

MAKING POINTS THE POINT: TOWARDS A HISTORY OF IDEAS OF GAMIFICATION

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INTRODUCTION

Digital games are about points. Or so it seems, at least according to a constantly growing body of guidebook-like publications that inform us of the most important qualities of games and their potential to be of use in various fields. These books advocate gamification in one way or another, even though some of them avoid the term (Chatfield 2010; Dignan 2011), while others embrace it openly (Zichermann and Cunningham 2011, Werbach and Hunter 2012). Gamification, which is a problematic concept at best and remains highly contested and criticised (cf. Bogost 2011), is usually defined as a technique that seeks to apply game mechanics to non-game contexts (Graft 2011; Deterding et al. 2011), thereby aiming to “transplant” some of the motivational qualities of games into contexts that are not inherently leisure-focused or motivating in themselves. Thus, they are employed in marketing and PR (Zichermann and Linder 2010), consulting (Edery and Mollick 2009; Beck and Wade 2004), or self-optimisation (Dignan 2011). The theories informing these applications express certain assumptions about the nature and the potential of digital games. The following chapter will give a brief overview of some of the results of an extensive review of publications

on gamification, especially focusing on the alleged qualities of digital games as they are mentioned by said publications. I will then attempt to develop a preliminary history of ideas for one of the core concepts of digital games according to gamification. By historically contextualising gamification and the assumptions it makes, it then becomes possible to develop a notion of what digital games are becoming and how this development is influenced by the way games are used by and positioned in modern society.

Points and scores appear to be the ultimate device for keeping track of the game state in digital games. As Juul (2005) asserts, one of the most obvious yet far-reaching results of the digitalisation of games is the fact that the management of the game state is accomplished by a computer and thus becomes automated. In these ludic environments, points feature prominently, be it as high-scores (indicating dominance over contenders) or as markers of progression (indicating player actions that are assigned some kind of value in the game). Even meta-gaming services like the Xbox or Playstation player profiles are largely built around points in the form of gamer-scores or trophy values. Small wonder, then, that points and scores are among the most frequently mentioned characteristics in gamification guidebooks. The popular literature¹ on gamification is very varied regarding the fields of application that are suggested, but shows great similarities in its views on digital games. Several assumptions concerning digital games can be singled out, three of which will be presented in the form of preliminary categorisations:

GAMES AS EXPERIMENTAL TECHNIQUES

Games have negotiable consequences. This feature of games is a prominent part of many definitions of digital games, as evidenced by Juul's literature review (2005, 29–36) and, while being controversial², it is part of an important argument in many guidebooks: digital games are presented as experimental environments in which certain tests, but also training, can be con-

1 The study focuses almost exclusively on popular publications instead of scientific research because they make up the bulk of publications on gamification and supposedly influence how gamification is actually implemented and, through this implementation, how digital games are perceived by those that gamify and those that participate in gamified systems.

2 Especially in debates on gambling, multiplayer games, or media harm, which often revolve around the question of the real-life consequence of gaming.

ducted in a less expensive way, without the fear of consequences beyond the game-world. Chatfield (2010) states that game-like systems are ideal training grounds for future soldiers (*ibid.*, 193). Dignan (2011) similarly points out that games do not punish risky behaviour like non-game contexts would and that they are ideal for facing fears in the repetitive safety of simulated environments (*ibid.*, 44, 45). Beck and Wade (2004) underline that “[g]ames are great practice for real life” (*ibid.*, 75). Edery and Mollick (2009) directly refer to the capabilities of training games to induce experimentation that would otherwise be impossible (*ibid.*, 126).

Interestingly, these perspectives tie into a strong and convincing argument that has become popular in game studies in recent years. The assumption that games can develop especially persuasive capacities because they can model systems (and their processes) through other systems (and processes) is commonly known as proceduralism and has been widely popularised through two consecutive books by Ian Bogost (2006; 2007). Although Bogost does not think of digital games in terms of experiments, but instead focuses on their similarities to simulations, some of his conclusions regarding the potential of digital games as a medium of persuasion (e.g. for advertising purposes) are very similar to the arguments proposed by gamification guidebooks.

