

Central Theories of Games and Play

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In this chapter, we review the central theories of play and games, and contextualize them for organizational use. The review draws on theories presented in psychology, philosophy, ethnology, anthropology, sociology, history, and game studies, to examine the notion of playfulness as a mindset, of play as an activity separated from “real” life, and how games and play are differentiated by their levels of rules. Furthermore, it teases out how many elements from games and play can be applied to non-playful activities, in what is currently called gamification.

Scholars and developers of simulation/games, serious games, and serious play have for decades been harnessing the potential of play for individual and organizational learning, and now gamification follows in their footsteps – or invents new paths. Yet to apply the theories fruitfully, especially in an organizational, interpersonal context, one needs to be sufficiently familiar with the nuances of the theories themselves. This chapter presents the central theories and definitions of play and games, and then discusses their implications for organizational gamification.

[An outline of game definitions and play theories](#)

As argued by Wittgenstein (1958), games are a group of activities that may not resemble each other at all. Yet we recognize them all as types of the same phenomenon. For example, a live-action role-playing game has very little similarity with *Monopoly* or *chess*, even if to some extent in the latter two, too, we can find some sorts of roles, of playing “capitalists” or “generals”. Card, board and digital games tend to be quite different from one another, at least in cases that are not directly intended to be hybrids such as digital card games like *Hearthstone*. Some researchers have argued that looking beyond the surface level of games, we can find common elements that apply to all games (e.g. Suits 1978). Furthermore, the political question of what is a “true” or “real” game is important for many researchers and players, and alongside it, the question of who counts as a real “gamer” (Stenros & Kultima 2018; Consalvo & Paul, 2019).

Definitions of games are always socially constructed – and tautological, in the sense that one first decides what to include in them, and what to exclude, and then creates a suitable definition (Suits, 1978). For example, long discussions have taken place on whether gambling, sports, or professional play may count as a game, and under what conditions (Salen & Zimmerman, 2004; Juul, 2005; Caillois 1958). Game definitions can be normative, descriptive, strict, or loose, depending on their purpose (Stenros, 2015). Outside of defining the subject for games research, they are first and foremost tools, not essentialist descriptions meant to create clear limits on what counts and what does not.

The one aspect most definitions of games agree on, is that games have rules (Stenros, 2018). They are rule-based activities, in which people accept certain artificial limitations to make the activities more interesting (Suits, 1978). By for example, having rounds, gloves, helmets, and limits on where to hit, *boxing* becomes a game instead of just a street brawl (see also Anderson, 2001). According to the same principles, they are likely to have outcomes and tend to contain an artificial conflict of some kind (Salen & Zimmerman, 2003). Some definitions are such that it is hard to tell what exactly counts as a game, or as play. Whereas many scholars see games as a continuation of play, others view games as an activity distinct from play.

For example, Elliott M. Avedon and Brian Sutton-Smith (1971, 7), see a game as “an exercise of voluntary control systems in which there is an opposition between forces, confined by a procedure and rules in order to produce a disequilibrium outcome.” Play, in turn, they define as an “exercise of voluntary control systems”. From an organizational perspective, this may sound quite familiar. What, under this definition, then sets games or play apart from many activities in a competitive marketplace? Or, under which parameters, is the market a game, as has been suggested of e.g., stock exchanges? And if it is a game, is it a zero-sum one, or should we expect a type of play that sometimes has some or all the players on the same side? To understand the nuances, it is necessary to see when something *might be* a game, rather than to bluntly state when something *is* a game.

