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DICE, CARDS AND BOARDS

Material Elements of Games and the Play-Form

Claudius Clüver

ABSTRACT

The study of dice games, card games and board games shows that similar material objects as well as the specific moments of attraction attached to them evoke similar games. These objects therefore have the affordance to play those games with them. Dice, for example, lend themselves to games with a component of randomness; Card games have historically undergone a change from luck-based to skill-based games, while the mathematical principles underlying them are developed; Boards invite competition for the space on their geometric surfaces. On the basis of these findings, I propose the notion of a play-form for these object-affordances, which are characterized by being stable, recognizable and functionally related to the game context. In addition to these object-like forms of play, practices such as gestures or infrastructures related to games can also have a formal character. If several forms of play come together and the combination in turn has formal qualities, meaning the combination is also stable, recognizable and functional, I speak of game formats, such as board or card games, that draw on a common inventory of forms. In more modern games it is common to use the entire range of play-forms, whereas stronger format delineations are characteristic of traditional games.

Keywords: analog games, board games, card games, dice, affordance

1. TRADITIONAL GAMES

It is not surprising to find dice, cards and a board inside the box when opening a tabletop game. Well-known examples of this are *MONOPOLY*, *TRIVIAL PURSUIT*, *THE SETTLERS OF CATAN*, which are games that are among the most popular today. Players of these modern games are used to typical game elements such as dice, cards or boards that are re-combined again and again in new games. This is a historically new and unique phenomenon. Outside the current industrialized situation, it is typical to know only a few games: historically, there are usually about a dozen games or less in a given culture. H.J.R. Murray (1978, 227 f.)¹ estimates that there are between 50 and 60 board games worldwide. There are groups of games that share similar characteristics, such as dice games, card games and board games. These dominant formats of regulated games are conspicuously named after the game materials used: Dice, cards and boards. These material objects thus seem to play a dominant role in the perception of the games in which they are used.²

In the following, I will examine what function these objects have in the games. On the basis of this examination, I develop the concept of play-form, which includes the materiality of game elements as well as their function and use in game practices. I then propose an interpretation that connects the play-form with gameplay principles. This analysis may serve as a tentative explanation for why, according to the perception of players, such objects characterize the games in which they are used.³ For example, dice games are organized around chance, card games tend to be organized around combinations, and board games are organized around spatial conflicts. The objects help to shape the gameplay principle and vice

¹ According to Murray, there are about 270 board games. David Parlett (1990) lists 500-1000 card games, but he lists game variants as separate entries. Card games are characterized by the fact that traditional packs of cards can be used for different games. This characteristic is reflected in a greater variance and dynamism compared to board games.

² This also applies to languages other than English.

³ These principles correspond with Roger Caillois' "attitudes of the player." (Caillois: *Man, Play and Games*, 2001, 11 ff.)

versa. Groups of games increasingly distinguish themselves from one another by bringing the central attraction of their respective basic principle to the fore more and more concisely. The spectrum of historical games thus allows ideal-typical types of games to come into focus, which converge around their central moment of attraction like a gravitational center: in the example of the dice game, it converges around chance.

Well-known games fall into the categories highlighted here in a surprisingly clear manner. Although some games fall outside these three categories, even these games form clearly delineated groups, so that the set of all games does not have a random structure. Even across cultural boundaries, regulated games often seem to offer players the same challenges. The few games that have been present in known history are also often known in multiple world regions and across cultural boundaries, (Crist/de Voogt/Dunn-Vaturi 2016, 181) for example, games of the BACKGAMMON group and CHECKERS. They typically vary locally, from place to place. (Parlett 1990, 49) However, the differences in the games from one cultural area to another are rarely greater than the local ones. This suggests conclusions that are surprising for scholars of cultural studies: It seems that practices of play unfold in part below the threshold of culturality. The practices of play are part of culture, but they also protrude from it, as it were: We might imagine play practices as a mangrove tree, itself being a dynamic, alive entity, only part of which is visible above the water's surface, partly in water (or culture) partly outside. Grounded in mud, rising through the water into open air. In other words, U.S.-Americans from the 1930s, citizens of ancient Rome and individuals from various peoples in pre-Columbian Mesoamerica seem to have something in common, for dice games are popular in all of these cultures. Murray explains that about half of the board games he discusses are played by only one people. Usually these are games with simple rules. It is therefore the complex games that seem to spread. (Murray 1978, 228)