GAMES AS SOURCES OF FLOW

A second aspect touched upon by many guidebooks concerns the psychological notion of flow, first described in 1975 by Mihaly Csikszentmihalyi, since which it has enjoyed an impressive career in game research. Csikszentmihalyi originally focused on the question of optimal experience and the actions and circumstances that afford it, demanding for work to be structured more like a game (Csikszentmihalyi 2008, 152). Specifically, he identified goal-orientation and rules as well as (among others) feedback and an altered sense of time (*ibid.*, 49). Because of these characteristics,

Csikszentmihalyi proposes that even daily routines³ could be transformed into optimal experiences by turning them into “personally meaningful games” (ibid., 51): “Mowing the lawn or waiting in a dentist’s office can become enjoyable provided one restructures the activity by providing goals, rules and the other elements of enjoyment . . .” (ibid., 51). This leads to the reception of his theory in the context of gamification: the careful balance between challenge (through the task or environment) and ability (to meet said challenge) creates a particular state during which players feel challenged in just the right way, play extensively, and tend to forget their surroundings. As such, flow is a ubiquitous concept in gamification discourse. Especially its alleged effect of focusing attention is highlighted (Reeves and Read 2009, 182–184), among the advice to become one’s own flow-designer through making a game of everyday chores (Dignan 2011, 6–8) and the ability of well-made games to absorb their players and circumvent boredom (Chatfield 2010, 43, 51). Of course, ultimately most guidebooks seek to “transplant” the flow caused by digital games into non-game activities, e.g. to structure business operations or work in general more like a game (Edery and Mollick 2009, 159).

GAMES AS GOVERNED BY POINTS AND HIGH-SCORES

The previously discussed aspects of digital games according to gamification are of a theoretical nature; they concern characteristics that are argued to be somehow connected to or adaptable by games without necessarily being game-intrinsic. The matter of high-scores is somewhat different in that (feedback) systems based on collecting and earning points are evidently featured in many games. The impact these systems have on actual gameplay varies, but they can be singled out as important arguments for the merits of games

3 Interestingly, it should be noted that Csikszentmihalyi at first concentrated his research efforts on very particular activities, such as performing surgery or climbing (Csikszentmihalyi 2008, 4). This would make flow in its original conception a supremely rare occurrence. Only later did he broaden the scope of his research to include, among others, assembly line workers. Thus flow became more common among different activities, though it still remained difficult to attain. The factory worker Csikszentmihalyi cites as one of his case studies has decades of experience and “mastered every phase of the plant’s operation” (ibid., 148). This difficulty of actually meeting the requirements to attain flow is frequently disregarded by popular literature on gamification.

in gamification literature, according to which points and scores fulfil two main goals: they measure and they reward players. The former is evidenced by Chatfield, who enthusiastically points out: “[G]ame technologies excel at nothing so much as scoring, comparing and rewarding progress [. . .]” (Chatfield 2010, 199). Besides underlining the allure that points have as a scoring measure, Dignan describes their effect as “magical”: “We see them as a reward, even when they’re worthless, because they are a form of validation. Points represent an abstraction of value and so we often act irrationally when points are in the mix” (Dignan 2011, 155). This irrationality also forms the basis for Zichermann and Linder’s advice for “making points the point” (2010, 68). Their gamified marketing strategies put high-scores and points in a central position because they can simulate value without actually granting benefits (*ibid.*, 122–126), while at the same time sparking competition among customers through leaderboards (*ibid.*, 55–64). This approach of assigning points to everything has not been criticised very often in the reviewed popular literature. Edery and Mollick point out that using points to make work feel like play could encourage cheating or power-gaming, decidedly undesirable behaviours in work environments (Edery and Mollick 2009, 168, 169).

Gamification guidebooks display ideological notions of what digital games are and how they work. The attributes mentioned above, compiled from groups of propositions, are not exhaustive and the list could be expanded in various levels of detail. This chapter is limited only to the most common of the features that were mentioned in relation to games in the reviewed literature. The next section of the chapter is concerned with contextualising these findings in what is to be the first sketch in a larger project on the history of ideas that pervades the discourse of gamification.