One of the most cited definitions is that of philosopher Bernard Suits' book *The Grasshopper* (1978):

*[T]o play a game is to attempt to achieve a specific state of affairs (prelusory goal), using only means permitted by the rules (lusory means), where the rules prohibit use of more efficient in favour of less efficient means (constitutive rules), and where the rules are accepted just because they make possible such activity (lusory attitude).
[...] [P]laying a game is the voluntary attempt to overcome unnecessary obstacles.
(Suits 1978, 41)*

These are approaches that favor an activity-based view of games. Similar viewpoints can be found from many other theorists, from Rietzler (1941) and based on him, Goffman (1961), to Duke (1974) and Dempsey et al. (2002). Indeed, until the emergence of personal computers and digital games, almost all definitions of games conceptualized them as activities (Stenros, 2018). But to understand how we can define games, we need to look at how to define play.

From animal play to play with rules

Katie Salen and Eric Zimmermann (2004, 304) have defined play as: “free movement in a more rigid structure”. This echoes Erikson’s (1976) note of “free movement within prescribed limits”.

Play is primal. It is found not just in humans, but most vertebrates, and as such must have a clear evolutionary benefit. There is a long and varied history in numerous scholarly fields in attempting to delimit, understand, and theorize play. As a complex phenomenon, play cannot be reduced to just safely practicing activities that an animal or a person requires as an adult, even as many mammals indeed engage in such playful learning.

Many theories of human play draw from animals. One of the earliest steps in that direction was Frederik J. J. Buytendijk’s work in 1932 (see Walz, 2010, 39-49), which connected the play of animals, human children, and adults. Before even that, philosopher and psychologist Karl Groos (1896; 1899) connected animal and human play. Likewise, influential anthropologist-linguist-cyberneticist-polymath Gregory Bateson suggested in 1955 that in play, participants signal that “this is play”, after which the same elements do not denote the same thing, and this is done by both animals and humans. For example, a playing animal pup biting another is not attacking it, but rather engaging in playful behavior – for fun, learning, or both – and both participants know this (cf. Schechner, 1988). Later theories of animal-human play connection include those of Gordon Burghardt (e.g., 2005) and Stuart Brown (2009). Some animals not only learn while they play, but they also organize, as competitive but non-fatal play may offer possibilities for shows of strength and thus establish grounds for dominance hierarchies.

Another strand worth looking into, before we move to more formalized definitions, is the connection between the play of children and adults. This is a point raised by educational theorists such as Vygotsky (1933/1966), Winnicott (1971/2005) and Piaget (1962), and child’s play theorists such as Vivian Gussin Paley (2005). Vygotsky, for example, notes:

In play a child operates with meanings severed from objects, but not in real action with real things. To sever the meaning of horse from a real horse and transfer it to a stick (the necessary material pivot to keep the meaning from evaporating) and really acting with the stick as if it were a horse is a vital transitional stage to operating with meanings. (Vygotsky, 1933).

Based on ethology and the work of scholars of child’s play, it is possible to construct a typology of play. The most foundational play activities, which are also widespread in the animal kingdom, are *locomotor-rotational play* (play with the body, such as jumping up and down, chasing one’s own tail), *object play* (playing with stick, toys, tools, conceptual objects), and *social play* (playing with other organisms) (Burghardt 2005; Bekoff & Byers 1998). Humans engage also in increasingly complex other forms of play, such as *construction play* (e.g. piling, inserting, shaping, playing with

Legos, playing *Minecraft*), *pretend play* (playing with objects as if they were something else, e.g. using a stick as a horse), *socio-dramatic play* (more complex as if play with roles, i.e. role-play), and *rule play* (play with clear and enduring rule structures, basically games) (Burghardt, 2005). It is important to note that not all play is representational; for example, locomotor-rotational play does not boil down to language or contextual framing. For a brief summary of prominent play theories of the last 120 years, see Figure 1.

Educational theorists tend to emphasize the make-believe aspect of play, but do not necessarily go into more rule-based concepts which are important for many definitions of games and play. Piaget (1962), however, sees games as formalized play that has rules. Decades later, Klabbers (2009) makes in his working definition a clearer distinction, while nevertheless emphasizing the continuity of play and games:

A game is a form of play. It is an activity involving one or more players who assume roles while trying to achieve a goal. Rules determine what the players are permitted to do, or define constraints on allowable actions, which impact on the available resources, and therefore influence the state of the game space. Games deal with well-defined subject matter (content and context).