The relative cultural independence of regulated games challenges fundamental questions in cultural studies. The extent to which phenomena are shaped by the culture in which they appear is one of the central questions of cultural studies. With structuralism, constructivism and post-

structuralism, some of the most important philosophical movements of the last decades tend to assume a largely culture-relative constitution of reality. Against the backdrop of the astonishing results of ethnographic research that inform these movements, it is difficult to identify any phenomena at all that are not already shaped by culture and language. This makes it fascinating to the point of surprising that, firstly, regulated games occur, and have very similar characteristics, in almost all known cultures; and secondly, that individual regulated games are able to spread very easily from one culture to another without changing fundamentally.⁴ Moreover, in most cases, regulated games are not associated with cultural symbolism, and if they are, the rules hardly change as a result. This does not mean that games always remain culturally inconsequential – the culture of playing and talking about games can provide strong impulses in a culture, for example, in the academic reflection on the game sphere in modern times. (Clüver 2021) However, the materiality and structure of a game have only a minor influence on what meaning a game has in one culture or the other. Rather, games acquire meanings that are applied to them from the outside: The pedagogy and philosophy of modern Europe in particular repeatedly refer to play as an example and a field of action. (Ibid.)

Thus, while cross-culturally recurring and stable elements in regulated games (in order of appearance: dice, cards and boards) are the object of this text, this stability is conceived on the basis of an encompassing cultural relativity.

2. DICE

Even outside of games, objects in the shape of a cube have the ability to fascinate. As an example, consider the shape of a common, six-sided dice.⁵ First, this shape is such that an observer can only see three sides at

⁴ They have this in common with another field dominated by form(ula)s: technology. Similarly, mathematical concepts move quite easily across cultural boundaries, such as the idea of "zero."

⁵ There have been multiple forms of dice: globally and historically, animal bones or shells are often thrown, the irregularities of which are compensated for by throwing several and adding up the results. The same is possible with coins. Rolling dice is

a time. That only three sides are visible becomes even more striking when they are marked differently from one another – which is the case with a game cube. An observer will most likely start to turn the cube in their hands to look at the different sides. If the cube is made of transparent material, the three more distant sides can also be seen, but this makes the play of show and hide even more complex, which can also encourage curiosity. A cube can thus demonstrate the phenomenological concept of “adumbration” (German: *Abschattung*) – the fact that even though we assume we can see whole objects, we are only able to perceive certain parts of it at one time. (Husserl 2007, 55 ff.) We don’t need to assume that this is reflected upon consciously in order to recognize it. Historically, astragals (see Fig. 1), the ankle bones of cloven-hoofed animals, are most frequently used as dice. Their irregular shape emphasizes adumbration in a similar way to markings.



Fig. 1: Historical dice: animal ankle bones. (Used under CC-BY-SA 3.0, Wikimedia Commons User Hanay)

also common. Industrially, any geometric body can be produced with high precision and in large quantities, so that besides the common six-sided dice, dice with four, eight, ten, twelve and twenty sides are also available. Furthermore, dice with special markings are available for certain games, for example, a six-sided one that bears the numbers from one to three twice, or a ten-sided one that bears the numbers 00-90 in steps of ten, so that together with a ten-sided one it produces a random number between 1 and 100.

In addition, the cube can be thrown, after which it usually stays on one side and another remains facing upwards. It is nearly impossible to predict which side this will be. With markings on the sides, a cube is known to be suitable as a random generator in this way. This property of the dice has been historically used in ritual contexts, but especially in the field of regulated games.



Fig. 2: Dice as a symbol of uncertainty and danger in the military. (Public domain)

Dice are accordingly common as a symbol for regulated games, on the one hand, and for chance (or for fate), on the other hand (see Fig. 2). In historical dice games, chance is of crucial importance. A number of experiments have shown⁶ that people are bad at estimating random events, which regularly leads to surprises in dice games. Players often think that

⁶ For example, the gambler's fallacy or the discourse around the Monty Hall problem.