TOKEN ECONOMIES AND THE ALLURE OF SCORING

It has been shown that points and scores are paramount in today’s popular theories on gamification. It seems opportune to discuss these systems in the light of their role in the media history of digital games, especially in the context of arcade gaming in the late 70s and 80s (*cf.* Kent 2001) and the

first fan-driven attempts to develop nationwide leaderboards⁴, thus adding additional social value to singular score. Instead, my approach is more in line with what gamification aspires to do. Point-based, closed systems are not to be seen as inherently ludic phenomena, but as arrangements of human motivation, measurement, and experimentation that can be traced to psychiatric experiments. The point systems of today, presented as formulas for the success of digital games that can be detached from said games and applied to marketing or consulting, are revisiting experimental approaches to behaviour modification that came to be known as token economies in the 1960s. Through reading the psychiatric method of the token economy against the backdrop of gamification discourse, the hierarchical and de-humanising structures both have in common will become apparent.

Token economies essentially were first conceived as a point- or token-based experimental rehabilitation treatment for long-term psychiatric patients. The first experiment began in 1961 at Anna State Hospital, Illinois, and was conducted by Teodoro Ayllon and Nathan Azrin. This pioneering effort still remains the best documented one. The token economy as developed by Ayllon and Azrin can be seen as an effort among a larger tendency to influence human behaviour through behavioural methods (Kazdin 1978). Generally, whenever a behaviour occurs that is to be strengthened (made to occur more often), reinforcement is made accessible to the patients, usually through an attendant. These reinforcements may range from handing out candy to offering intangible benefits such as praise. Tokens were a regular feature in many of the experiments, mostly because they guarantee a standardised and easily quantifiable way to control the reinforcement procedure (Ayllon and Azrin 1968, 77). The tokens are handed out and can be exchanged for tangible rewards later on. Token reward systems were used already at the end of the 1950s, for example in experiments with children with learning disabilities (Kazdin 1978, 253). The novelty of Ayllon and Azrin's approach is a matter of scope. Their goal was to create an effective "motivating environment" (Ayllon and Azrin 1968, 5) that would reinforce desirable behaviour and cause undesirable behaviour to become extinct. Thus, the

4 cf. Twin Galaxies: <https://web.archive.org/web/20050613073727/http://www.twingalaxies.com/index.aspx?c=17&id=332> (accessed May 7, 2014).

experiment encompassed the whole closed psychiatric ward of Anna State Hospital and lasted for six years (*ibid.*, 16), during which different series of experiments with varying parameters were conducted. The motivating environment of the token economy focuses on behaviour modification for long-term inmates, who are to be motivated and behaviouristically prepared for release from the ward. To achieve this, basically every desired activity (usually work assignments on the hospital grounds) earns the patients performing it a specific amount of tokens, while all items or activities that are coveted among the patients are assigned a specific cost of tokens. Only if the patients are able to pay the cost are they given the item or allowed to perform the activity. Patients have to pay tokens if they want private audiences with psychologists as well as for extra clothing, consumable articles, or even an additional religious service (Bandura 1969, 263).

Structurally, there are several similarities between how token economies handle their tokens and how points are treated in the gamification discourse. The general goal of a motivating environment seems almost identical, whether employees, customers, or psychiatric patients are to be motivated. The specific method of influencing or changing behaviour is what ties gamification approaches directly to behaviourism, as has already been shown (Deterding et al. 2011). The irrational actions that are ascribed to point-based games in gamification literature (*cf.* Zichermann and Linder 2010; Dignan 2011) in behaviouristic terms are nothing else than specific changes of behaviour that are the result of directed reinforcements. Token economies largely offer tangible rewards where gamification specifically labours to validate points through themselves. However, even the first major book on token economies already mentions the possibility of detaching the reinforcement from actual physical rewards: reading a mail-order catalogue without ordering anything is identified as a reinforcer to the patients (Ayllon and Azrin 1968, 69, 70). The same publication discusses the replacement of (tangible) tokens with (intangible) points or credits:

In addition, the points are standardized, have a simple quantitative dimension, and are not easily altered or destroyed since the record of the points or credits can be safeguarded. The disadvantages of points and credits are that they are intangible and hence are not in the individual's possession during the delay interval. Their intangibility also limits them

as a medium of exchange and prevents their use for operation of automatic reinforcing devices. (Ibid., 78, 79)

The project of gamification has been already prefigured in considerations like these. The intangibility of points, perceived as a flaw by the behaviourists regarding their potential as an exchange medium, is precisely what predestines them for use in a ubiquitous digital motivation environment. In a gamified world, there is no delay interval between behaviour and reinforcement, because the devices and mechanics that are measuring players and awarding points are ubiquitous.⁵ The same is true for points as a “medium of exchange”, since the medial environments that gamification relies upon guarantee the value of points because of their interconnectedness – high-scores and leaderboards only work if scores can be compiled and compared across different devices.