Play is a voluntary activity or occupation, executed according to rules freely accepted but absolutely binding, having its aim in itself and accompanied by a feeling of tension, joy, and the awareness that it is different from ordinary life. (Klabbers, 2009, p. 24.)

The oldest game/play definitions, such as those of Huizinga (1938) and Caillois (1958), too, see games as an organized form of play. Indeed, Huizinga does not make a distinction between play and game for he was writing in Dutch, which makes no such distinction. Neither does French, the language Caillois was writing in, and thus he needed to come up with analytical terms for the freeform, impulsive, exuberant playfulness (*paidia*) and the rule-bound, ordered gameplay (*ludus*). Caillois' distinction been quite influential as there are many languages that make no a clear linguistic distinction between the two, for example German, French, and Russian. Even in English game is a noun that also refer to hunters' prey, while play is verb when applied to games and instruments and as a noun it refers to a theater piece. In other languages, like Finnish and Swedish, there are noun and verb forms for both play and game. The definition's language has a clear impact on how the limits of the activity may be seen, and they carry over to how others then treat those definitions. For example, Maigaard (1951), speaking of a very wide range of things he considered games, but which we might rather see as forms of play, states:

Games in the most extensive sense of the word are all sorts of activities which are not "real work" for livelihood or common physiological functions – e.g. connected with

digestion and sexual life. Games are performed from mere desire. But as activities connected with the exceptions mentioned above also may arise from desire, it is difficult to draw a definite borderline. (Maigaard 1951, 364)

That said, Caillois' terms have been influential, and nowadays we can also talk about gaming as a verb, and use terms like playful and gameful. Likewise, a cultural relation to play may have a significant influence on how play, games, and playfulness are viewed. If, for example, an organization has very strict policies on workplace behavior, play may be perceived as a disruption, as a sign of resistance, or as harassment. Games have a long history of on one hand being perceived as useful tools, and on the other as frivolous wastes of time (cf. Sutton-Smith 1997). Think *tennis* or *chess*, compared to *Super Mario Bros* or *World of Warcraft*. Not only the type of the game, but also the surrounding culture, has significant influence on which interpretations are preferred, and under what circumstances.

Rules, systems, and the contexts to which they give rise

A major shift in how games are conceptualized happened during the 1980s. Previously games had been conceived of almost exclusively as activities. Now, a new framing arose, one that is highly relevant for organizational sciences: *games as systems*. Game designer Chris Crawford's (1984) definition is:

[A] game is a closed formal system that subjectively represents a subset of reality. [...] By 'closed' I mean that the game is complete and self sufficient as a structure. The model world created by the game is internally complete; no reference need be made to agents outside of the game. (Crawford 1984, 4)

While it is Crawford's definition that later proved to be influential, especially in game studies, it was not the first formulation of games as systems. The earliest such conceptualization comes actually from mathematics, where in the sub-field of game theory John von Neumann and Oskar Morgenstern (1944) stated that "*The rules of the game [...] are absolute commands. If they are ever infringed, then the whole transaction by definition ceases to be the game described by those rules.*" While the concept of 'game' in game theory is very different from games that this article addresses, this idea that rules set up, constitute, a very specific context, very much resonates. Similarly, in the field of operational gaming, a game is defined as an "institutional model of a game situation" (Ståhl, 1983). This almost circular definition is a bridge between the idea of game as activity (a game situation) and a game as a system (institutional model). However, in operational gaming there was a recognition that there are both games with rigid rules and free-form gaming (Shubik, 1983; Klabbers, 2009).