fate is at work in these games, and it is not uncommon for dice game players to have superstitious beliefs or display superstitious behavior. The fact that an object behaves differently than expected, that it *surprises*, makes it interesting – the dice take on life-like characteristics. In addition, there is a delay that follows the throw of the dice before they come to rest. After that, the player still has to recognize, count, or calculate (in the case of several dice) the value of the throw. To add to the surprise, there is a moment of tension that can be further extended by dice cups, for example. Thus, dice are attractive because of their material, external nature and their interaction with human perception and reflection.⁷

The attractiveness of the dice is further enhanced by a material stake in gambling, typically a money wager. Most historical dice games have few more elements than this. This game configuration is entertaining enough to serve as a past-time on a historically widespread scale. Most dice games in history have been games of chance that make use of little more than the dice themselves. In addition, there are games that are played with dice and boards. Since this section of the text is not organized by game formats⁸ but by game materials, these games are discussed here instead of in a separate section. Moreover, the following will show that they correspond more with the ideal type of dice game than with the board game, which is why they are not classified there.

The dice game with a board is a very old combinatorial format. The oldest known board games fall into this category: the Babylonian GAME OF UR as well as the ancient Egyptian SENET. (Dunn-Vaturi 2007) BACKGAMMON, whose precursors go back to at least the ancient Roman DUODECIM SCRIPTA, belongs to this group of dice game. (Donovan 2017, 34 ff.; Schädler 2007) Then there is the Indian PACHISI, on which today's popular games LUDO (in the United States, England, and many European coun-

⁷ Julius Caesar refers to this moment in his quote "alea iacta est," which is often quoted to the point of cliché. The fitting English translation reads "the die is cast." The metaphor thus describes a period of time in which a decisive process has been set in motion, but in which there is no possibility of intervention. This quote stems from a situation in the civil war in which Caesar's troops are on the move.

⁸ For clarification of this term, see below.

tries), MENSCH ÄRGERE DICH NICHT (in Germany) and EILE MIT WEILE (in Austria) are based. (Finkel 2007) PACHISI is not traditionally played on boards, but on textile game mats. In addition, there is the GAME OF GOOSE, a spiral race to the middle that is particularly popular in the 17th century (as a gambling game). (Donovan 2017, 37; Lhôte 2007) What these games have in common is that the result of the dice is translated into progress along a path. This type of game is therefore often referred to as race games.⁹ The direction of movement cannot be changed and there is no second dimension: the path is a line of positions. Sometimes this path is followed in several directions, for example in BACKGAMMON by the two players in opposite directions. There is only movement in more than two directions in games that have been released since the 19th century. (Whitehill 2007; Whitehill 2015; Donovan 2017, 52ff.) The progress on the board records the score, on the one hand, and a material form to the score, on the other, which then enables the addition of further rules (e.g., beating the opponent's pieces in LUDO).

The dice racing game adds another aspect to the excitement of the dice game, forming an early and stable hybrid form. Beginning in the 18th century, a large number of thematic dice racing games appeared, often with a travel themed design. The rules of the individual games vary only slightly – the simplest variations are just the GAME OF GOOSE with a new design and a new metaphor. This family of games is an intermediate step on the way to modern board games, whose examples are designed and themed. In its early combination of dice and board, this type of game serves as a precursor to the many modern hybridizations. (Lhôte 2007, 115; Lhôte 2010, 82 f.; Schädler 2010; Whitehill 2007, 163)

In summary, this means that the ideal type of dice game is one that focuses on the moment of tension during the dice roll. Thus, it does not need to involve much more than one or more dice. It is either based on pure chance (in the case of cubic dice) or involves an aspect of skill (in the case of knucklebones: Because these are irregularly shaped, players can

⁹ This term can be found in 20th century games literature, primarily in British games literature. Thus, I cannot say at this point when these kinds of dice games are interpretatively associated with races.

influence the outcome to a certain extent through choice of bone and through dexterity in the throw). This aspect is usually enhanced by money stakes or scoring systems (e.g., point counting, or the scorecard in YAHTZEE) to give greater meaning to the results of the throws by establishing and maintaining continuity between them.

These stakes and scoring systems are replaced in the dice racing games by movement along a path, which creates a second but related ideal form. The course that the players have to follow can be spiral, crossed or line- shaped. Other game mechanics can be in effect on the course, in particular beating or capturing when one's own piece reaches a square that is already occupied, as well as special squares that move the pieces further or back or protect them from being beaten.