It is becoming clear now that the ideas driving gamification and through them the discursive knowledge amalgamating in the instrumentalisation of games are reaching beyond game-design theory or marketing strategy. The association of digital games and experimental techniques that has been identified as one of the central themes of gamification guidebooks is not a product of chance. Even more so than its strongest advocates may think, gamification is (re)creating experimental arrangements – gamified systems resemble laboratories that run experiments on normalisation and economic optimisation. The literature on token economies reveals the prevalence of considerations on automatisisation and standardisation. The greatest risk for the motivational environment in the psychiatric ward seems to stem from the attendants:

One can easily excuse any laxity in administering rewards due to these factors by stating that the attendants are, after all, “only human”. But that is just the point: One cannot rely upon the attendant’s intentions as a measure of what she is doing. The attendant is too much influenced by predispositions, external events, and behaviours of the patient to be expected to

5 E.g. as envisioned in Jesse Schell’s (2010) popular talks at the DICE conference.

administer rewards in an impartial, objective, and standardized manner.
(Ibid. 12)

Bluntly put, attendants are simply too unreliable; they are inconsistent in giving out rewards and their individual measure of what constitutes a desired behaviour varies. The solution in token economies is automatisation. The tokens function as chips and the actual rewards are handed out through vending machines. This system is implemented thoroughly and to the point where access to certain areas in the ward (e.g. the leisure room) is restricted by token-operated turnstiles (ibid., 141). Where vending machines cannot be employed, especially in the case of intangible rewards like social interaction or religious services, the procedure is strictly regulated through the measurement of duration. The experiments in general are designed for a minimum of human involvement: “The best way to eliminate the influence of a human in the recording and presentation of the reinforcer is to minimize his participation or to substitute some automated method” (ibid., 140). Token economies can be considered an attempt to implement a motivational environment that is largely automated, which is a procedure that inevitably is evoked as well in proposals concerning games in gamification discourse: “[G]ame technologies excel at nothing so much as scoring, comparing and rewarding progress . . .” (Chatfield 2010, 199). The environments envisioned by gamification could be called scoring economies; the problems posed by attendants in the experimental design of the token economy are solved through the automatisisation provided by the structures of digital games. It is no longer necessary to develop a surrounding that is physically closed off or restricted, as long as the game design itself is not exposed.

Gamified systems are like laboratories running experiments on behavioural control.

This development towards scoring economies that are alluding to digital games is, for example, especially evident in Zichermann and Linder’s account on frequent flyer miles. They laude the programmes as key inventions that single-handedly revolutionised the US airline business (Zichermann and Linder 2010, 115). The advantages of point-based FFPs (frequent flyer programmes) are described in a way that evokes the behaviouristic discourse around tokens:

Moreover, the technical cost of creating, implementing, and managing a point system, as pointed out in earlier chapters, may ultimately be much less than the alternative over the medium term. Once the infrastructure is in place, it's relatively easy to keep track of every actionable item, and this gives the FFP one of its core cost advantages over standalone promotions. (Ibid., 122)

The abilities to reduce costs and to keep track (of transactions and the people conducting them) seemed to be just as relevant in 1960s psychiatry as they are in today's marketing concepts, although the ideal goal of the latter is keeping the participants from actually spending their points and, by doing so, further reducing costs through unredeemed rewards. Gamification, as Zichermann and Linder bluntly put it (ibid., 68, 69), aims to make points the point. Beyond these intangible point-systems, FFPs also establish a hierarchical architecture in closed spaces that externalises an individual's "wealth of points" (or, simply, her score) in the form of status displays. Just as token economies enabled tiered access to different parts of the ward, so do the scoring economies of FFPs in airports: "From First Class lines to premium waiting areas, airports offer dozens of literal examples of the dividing lines between individuals of differing statuses" (ibid., 126). However, architectural arrangements in physical space like these gradually give way to purely digital structures in today's media environments. The tiered progression and status displays are even more emphasised; the scores become universal (cf. Xbox Live Gamerscore) – psychiatric architecture is translated to software and hardware architecture.