Of course, the idea that games somehow set up specific contexts was not new. Crawford's formulation of a closed formal system representing a subset of reality echoes sociologist Erving

Goffman's (1961) view of games as "world-building activities". Indeed, the idea of self-sufficiency is much older. An oft-cited point comes from Huizinga (1938), who spoke of a "magic circle" that separates play and ritual from the mundane world:

All play moves and has its being within a play-ground marked off beforehand either materially or ideally, deliberately or as a matter of course. Just as there is no formal difference between play and ritual, so the "consecrated spot" cannot be formally distinguished from the play-ground. The arena, the card-table, the magic circle, the temple, the stage, the screen, the tennis court, the court of justice, etc., are all in form and function play-grounds, i.e. forbidden spots, isolated, hedged round, hallowed, within which special rules obtain. All are temporary worlds within ordinary world, dedicated to the performance of an act apart. (Huizinga, 1938, 10)

This concept was later appropriated by Katie Salen and Eric Zimmerman in their extremely influential formulation of the *magic circle of gameplay* in the book *Rules of Play: Game Design Fundamentals* (2004). Salen and Zimmerman reframe the magic circle in terms of semiotics and design (Zimmerman, 2012). For them, a magic circle is a metaphor for "the idea of a special place in time and space created by a game," (Ibid, 95). They see the 'magic' in the transformation of meaning, and the 'circle' as finite and infinite.

While "magic circle" is the most famous formulation, there are numerous overlapping yet different conceptualizations that seek to make sense of the idea that play is a step apart from the everyday life -- that it is a context that feels different and is recognized as separate, that is set up socially and constituted with rules, and that can become a materially marked site (Stenros, 2014). These formulations vary from ritualistic to legalistic, and from philosophical to sociological. Here, following Stenros (2014), we shall divide the conceptualization into three categories, mental, social, and cultural boundaries:

Mental boundaries around play can be seen as a psychological bubble that a player inhabits. It is experienced as feeling safe while playing, even if one is not actually safe. Feeling safe and being in a playful state of mind guides the interpretations a player does.

In play, we seem to create a small and manageable private world which we may, of course, share with others; and this world is one in which, temporarily at least, nothing outside has any significance, and into which the outside world of real problems cannot properly impinge. If the 'real world' does enter in some way, it is transformed and sterilised in the process so that it is no longer truly itself, and can do no harm. (Apter, 1991, 14)

The social contract of engaging in play creates a social boundary where participants agree on treating the play activities as meaning something different than they would, if said activities took place as not-play. Wooden pieces become queens and pawns in *chess*, hitting a person becomes legal in *boxing*, and betrayal in *Diplomacy* is not ground for out-of-game vengeance.

An area of playing is isolated by our sovereign whim or by man-made agreement. Things within this area mean what we order them to mean. They are cut off from their meanings in the so-called real world or ordinary life. No chains of causes and effects, means and ends, are supposed to connect the isolated area of play with the real world or ordinary life. If there still are such chains they are disregarded. (Riezler, 1941, 511)

As play practices become institutionalized and materially supported, long-standing arenas of play and cultural boundaries are set up. This can be a tennis court one can rent or a temporal boundary that marks the first day of April as a day when lying is not frowned upon.

While these conceptualizations of magic circle and other formulations for the relative separation and boundedness abound, they have also been widely criticized. For example, game scholar Mia Consalvo (2009) has argued that they uphold structuralist ideas of games and that such formulation give primacy to form of function (for further criticism and debate on the concept of the magic circle, see e.g., Taylor, 2006; Castronova, 2005; Copier, 2005; Pargman & Jakobsson, 2008; Calleja, 2012; Stenros, 2014).