3. PLAYING CARDS

Early card games are primarily games of chance and, in general, are thus functionally interchangeable with dice games. In religious and bourgeois circles in particular, however, gambling is already suspect in the Middle Ages. The reasoning is that the fruits of honest labor could be lost in gambling, on the one hand, and winnings could be obtained without honest labor, on the other. Over the course of modern times, bourgeois players increasingly play more tactically, for example by memorizing the cards they have already played or by observing the reactions of the other players. This way of playing develops in distinction to the nobilities' generous and exuberant way of playing and in reaction to the unpredictable and immoral aspects of gambling. (Depaulis 2010, 155 ff.; Wörner 2010, 432) Thus, as the bourgeoisie becomes culturally dominant, a cultural space of play emerges that is then filled by games that reward the skills of the players more. This happens in several stages, from betting games that no longer exist, such as PHARAOH and LANDSKNECHT, which dominate until about 1600, through the 17th century with REVERIS, HOMBRE and WHIST and the first game books (containing rules as well as tactical advice), before the wave of transformation breaks in 19th century card games like SKAT or POKER. The skill-based games that emerge from the 17th century

onwards are to some extent still common today, in contrast to the games of chance of the earlier period, which have disappeared from gaming (and gambling) practice.

Card games are practically always based on the fact that the front side is hidden, while their back side faces the other players. (Parlett 1990, 15 ff.) This applies to both games of chance and games of skill. The more central the skills of the players are, the more crucial it is to treat the game as a system of known and unknown information,¹⁰ the unknown part of which can be utilized by reflecting probabilities in the game. This understanding of the situation as an informational one is modern – in cultures with a less scientific-empirical-materialistic self-conception, players tend to conceive of the course of the game in terms of *fate* rather than analyzing the mechanics that are immanently effective in the moment-to-moment development of gameplay. The critical material difference to dice games is the more complex structure of the card deck: Unlike dice, the outcome of a game action (such as drawing a card) influences the probabilities of all subsequent outcomes. For example, if a jack is drawn from the deck, the probability of drawing a jack again the next time decreases, because there are now a maximum of three jacks in the deck.

The front of the playing card, the card face, is marked with symbols indicating groups (the colors) and a hierarchy (the values). The resulting order offers the possibility of hierarchical valuation, which is relevant in many games. In addition to scoring, the two-part order opens up the possibility of combining and recombining cards, as in *Poker*. In many cases, the hierarchy has also been interpreted socio-culturally, especially because a royal “court” is represented.

It follows that the ideal-typical card game is one in which the players only gradually learn which card is in which place in the game, while they have to bring about a certain configuration of the cards or guess something about the configuration correctly.

¹⁰ In economics these are called games with imperfect information as opposed to games with perfect information, such as most dice games.

4. BOARD GAMES

From the perspective adopted here, which is concerned with ideal types, a two-dimensional grid appears to be the typical form of board game. In addition, there are many different types of boards: POCH boards, MANCALA boards, boards with squares arranged in a spiral or cross-shape, BACKGAMMON boards. Some of these boards are used in games that have already been described here: POCH boards are necessary for the card game POCH, and the dice racing games have been treated above with the dice games. In both POCH and the dice-racing games, for the most part the decisive game actions do not take place on the board: The POCH board is used to manage the game stakes, the boards of the dice racing games are means of documenting the score produced by the throw of the dice. We can consider POCH as more of a card game than a board game, the dice racing games more as a dice game than a board game. The dice racing games are also an exception in the set of board games because of their linear game plans. A second exception are MANCALA games, which form one or more paths out of a series of small pits. Tokens (often pebbles or beans) are counted into or out of these pits. They are closer to dice racing games in their low spatial complexity.

The largest group of board games, however, are those on playing fields that consist of a grid, a typical example being the CHECKERS game or the Japanese GO. The best-known example is probably the chess board, which measures 8 by 8 square squares. As a rule, the pieces are abstract, which makes CHESS, which is popular in historical studies on games, rather atypical. (Murray 1978, 7) Boards with grids that are not continuous can also be found in the GAME OF FOX, SIEGE and NINE MEN'S MORRIS (MÜHLE in German), for example.

