. It is triggered after the previous stone has landed. A brief display shows the player the shape of the next stone.

Directional keys are used to control the five specific rules:

- Right arrow key = move to the right.
- Left arrow = move to the left.
- Arrow down = move stone faster downwards.
- Arrow key up = rotate blocks.

The goal is to reduce as many lines as possible. As soon as a block tower touches the upper end of the playing field, the game is over (rule 4). This brings us to specific micro mechanics. If we assume according to MDA theory that the mechanics are equivalent to the possible actions by the player we can assume:

- Each stone may be accelerated when falling (control: arrow key down).
- The player may rotate each stone in 90 degrees increments (control: arrow key up).
- The player needs to complete a line in order to destroy or delete it. He gets one point for doing this.

MICRO AND MACRO MECHANICS

After systematically dissecting the rules of *Tetris* according to the MDA theory, we turn to a simpler method and have to ask the question "What is the challenge of the game *Tetris*?" Is *Tetris* just about aligning elements? Is it about tidying up? Who would have thought that a challenge like cleaning up could be so successful and fascinating for millions of players? Players who may not like to clean their own bedroom will find cleaning up in *Tetris* is somewhat easier than cleaning up a messy room. By aligning the blocks, the player is able to get rid of individual lines by deleting all the squares in the line. It is a magical effect when the lines disappear and there is a sense of relief and immediate reward, compared with the arduous task of vacuuming a bedroom in the real world. The *Tetris* player has to tidy up the container and leave the least chaotic formations possible so that the blocks will not reach the ceiling.

It is so easy! In the beginning, the player has enough time to learn about forms and movements. After that, the gameplay becomes gradually more difficult. The player is under increasing time pressure. And after twenty rows, the player finds himself under a strong spell of the falling blocks so that he does not want to stop playing despite rather minimal and repetitive rewards. The dissolving of a completed row is underpinned by sound and feels quite liberating since it reduces chaos and frees space on the playing field. The score increases, but this appears to be a rather limited unheeded reward. The score only works if a player compares it to another player's highscore. An ambitious player rather focuses on the achievement of reaching the next level. Conversely, a block that does not fit into any gap is already a punishment if it blocks a part of the space and leaves gaps in the lower rows and makes those lower rows no longer accessible. This is also accompanied by a rather gloomy sound and contributes to the player's tension. The higher the towers or piles grow, the faster the player has to react. Shape and rotation of the next stone decide over a possible alignment and relief or pile-up and failure. The player is now under increasing time pressure, feels tense and stressed and has to hope that the next stone fits better into the remaining gaps. The steadily increasing pressure can only be alleviated by successively removing several rows. The game has no end, so the player will be punished sooner or later with a "Game Over".

Table 1: Game Mechanics example for sorting and alignment

Tetris	
Macro mechanics	Align the different blocks that fall down into the container. Try to fill individual lines. Each finished line will disappear and give points.
Micro mechanics	You need to manipulate the shapes while they fall down, by moving each one sideways and rotating it by 90 degree units. The objective of the game is to create horizontal lines of ten units without gaps. When such a line is created, it disappears, and any block above the deleted line will fall. Avoid filling up the container. A small window shows you what piece is next. The game is either endless or you can reach higher levels with faster pieces.
Reward	Highscore, disappearing line, double lines etc., positive sound, next level, score points.
Punishment	High piles, less time to control, less possibilities to align, negative sound, overflowing, game over.

LSD Dream Emulator

The game *LSD: Dream Emulator* (1998) is different. *LSD* is a rather extraordinary, surrealistic exploration game based on a dream diary by an artist of Asmik Ace Entertainment. Through its eccentric nature the game for the Playstation 1 console was able to acquire a small cultic community. As macro mechanics, the player navigates through a psychedelic dream world. Basically he walks and explores things in a dream environment. His walk is a stroll through an unknown world that surprises with bright colors, wild textures, strange shapes and absurd objects (for example, a flying elephant, a large crystal as a mountain, a turtle decorated with flower patterns, characters with only head and feet). The environment seems to be randomly generated, open and not structured. The gameplay consists of exploring these strange worlds. While in *Tetris* the player must sort and align objects in an enclosed space and needs to progress and score points, he is unbound and free in *LSD* and moves in a mysterious unstructured and rather unrestricted world that assumes random features.

LSD's macro mechanics have been sketched quickly. Micro mechanics start with the player encountering obstacles. As soon as he bounces on a wall or hits objects or crashes into another character, he is transported to another environment, that is, another dream. A specific dream can take around ten minutes. At

the end of the dream, the player wakes up and is returned to the main menu. From there he can start anew and explore the next dream. In a game like *LSD*, the detailed navigation has to be considered as part of the game's micro mechanics. The player assumes a first person perspective and uses left and right buttons to look around and change direction. Up and Down buttons are used to initiate a forward or backward movement. With the upper buttons on the front of the Playstation Controller, the player is enabled to turn around completely. And with the lower buttons on the front of the Playstation Controller, he can turn right or left. By holding down the X button, he can increase his speed and run. With the square button he looks downwards and with the triangle button upwards. As soon as he falls down somewhere, he wakes up immediately. A graphic shows him his state of mind, which may then influence the next dream. Back in the main menu, it is possible to save a dream and retrieve it later.