COSTS AND REWARDS

The token economy experiment, besides its already discussed therapeutic goals, revolves around efficiency. Long-term psychiatric patients are to be prepared for release, thus prepared to become functioning and efficient members of society. The experimental design for token economies showcases concern for efficiency as well: a core element of the therapeutic approach is having the patients work regularly in one of the jobs that usually have to be fulfilled on the ward. This leads to a substantial reduction in the costs for maintenance of the ward (Ayllon and Azrin 1968, 210). The ethical ramifications of having patients work regularly to maintain the ward they

are confined in have been discussed extensively (for an overview, cf. Wexler 1973), while the idea of “generating” work as a by-product of other occupations prevails and flourishes in gamification literature. The vision of a gamified working environment turns the token economy on its head by focusing not on therapy, but instead directly on work and offering ludic involvement as the by-product. Whereas the token economy is about the gradual concealment of the psychiatric routine (in preparation for release), gamification aims to hide work (as another form of routine) behind mechanisms of play. The connection between work and (digital game) play is pointed out in several guidebooks, the scope of associations ranging from typical grinding in MMOs as work (Edery and Mollick 2009, 18) and gaming experiences as mediators for team-oriented thinking (*ibid.*, 115–121; Beck and Wade 2004, 75; Reeves and Read 2009, 84) to speculations about how games can be used to “harvest” the knowledge of their players (Edery and Mollick 2009, 189). One could even go so far as to postulate that the core capabilities that can be called forward or taught by digital games according to gamification are very similar to those that the 1960s psychiatric wards tried to instil in their patients.⁶ This connection cannot be explored in the scope of this chapter. I will instead focus on the outcome of working in the experimental design of token economies as compared to the game design of gamification.

The most distinct difference in ideology between the arrangements this paper seeks to compare seems to be regarding the rewards or incentives offered to the participants. Gamification specifically relies on “making points the point” (Zichermann and Linder 2010, 68); thus, positioning points at the core of its mechanics, but also doing so the ultimate intrinsic goal of every interaction with said mechanics. Additionally, the competition between participants (in the form of high-scores, leaderboards, or status displays) is regularly mentioned as a strong motivator (*ibid.*, 34–37). Token economies, on the other hand, offer tangible rewards like cigarettes, sweets, or access to television, the tokens themselves merely figuring as a medium of

6 This assumption requires more research, but it is noticeable that some of the qualities that are praised as gamers’ virtues like decision-making or sociability are those that at least some of the behavior-modifying treatment approaches relied upon as core competences that had to be conveyed to patients to prepare them for release (Fairweather as cited by Wexler 1973).

exchange without any official way for the inmates themselves to compare their wealth.⁷ This comparison, however, neglects a fundamental structural similarity between token economies and gamification programs: both are multi-purpose applications. Gamification is presented as a ludic cure-all for the motivational and organisational problems of modern informational societies. It is applied to marketing (cf. *ibid.*), consulting (cf. Edery and Mollick 2009; Reeves and Read 2009), and self-optimisation (cf. Dignan 2011). Token economies are similar, since while they originated in 1960s behavioural psychiatry, there soon emerged various areas of application that ranged from educating citizens in ecological behaviour (Kazdin 1977, 229–236) and matters of military training (*ibid.*, 243, 244) to the optimisation of job performance (*ibid.*, 236–240).⁸

These later applications of the token economy system exhibit modifications and further developments that bring them closer to today's visions of gamified environments. A fairly common expansion of Ayllon and Azrin's original concept introduces official, public lists that display the participant's individual or general score. For example, a behaviouristic experiment to teach pollution control made use of a central scoreboard that was placed outside the venue where the experiment was conducted (Geller, Farris and Post 1973). The board prominently displayed two counters: one for customers who bought returnable bottles, the other for customers who bought throwaway bottles. The rules of the game, or, in the behaviourist's terms, the prompt, were given out as handbills to each customer and informed them about the advantages of returnable bottles. The customers were urged to "show concern" (*ibid.*, 371) and were able to see how their individual purchase influenced the (manually adjusted) general score on the scoreboard. Other examples of individual, public scoring include an experimental community modelled after B.F. Skinner's utopian novel *Walden Two* (1948). The community members earned credits through work and community service

7 This, of course, excludes unofficial comparisons or even secondary economies between inmates, which largely remain undocumented.