The majority of historical board games, however, are characterized by a spatial conflict around a two-dimensional grid. Materials here are the gridded playing field and figures. The playing field of a board game does not have to be a flat board made of wood or cardboard. For example, the large group of MANCALA games is usually played in small pits that are dug into the sand by hand. (Murray 1978, 159 f.) Wooden boards with pits cut

into them are also common. The playing field is sometimes drawn in the sand, carved in or painted on wood, they are more rarely carved in stone. It is only with industrialization that cardboard replaced these materials on a large scale. The game pieces are often small objects that are readily available in large numbers – pebbles, beans or grains, shells or bones, for example. In most cases, neither the board nor the game pieces are decorated or figuratively designed – the typical board game is abstract and geometric. Due to this abstractness, the material of the game elements is also of secondary importance for the course of gameplay. CHESS is the exception in that it uses somewhat figurative pieces, which may explain its extraordinary popularity in modern humanities research. The figurative aspect of CHESS made it possible for it to become one of the roots of simulation thought. (Nohr 2008, 19 ff.) A vague, symbolic resemblance of the geometric contests of board games to conflicts like war, battle or hunting is, however, noted at least in the medieval names of some board games: THE HARE GAME, FOX AND GOOSE, THE SIEGE GAME, LUDUS REBELLIONIS. (Murray 1978, 98 ff.)

The mathematical character of board games is reflected in the fact that board games appear again and again as an experimental space or example in the history of mathematical thinking. Mathematics, being the reflection of abstract structures, thus uses the board game, which then appears as an abstract structure for the sake of an abstract structure in this context.

The central challenge in board games is a direct competition for control of geometric space. Here, a competition of skill can be held, and thus self-efficacy can be experienced if spatial control is successfully gained. The structural, geometric abstractness of the game means that the players perceive the challenge as primarily abstract and intellectual. It gives tactical reflection an immediate, material counterpart on the board, which creates the subjective impression of thoughts becoming material. The spatial-geometric situation of the game state changes with each move and creates new tactical relationships between the game elements. These relationships are not random like the results of the role of dice, but they are shaped by the unexpected course of interpersonal interaction, which

makes them just as surprising as the fall of the dice. This interconnection of the intellectual-tactical and the material-geometric dimensions of the game is the attraction of the board game.

Accordingly, the ideal-typical board game is played on an abstract, two-dimensional grid on which two players or two groups of players compete against each other. In this competition, they are either allowed to place pieces on certain positions on the grid or to move pieces that are already there to other positions. If movement is possible, then in most cases it is in four or eight directions (sometimes more complex patterns as in CHESS), not just on one line. In most cases, certain moves can remove opposing pieces from the field or “capture” them. The aim of the game is to be the first to bring about a certain position of the pieces on the field, to remove all the pieces of the opponent from the field, to capture more pieces than the opponent or to have more on the field or, as in GO, to enclose a larger part of the field with one's own pieces and thus “conquer” it.

5. PLAY-FORMS

An analytical method for systematizing game elements can be gained from reflecting on the game materials described. As can be seen here, there are certain objects that are played with again and again in very different cultural contexts. (Adamowsky 2014, 350 f.; The example mentioned there is the *ball*.) They enter into a cross-culturally distributed relationship with the perception and practices of very different people, a relationship that is pleasurable for the players. These relationships can be described with the concept of affordance. This term is used to talk about the “offer character” that objects emanate to living beings of a certain bodily structure – a chair has the affordance for people of a certain size to *sit down*. (Gibson 1986, 127 ff., esp. 133 ff.; Abend/Beil 2014, 52) This term is coined by James J. Gibson in the psychology of perception and widely received in the field of design. The term is useful here in that it does not enforce a subject-object dichotomy; affordance is a relationship that includes both parts of the object and parts of the person perceiving the object. James J. Gibson, who coined the term, accordingly embeds it in an

“ecological psychology of perception.” (Gilli 2020; translation by the author) The boundaries of affordance lie inside and around (and not between) the object and the subject, which in turn are poles within the material relationship. In this context, subject, object and affordance are produced in processes. More precisely, then, affordance is a relationship within the material world that appears offer-like to a perceiving being. For Gibson, affordance is conceived around the single individual¹¹, which needs to be extended to include social and cultural aspects (Zillien 2008, 12 ff.; Gibson 1986, 135 f.) – in the case here, for instance, the objects described above are not naturally found, but man-made (or, in the case of astragals, found and *chosen*). Also, their use is shaped by rules of the game, meaning by cultural conventions.