Table 2: Game Mechanics example for (psychedelic) exploration

LSD Dream Emulator	
Macro mechanics	The player navigates through a psychedelic dream world. The idea is simply to walk around and explore things in a dream environment.
Micro mechanics	If the player bumps into walls or other objects in the game or falls into a hole, he will be transported to another environment. Each dream can last up to ten minutes, after which the player will wake up and is sent back to the main menu. The player has all means to move and look around in his dream world. At the end of a dream he will wake up immediately. A graphic keeps track of his state of mind; the states are upper, downer, static and dynamic, referring to the environments and the general feel of the dream the player just went through. Past states may have effects on later dreams.
Reward	Bizarre environments, amazing shapes, psychedelic colors and caleidoscopic patterns await to be discovered. The graphic description at the end of a dream is a dream walk achievement that can also be viewed as a reward.
Punishment	Bumping into obstacles or falling down ejects the player immediately from his dream.

Journey of a Roach

As a contrast to the two previously described games, *Journey of a Roach* (2013) is an action-adventure game that is located in an apocalyptic world and uses different main mechanics. The protagonists are two cockroach buddies, created as funny comic figures. The player has to accompany Jim and Bud on their journey to the surface of the earth and learn what it means to be a cockroach. The mechanics of *Journey of a Roach* is neither about sorting nor exploring. It is about telling a story and solving puzzles in a narrative world. Focusing on our main characters we are able to pursue the entire adventure story. The story itself employs dramatic sturcture based on the symbolism of the hero's journey by Joseph Campbell (1949). It has a narrative backbone and a distinct setting divided into segments (rooms) that lead us room-by-room through the story, down to the "Deepest Cave" and then up again until the characters reach the top, the surface of the earth. However, the world of *Journey of a Roach* is strange, ironic and humorous, the insects are anti-heroes, at times clumsy, misfortunate and comedian – and so is the course of the actions and events.

Nevertheless, the two mechanics of puzzle and exploration that we identfied in the other two games play their own parts in this game. However, the macro mechanics of *Journey of a Roach* is to find your way out of the underground world to the surface of the earth and pursue the story to its end. The story acts as macro mechanics and can be perceived as the real goal of the game. On the way to resolve the story, several different rooms have to be crossed and complex puzzles have to be solved by means of logical thinking. This takes us to the micro mechanics of the game. As in a classic adventure, the player has to pick up objects, combine them, and reuse them in the right place, so that progress in the story can be achieved. This narrative progress translates into progressing through game space (locations) as well. Most of the time solving a puzzle leads the player to a new room. This mechanic is applied repeatedly, each time with a different context and setting. The fact that the main characters in this game are cockroaches opens up new possibilities for movements: Jim and Bud are able to walk on walls and ceilings – a central idea for the game that was not so easily turned into a working gameplay. Instead of letting the roach climb vertically up the wall, the whole room gets turned 90 degrees (each time) and the roach remains at the bottom of the screen. And this innovative game mechanic leads to surprising new possibilities for the puzzle design. Overall, after solving a puzzle, the player is rewarded with narrative progress and is enabled to advance to the next location where he finds a new challenge.

Table 3: Game Mechanics example for storytelling (as puzzle adventure)

Journey of a Roach	
Macro mechanics	The goal of the game is to get out of the underground world and bring the story to an end. Entering different rooms on the way to the surface of the earth, the player's logic skills are tested with increasingly complex puzzles.
Micro mechanics	Picking up items, combining them and using them in specific places are key to progression. The same mechanics are used repeatedly but in changing context and story settings. Being a roach opens up a new dimension of movement and lets the player crawl along walls and ceilings. This innovative game mechanics creates opportunities for an exciting new puzzle design.
Reward	Figuring out a puzzle is rewarded by story progress and cutscenes. Some scenes reveal references to famous movies and games. The end shows hope and a mood change in the roachs.
Punishment	As punishment you remain stuck in the same room. You do not progress and have to invest more time in exploring the area or figuring out the puzzle at hand.

The three examples show how different the mechanics of games can be. As macro mechanics of those games we have recognized sorting, exploring and storytelling. Often storytelling may be accompanied by a second macro mechanic such as exploring that is key for setting up sets of supporting micro mechanics. It has to be noted that narration is often used as a purposeful game mechanic. However, many developers don't identify storytelling as only a game mechanic, they see it as a method to structure games in plot sequences and a means to purvey meaning. Meaning however can be purveyed as well by motivational game mechanics (cf. Fabricatore, in this volume).

The pragmatic division into macro and micro mechanics is based on the fact that the simplest game mechanic is a game loop, a cybernetic control loop of challenges, event and plot options, decisions, actions and the resulting rewards and punishments. This is also what the Zurich Game Manifesto (cf. The Game Mechanics 2013) stated and René Bauer discusses in the following article "Games as a Special Zone". If macro mechanics establish the framework for the decisions and interactions of a game, individual micro mechanics are implemented within this framework to intertwine or network with each other and establish playful and purposeful paths and experiences for the player. These micro

mechanics, on the other hand, can provide a framework for nano mechanics, which in turn, interlock and network within micro mechanics. Insofar, this pragmatic model may be regarded as a recursively-structured model for game mechanics.

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