Recreational games versus expected seriousness

Instrumental uses of games have been studied long and they been discussed especially in the context of business gaming and policy planning, even as the tradition likely originated from military simulations. These communities had formal research since at least the 1950's (Kibbee, Craft & Nanus, 1961; Shubik, 1983; Keys & Wolfe, 1990). Developers of the first computerized management simulations wrote about their own designs, and thereby spread simulations' use. The systematic study of the area was established in 1970, with the founding of the International Simulation and Gaming Association (ISAGA), and the journal *Simulation & Gaming*. Many questions about topics that are still being examined in game studies and gamification, such as the necessary balance between fun and learning, or optimization of challenge levels (e.g., Carlson & Misshauk, 1972), were first introduced in these years. Yet the early authors in this interdisciplinary community often did not care about defining games or play, just about deploying them effectively for instrumental uses. The few exceptions to this, such as Richard D. Duke (e.g., 1974) however drew on not just earlier definitions, but also theories of authentic learning from preceding educational theorists.

Clark C. Abt (1970, p. 6-9), in seeking to discuss learning (or seriousness) in games, says “Reduced to its formal essence, a game is an activity among two or more independent decisionmakers seeking to achieve their objectives in some limiting context.” This foreshadowed many of the discussions later on, especially at the point in the early 2000s, when scholars of recreational gaming (re-)discovered the learning potential of games.

Yet while to some extent re-inventing the proverbial wheel, theories of recreational play also brought new ideas into the mix. For example, the contributions of game designers have been valuable in framing new approaches to games and play. Game designer Greg Costikyan’s view (1994) was:

A game is a form of art in which participants, termed players, make decisions in order to manage resources through game tokens in the pursuit of a goal. (Costikyan, 1994)

While Costikyan has later altered his wordings, this situating of games as art is an early one. This example also shows how close game definitions can come to organizational behavior – also in recreational play. Perhaps the most direct example comes from decades before, however, as already play designer Bernie DeKoven (1978) raised the point that the core of games might be in the community of players, not in the artefact of the game, or the activity of playing it. Many training games, operational games, and increasingly also recreational games that tackle serious subjects, however, put into contest DeKoven’s (ibid) view that games should always be fun. We see this especially in asymmetric, dark play (discussed below). For successful gamification, however, keeping that principle in mind is highly recommended, as long as it is also remembered that too much enjoyment will hinder reflection during play (Harviainen & Meriläinen, 2019).

Even so, to this day ‘fun’ remain an undertheorized concept (see e.g., Koster, 2004; Holopainen, 2008; Bogost, 2016; Sharp & Thomas, 2019), considering how often it crops up not just in popular, but academic discussions of play and games. It is common to see (recreational) games characterized as ‘fun’, just as it is common to conceptualize play as ‘positive’ (e.g., Bateson & Martin, 2013).

Two of the most influential definitions of (recreational) games in many ways build upon the aforementioned numerous ideas, and indeed review those before making their own.

A game is a system in which players engage in an artificial conflict, defined by rules, that results in a quantifiable outcome. (Salen & Zimmerman, 2004, 81)

A game is a rule-based system with a variable and quantifiable outcome, where different outcomes are assigned different values, the player exerts effort in order to influence the outcome, the player feels emotionally attached to the outcome, and the consequences of the activity are negotiable. (Juul, 2005, 36)

As can be seen, both of these carry the legacy of Suits (1978), but emphasize the systemic nature of the game and gameplay, as formulated by Crawford (1984). As a result, they tie in to the concept of isolated systems, removed from real-world elements and consequences, exemplified by the stricter interpretations of the magic circle as a reality of its own, akin to a ritual (e.g., as per Turner, 1969), instead of it being a social barrier.