8 Interestingly, token economies in their original form of behavioural modification programs for closed environments persist even today, often as motivational programs for children (e.g. <http://tokenrewards.com/#Home>, accessed May 7 2014).

and the amount of credits earned by each individual. Both examples illustrate a development towards public score-keeping and competition that is also reflected in the use of badges or patches in the fashion of boy-scout merit badges – which can be interpreted as the predecessors of achievements and trophies in digital games and gamification today. Token economies as a scientific motivational practice gradually evolve while at the same time staying true to their behaviouristic roots.

The range of applications for token economies already resembles a catalogue of desires that later on are to be satisfied through serious games and gamification. The token economy as a system stays the same at its core, wherever it is externally applied. It is this external application that puts token economies in line with later developments like large-scale bonus programs (e.g. frequent flyer miles), which in turn constitute the prime example for some marketing-oriented arguments (Zichermann and Linder 2010, 113–120) regarding the power of points and thus, of gamification, as has been shown above. The tangible incentives that token economies offer instead of “mere” points cannot be considered external benefits or “pay” for the participant’s work. Token economies restructure the systems they are applied to and turn commodities everyone usually has access to into rewards that can be earned. In the case of the psychiatric wards, this means that access to luxury articles or recreational activities is usually possible, until the token economy purposefully restricts it. In an effort to discover which activities would work as reinforcers, patients on the ward were observed and the behaviour that was thought to occur frequently was restricted through the token economy. The restrictions cover a wide range, from trivial limitations like not being able to select one’s chair to sit in (Ayllon and Azrin 1968, 61) to severe constraints of basic human rights, like being deprived of food or not being allowed to sleep in a bed (Wexler 1973, 87–89). Token economies in the 1960s do not (yet) use points as their ultimate motivational goal, but like gamification they aim to transform the systems they are applied to and to submit them to the rule of tokens or scores. They are both focused on measurement to the point of fetishising it. Anything can be distilled into points and scores – whether it is part of an effort to make human behaviour measurable in a scientific context or central to motivate players in a gamified system. If anything, the scores that replace tokens in today’s digital motivating environments are becoming even more influential. Token economies

were not built towards self-measurement; the tokens essentially served two different purposes for patients and psychiatrists: to the former, they provided the means to uphold a certain quality of life. To the latter, they measured the success of certain parts of the experiment or the experiment as a whole. When I talk about scoring economies today, this relationship blurs as well. Participants in gamified environments are not only measured and rewarded, they are expected to measure themselves and improve their performance. As such, scoring economies are as much about individual efficiency as token economies were about institutional efficiency.⁹ A good example for this is the Attent program (2013) of US-based start-up Seriosity. Through what is described as an artificial economy derived from online games (Reeves and Read 2009, 113–127), the Attent program seeks to optimise electronic internal communication in businesses. Every participant (which in this case means everyone working at the company in question, since scoring economies are no less totalitarian than token economies) in the program gets a specific starting amount of an artificial currency named *serios*. These virtual points can then be attached to emails to highlight them as especially important. The higher the amount of *serios* attached to an email, the more important its contents are in the view of the sender. The email's recipient can then add the attached *serios* to her own account. While very similar to token economies in passing, the Attent program limits the amount of currency in circulation, thus creating artificial scarcity that is meant to reduce unnecessary emails. Attent can be interpreted in relation to classical tokens and rewards (they are a reward for reading some emails earlier or more precisely than others) as well as in relation to scores and evaluation (they make communication via email visible as a cascade-perceived relevance; they foster awareness of communication habits on an individual level). The employees

9 To this end, it seems productive to expand the concept of scoring economies to include not only gamification, but also related developments like the “quantified self movement” that aims to employ digital technologies to measure every measurable aspect of one's life, thus hoping to infer methods of personal improvement from the data. The quantified self movement (<http://quantifiedself.com/>, accessed May 7, 2014) marks a culmination of this tendency and exhibits several parallels to gamification, since it also employs gamified applications like Nike+ (2006) to measure life itself. For a more detailed account of Nike+ and the relationship between gamification and life, see Paolo Ruffino's text in this book.

are supposed to regularly consider their own score and work to improve it, which in the case of *Attent* means optimising their communication habits to reduce their series spending. Compared to the token economy that is mainly concerned with measurement, institutional optimisation, and rewards, the scoring economy measures, rewards, encourages competition, demands self-optimisation, and functions self-sufficiently, without any incentives that stem from outside the system. This does lead to various developments, some of which demonstrate the alleged mutual relation with typical game-design elements, but also highlight one of the problems that today jeopardise gamified environments. Both aspects will be briefly touched upon before the chapter is concluded.