The practices related to the game objects are embedded in rule systems of finite complexity that grow out of the affordances. The practices are thus not limited to the mere handling of a play object, as is the case with some *toys*. Both the practices and the objects evolve slowly, they are relatively stable. Play objects such as dice and cards are thus recognizable things that are furthermore associated with relatively stable practices: They are associated with their functional use in specific games. For this function-object structure, I propose the term *play-form*, or *Spielform*¹² in German.¹³ It expresses the two aspects described: *Form* stands for the stability and recognizability of the element, *play* for the functional context.¹⁴

¹¹ Universalising and naturalising a modern individualism.

¹² Since *Spiel* is the German word both for play and for game, this term is very general and bears a deliberate ambiguity that has to be abandoned in the translation to English.

¹³ As a concept, *play-form* is similar to the design pattern, which, however, implies that it only applies to designed games. (Juul 2016) Similarly, it is related to *ludeme*, which, however, only refers to abstract game elements that are found in the rules and appear in this text as “function.” (Bojin 2010; Parlett 2020)

¹⁴ “Form” also has connotations of functionality, at least in German, where “form” also means “mold,” as in “baking mold” or “casting mold.” In addition to the development of this term from the historical material, the concept of form is borrowed here from its use in Gestalt theory or Gestalt psychology. (Wertheimer 1923; Arnheim 2000, 93 ff., p. 305ff.) The concept of form has been applied to media theory by Rainer Leschke, who emphasizes the relevance of morphology for the explanation of transmedial phenomena, especially in the field of networked media. (Leschke 2010) From today’s perspective, memes, for example, could be analyzed as a form phenomenon. (Leschke 2010; 17 ff.) Media morphology used the term

In this text, the object-like play-forms *dice*, *playing card* and *game board* are discussed above. This term, however, is not to be limited to objects. Gestures can also be stable, recognizable and functionally related to the game, as in ROCK-PAPER-SCISSORS; movement sequences such as the *overhead kick* in FOOTBALL or even tactics such as chess openings. chess openings are stable and recognizable enough that they have been given names. Moreover, a play-form does not have to be a small part of the game action, but can encompass it, as the play-form *playing field* does. A playing field also fulfils the above criteria: It is recognizable and functionally related to the game that takes place on it. The term play-form thus denotes phenomena on different levels and, above all, of different materiality. Play-forms are not only found in regulated games, but also in free play, greek paidia. (Caillois 2001, 13, 27 ff.) Here we find objects like *balls* or *dolls*. The materiality of these objects is secondary to their formal properties: that they are recognizable as balls or dolls and that they potentially function as such. Formal properties can certainly be rooted in practices as well: a tin can become a ball during the course of play and is then recognized as such, not least because it is used (kicked or thrown) as such. The execution of the game, the practice of kicking, for example, thus becomes part of the formal properties of the can as a ball. Furthermore, I would consider basic modes of playing as forms of play, as long as they are complete and recognizable: "pretending," competition, intoxication and gambling. These are the "attitudes of the player" into which Caillois divides play as a whole. (2001, 11 ff.) They are self-contained (pretending is not competition, we can usually identify limits) and recognizable (we recognize play) as well as functional: they do work, they can be used to create play.

"Spielform" (play-form) early on. (Leschke/Venus 2007) There, however, the concept remains presupposed and undeveloped, positioning this text as a continuation and reevaluation of that line of research. The interrelations, migratory movements and hybridizations between computer games and film are analyzed by Andreas Rauscher, who uses the term cineludic form. (Rauscher 2018, esp. 253 ff.) The concept of form is often used to examine narrative phenomena, also in the context of digital games. (Sorg 2009)

Play-forms, as defined here, identify parts of games. This means they are located below the level of the game as a concept – play-forms occur in games. At the same time, many play-forms occur in different games – stability and recognizability stimulate this. Thus, a play-form can serve to group together different games in which it occurs. It is possible to create a long list of all games in which dice occur. This does not mean that all games on this list would be recognizable as *dice games*. This is crucial in that recognizability is central to identification as a form here. Indeed, we can think of games that contain dice but would probably not be recognized as dice games: target shooting at dice, for example. A more commonplace example is MONOPOLY, which contains the game form playing cards but is rarely identified as a card game. Our list would therefore only be a list of games in which the game form dice occurs.