In contrast, a definition by Thomas Malaby (2007, 96) starts with neither systems nor rules: “A game is a semibounded and socially legitimate domain of contrived contingency that generates interpretable outcomes.” The word “contrived”, however, nevertheless points toward the artificial nature of the situation, and while the definition is in a way more descriptive than definitive, it is not incompatible with the systems-oriented approaches. Building upon this observation, Sebastian Deterding (2013), later well known as one of the leading voices in gamification research, states:

[F]ormal games are socio-material stabilisations and institutionalisations involving player communities, game equipment, and formalized representations of the constitutive rules of a game. Playing any formalized game means to align oneself in a mutually intelligible manner both with the specific constitutive rules of the game, and the general constitutive rules of ‘playing a game’. They continue to be reproduced-and-changed as people continue to bring together people, inscriptions, and game equipment in framing a situated encounter of doings, sayings, events and experiences as ‘playing game X’. (Deterding 2013, 177; see also 237)

For Klabbers (2009), coming from the side of both educational and operational gaming, but not limited to those, both the systems and the social aspects count, as does the removal from mundane reality to at least some extent:

[G]ames are social systems and moreover, they represent social systems - real or imagined. They are also models of social systems. It is crucial to keep that dual position in mind. Even if a game involves a single actor, that actor will always enter the magic circle and steps into a social system, real or imagined. A player does not enter a social vacuum. (Klabbers, 2009, 100)

Some social systems, however, also carry darker sides and problematic legacies. These too need to be taken into account when examining games and gamification in organizational settings. Not everyone wants to play, and not all play is between equal partners.

[The darker sides of play](#)

Games are socially constructed, both as systemic artefacts and as a conceptual category. Play, however, is primal, a brute fact rooted in biology. Still, the cultural conceptual category of “play” is

human made. This means that activities and states of mind rooted in play or playfulness and things that are culturally recognized as play do not fully align. Numerous scholars have criticized the idealization of play as positive. Brian Sutton-Smith and Diana Kelly-Byrne have been particularly clear about this:

We have sought to counter the idealization of play which on the everyday level is expressed by saying that the child's play is its work, or that sports build character, and on academic level by finding the essence of play involuntariness, positive affect flexibility and socialization. These characteristics may be present in some play in some circumstances. Unfortunately the opposite characteristics of obligatoriness, negative affect, rigidity and dysfunctionality are also characteristic of some play in some circumstances. (Sutton-Smith & Kelly-Byrne, 1984, 316)

Norm-defying play has been discussed with numerous different terms that highlight some specific kind of subversive play. For example, *forbidden play* (Salen & Zimmerman, 2004) refers to taboo-breaking child's play, where as high risk leisure activities are discussed with the term, *edgework* (Lyng, 1990). Other such terms include *deep play* (Geertz, 1972), *bad play* (Myers, 2010), *edgeplay* (Moser, 2006), *unplaying* (Flanagan, 2009), and *dirty play* (Fine, 1986). Currently the terms gaining most traction in game studies are *dark play* (see Mortensen, Brown & Linderoth, 2018) and *transgressive play* (Jørgensen & Karlsen 2018). Again, the terms highlight different aspects; 'dark play' originally comes from performance studies, where it meant play that "subverts order, dissolves frames and breaks its own rules – so that the playing itself is in danger of being destroyed." (Schechner, 1988), whereas the term 'transgressive play' underlines that what is deemed transgressive is tied to specific historical and cultural moments.

From an organizational point of view, the categorization of play in schools is particularly illuminating. Nancy R. King (1987) has divided play in elementary schools into three categories: *instrumental play* (games and play employed by teachers as part of the lessons, usually mandatory), *illicit play* ("aberrant" and "dysfunctional" play that undermines authority, such as doodling, note-passing, mocking), and *recreational play* (play outside the classroom, during recess and after school). Play in the classroom is either instrumental – or it is illicit. This is a narrow, if understandable, characterization of play. Play needs to be harnessed for a goal. Otherwise, it is aberrant and dysfunctional. Anthropologist and ritual scholar Victor Turner (1986) has drawn attention to how play has the capacity to surprise and disrupt, and as such poses a danger to institutions:

Playfulness is a volatile, sometimes dangerously explosive essence, which cultural institutions seek to bottle or contain in the vials of games of competition, chance, and strength, in modes of simulation such as theatre, and in controlled disorientation,

from roller coasters to dervish dancing -- Callois' "ilinx" or vertigo. Play could be termed dangerous because it may subvert the left-right hemispheric regular switching involved in maintaining social order. (Turner 1986, 31)

Play sometimes takes forms that are transgressive, taboo, inappropriate, mischievous, dangerous, immoral, and illegal (for an overview, see Stenros 2018). At its worst, it may be one-sided, in the sense that one person will treat others not as co-players, but as props, for example in cases on teasing, bullying, children harming animals, or guards mistreating prisoners. The cat may treat the situation as play, but for the mouse it is simply frightening and lie-threatening. If we only think of play through the positive aspects associated with it, we will not understand play, and we are unable to prepare for the negative aspects of play. As Huizinga (1938) has noted, "Play lies outside the antithesis of wisdom and folly, and equally outside those of truth and falsehood, good and evil."

In addition to malice, play also carries other risks. It makes us unaware of potential consequences. People who are in a playful mind-state or in an activity defined as a game may take unnecessary challenges, overestimate their skills, and underestimate actual risks (Frey, 1991; Apter, 2007). This is exemplified by unsafe sex, but likewise if, for example, organizational play is allowed to persist without being grounded in facts, it may also cause people to default into unrealistic beliefs (Vesa, den Hond & Harviainen, 2019).

The Rise of Gamification

The beginning of the formal concept of gamification can be placed back to 2008, when the word first appeared online (Deterding, 2014). However, the roots of the concept of using ludic elements to motivate humans have existed far longer, in the form of e.g., "employees of the month", heroic Communist workers (Vesa et al., 2017), and in various recommendations for applying games to business (see Deterding, 2014, for a review).

The gamification movement gained momentum with the public appearances of several prominent proponents of gamification, and their less-than-rigorous, but nevertheless popular books in 2011 (e.g., McGonigal, 2011; Zichermann & Cunningham, 2011). Soon after, the term became memetic and entered hype cycle projections (Deterding, 2014). As later chapters in this book will show, recent research has examined the issue from several more thorough directions, and has applied many of the frameworks we have discussed in this chapter for that purpose.

Conclusions

Definitions shape perceptions of the world. If we look at these as just lists of game elements that can be added to non-game activities in order to make them playful (as per Deterding et al., 2011;

Huotari & Hamari, 2017), they can easily lead a designer astray. One should not reinvent the wheel, but to improve on existing designs. Not only do we have many good theories and definitions, but we also have several good taxonomies (e.g., Whitton, 2009; Bedwell et al., 2012) and frameworks (e.g., Landers, 2014; Harviainen & Meriläinen, 2019) for applying ideas and elements from games to instrumental gamification. So why study the definitions? The answer lies, we believe, in understanding the principles of what is a game and what might be, without which one cannot add game elements to other activities, at least not if one wants to have increased motivation beyond just brief novelty-based interest (as per Koivisto & Hamari, 2014).

Avedon (1971) noted that the structural elements of games had not previously been mapped and introduced a list of seven common elements in games:

1. Purpose or *raison d'être*.
2. Procedures for action.
3. Rules governing action.
4. Number of required players.
5. Roles of participant.
6. Participant interaction patterns.
7. Results or pay-off. (Avedon, 1971, 422)

Avedon's list has to be understood in the context of his and Sutton-Smith's framework, but it offers a good example of not only a description, but also a design checklist. What appears to be important is that a mind-state change takes place, so that players treat the activity in a gameplay-like fashion. Apter (1989; 1991; 2007) calls this the *paratelic* mind-state, in which instead of a *telic* goal-orientation, the mind is focused on the activity at hand, enjoying its challenges, and often also experiencing a strong sense of control over the situation. The paratelic state is also necessary for strategy work, in that it permits the exploration of ideas for a future that does not yet exist (Roos & Victor, 1999; Vesa, den Hond & Harviainen, 2019).