Nevertheless, the terms dice game, card game and board game denote classes of phenomena with a formal character: as categories, they are stable, recognizable and functionally related to a perceptual framework. This framework in turn is less the game itself than socio-cultural environments in which games occur (a *toy store*, for example). The distinction between dice games, card games and board games helps navigate these environments. The stability and recognizability is shown by the fact that these terms are commonplace and commonly understood. Thus, they are forms, but not play-forms, since they are not functionally related to the game as a perceptual frame, but to environments of games. Thus, the term card game is not a name for the list of all games in which cards appear. Rather, other game properties are associated with the game object playing cards due to their affordances. These properties become more and more interconnected in the practice of the game until they merge and crystallize, as it were, thus forming a new, larger structure. This structure is larger than the play-form of playing cards, yet it is a form because it is stable, recognizable and functional. Because of its connection of play-forms with other play-forms and other characteristics, I propose the term *game format* for this type of form. This expresses the fact that here different forms and properties combine to form a more complex structure, which in turn carries formal properties.

In the following, the card game is discussed as an example of a game format. As shown above, the spectrum of card games that are actually played converges more and more over time around the aspects of combination and information handling, while the gambling aspect of card games fades into the background. The card game format differentiates itself from the initially similar dice game and moves towards an ideal type of card game format. The characteristics of the card game format are therefore not limited to the use of the playing card as a game object, but include game characteristics that occur particularly frequently in games with playing cards. The affordance character of the play-form *playing card* has effects here. With the ideal type that has become recognizable as an abstraction from the forms that occur, we can now in turn look at existing card games and categorize them as “less typical” or “more typical” card games. If we speak of games in which the game form playing card occurs, we must consider all of these games. If we speak of the *game format* card game, this has a center and an edge. The development towards the ideal type is already a material process from the beginning, that is, in the material characteristics of the cards, on the one hand, and in the physical and psychological characteristics of the people who handle the cards, on the other hand, which is what they find especially pleasurable about the games. Here, the sphere of the social and its historical development have an effect at different points. Cards are produced socially, in a division of labor. Without society, there can be no playing cards. What people find pleasurable interacts with socio-cultural framings, as in the contrast between aristocratic and bourgeois play. Finally, society also influences the characteristics of the human bodies in question – for example, what they perceive and with what attention, how strong they are or how cautious. This means that forms develop in relation to practices and are produced by practices. At the same time, they affect practices, they even determine them in part. In this light, the practice appears as the processual aspect of the form, the form as the stable aspect of the practice.

As mentioned above, boundaries between game formats are creatively dissolved at the beginning of the 20th century.¹⁵ The borderline case of racing games acts as the spearhead here, with games that have different themes but very similar rules. Themes include car racing, *With the Airship to the North Pole*, *Expedition to the Jungle*. The rules are usually based on the GAME OF GOOSE, SNAKES AND LADDERS or PACHISI. (Faber 1997, 28 ff., 34 ff., esp. 46 f.; Faber 2007, 132) At the same time, the card games receive a pedagogical revision: the family card game, whose most successful exemplars are HAPPY FAMILIES and BLACK PETER. (Krumbein 2007; Thiel 2007) Thus, two new game formats appear at the same time and new expectations are placed on them: the modern card game and the modern board game. Finally, designed games appear that are newly developed, often combining many game forms. The most successful of these modern games is MONOPOLY, a board game that includes both dice and cards.

The plethora of games that are available today, often with only minor variations from one another, may give the impression that it would be difficult to clearly distinguish between types of games. The historical game taxonomy described above, on the other hand, shows that historical game phenomena do not tend to mix, but that the various moments of attraction appear to the players as clearly different. This perception of distinct game phenomena is reflected in the socio-cultural development of these phenomena. Even in the modern blending of the ideal-typical game formats, the play-forms remain different from one other; they are merely recombined as building blocks. Thus, the affordances of game elements are not only effective in the lived play practices, but also crystallize in the design of the objects that make up the game material. This makes some aspects of the phenomenological qualities of play practices historically and archaeologically explorable. At the same time, the concept of play-form offers an analytical perspective with which the hybrid game formats of today's board and card games, their dynamics as well as their remediations (including those in computer games) can be described.

¹⁵ This marks the climax of this transformation, the first preliminary developments of which begin with the production of playing cards in the 14th century. (Clüver 2021)

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