If we approach games as things that through their rules and world-building, for example, enable such transitions to more speculative mind-states, their advantages for organizational gamification become visible. They may typically be encountered as systems (i.e., as "complete", separate games), but they can likewise function as a set of elements that together turn a non-game activity into something that feels like a game, and thus enacts that change of mind-state (Deterding, 2016). Organizational play and games, however, take place more often as shared activities and mind-states rather than formalized games (see e.g., Statler, Roos & Victor, 2009; Statler, Heracleous, & Jacobs, 2011; Vesa et al., 2017; Vesa & Harviainen, 2019). It is therefore crucial to understand how the borderlines of play function, how they bend, and what that bending may offer for organizations. All of life is to be played, to some extent, (Gadamer, 2004; Salovaara & Statler,

2019). It is therefore necessary to recognize when that play will lead to darker sides, or for good corporate advantage, and how to adjust the likelihood of it to the latter option.

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Figure 1: Summary of the theories of play. Table based on Gilmore (1966), Ellis (1973), and Stenros (2015).

Surplus energy theory

The exuberant, aimless activity in which an organism expends surplus energy is what we call play.

Attributed to Herbert Spencer and Friedrich Schiller.

Relaxation theory

Play is the product of a deficit of energy as it is play that helps replenish energy. Play also dispels inhibitions created by fatigue from practicing tasks novel to the organism.

Attributed to Moritz Lazarus and G. T. W. Patrick.

Preexercise theory

Play is the product of emerging innate instincts of an organism. It fixes and exercise these instincts before maturity.

Attributed to Karl Groos.

Recapitulation theory

Play serves to rid the organism of primitive and unnecessary instinctual skills it has inherited.

Attributed to G. Stanley Hall.

Growth theory

Play facilitates the mastery of skills relevant as an adult; it is a generalized drive for growth.

Attributed to Lilla Estelle Appleton.

Ego-expanding theories

Play is a natural way to build up of cognitive skills and expressive exercise of personality.

Attributed to Konrad Lange and Édouard Claparède.

Task generalization and compensation theories

According to the task generalization theory adults choose leisure activities similar to their satisfying work experiences, and compensation theory suggests that leisure activities are chosen to compensate for a lack of satisfaction in the work setting.

Attributed to Gregory A. Kimble.

Cathartic theories

Play is a way to express frustration and other undesirable emotions in a nondamaging, socially acceptable way.

Attributed to Karl Groos, G. T. W. Patrick, and William C. Menninger.

Psychoanalytic theories

Play is a way to assimilate unpleasant experiences gradually, moving from passive experiencing to active mastery of a situation.

Attributed to Erik Eriksson and Robert Wälde.

Developmental theories

A child's mind develops through set stages in order and play, assimilating reality to one's conceptions and constraints, facilitates that as well as is conditioned by it.

Attributed to Jean Piaget.

Learning theories

Play is behavior and behaviors are learned. Play behavior is response to stimuli noncrucial for survival.

Attributed to John M. Roberts and Brian Sutton-Smith.

Stimulus and arousal seeking theories

Play is driven by novelty and a need to interact with the environment in a way that raise or reach optimal arousal.

Attributed to Ivan Pavlov and Duane P. Schultz.

Competence/effectance theories

Player strived to impact the environment to show competence and feel effectance.

Attributed to Robert W. White.

Autotelic theories

Play is done for its own sake; it is its own goal.

For examples, see Mitchell Robert (1990) and Michael J. Apter (1991).

Creativity and innovation theories

Play fosters abandoning the local optimum for a higher peak enabling creativity and innovation.

For an example, see Patrick Bateson and Paul Martin (2013).

Evolutionary theories

Play must have an evolutionary benefit – even if we do not know what it is precisely.

For an example, see Robert Fagen (1981).

Self-determination theory

Autonomy (volition), competence (effectiveness), and relatedness (social connection) are basic human psychological needs; play can provide these experiences.

Attributed to Edward L. Deci & Richard M. Ryan (2012).