Token economies in their experimental roots are designed environments. As such, they employ techniques that directly invoke typical digital game elements that in turn get re-contextualised (in the spirit of classical behaviourism) by gamification applications. Tiered progression, often through levels, is a part of the structure of many digital games and is also present in gamification literature (*ibid.*, 75–78; Zichermann and Linder 2010, 34–37; Dignan 2011, 132–134, 151–156). It also appears in token economies, fulfilling a similar function: progression through the rehabilitation program as well as “physical” progression through the ward as such is tiered; access to a privileged status or to additional areas of the ward (e.g. the garden) has to be purchased through tokens (Ayllon and Azrin 1968, 202; Wexler 1973, 104, 105). The psychiatric ward as an already limiting and controlling environment becomes even more restricting to its inhabitants, while at the same time opening up possibilities for new/added agency through participation in the program. Unfortunately, the way the experiments have been documented does not provide the evidence for an in-depth discussion of the way the level-structure actually worked during the experiment and for a comparison to the mechanics of gamification. Besides (or because of) falling back on similar structures, token economies and gamification share a similar problem as well. They either are experiments (in the case of token economies) or put a strong emphasis on the experimental qualities of digital games. As such, they are existentially endangered through all creative approaches in interacting with the rules they present, including (but not limited to) cheating, “power-gaming”, and, even, playing. While cheating is usually considered a typical player behaviour that entails a subversion of

rules (Consalvo 2007) and as such is inherently threatening to rule-based systems, the extreme optimisation of performance (power-gaming) and playing around with the rules (instead of playing by the rules) are highly problematic as well. Many gamification guides explicitly warn against these unpredictable player behaviours (Zichermann and Linder 2010, 105) and position themselves in a way that suggests that gamification applications are not aimed at players at all, since they obviously try to prohibit core player behaviour.¹⁰ There are similar concerns to be found in the protocols on token economies, albeit not many cases of cheating or playing were actually documented. Ayllon and Azrin underline the importance of attendants for occasional observation through a case of cheating in which the token automatic of a TV set was subverted by inserting a nail file into the token slot (Ayllon and Azrin 1968, 150). The ideas shared by token economies and gamification, automatisisation, standardisation and optimisation, are susceptible to play and play-like behaviour. While the question of cheating in gamification applications has already been addressed (Glas 2013), there is still further investigation needed into the relation of gamification and the experimental arrangements it evokes to their players or subjects.

CONCLUSION

It is maintained throughout this paper that, to understand digital games, it is helpful to examine the way they are contextualised in popular media. Specifically, I focus on utopian discourse surrounding digital games in the form of gamification. Gamification guidebooks argue and propose to make use of games in a way that frequently associates digital games with several central qualities. These qualities, among them an emphasis on points and scoring as well as the parallels between games and experimental arrangements, serve to picture games as systems focused on optimisation, automatisisation, and standardisation. Through these issues, the measures of gamification can (and have to be) put in a larger context that places them next

10 There appear to be some exceptions to this rule, as the case of Foursquare's lenient anti-cheating policy shows. Though some functions of the service are highly restricted and monitored (the mayor-system), it is generally possible (and tolerated by the staff) to perform "false" check-ins and even collect badges and points that way (Glas 2013, 10).

to specific experimental arrangements like token economies. It is necessary to regard digital games not only as contemporary popular cultural artefacts whose techno-cultural evolution is interwoven with digitalisation, but also to question which motives, ideas, and aspirations infuse them. In this case, the analysis reveals the close relationship between gamification and behaviouristic experimental arrangements, as well as the tendency of both to inscribe themselves into the various levels of the structures they are applied to. Thus, it makes sense to describe the way gamification actually takes effect as part of a scoring economy that expands the classical behaviouristic model of token economies through a new focus on competition and self-measurement, while at the same time integrating its core elements into contemporary digital technologies. While this approach entails not focusing on digital games as games per se, it also opens up insights into the fascination with digital games that seems to form the basis of many gamification guidebooks. Digital games appear as phenomena that can be used, their appeal can be made productive, and they can develop a motivational attraction that may be adapted for fields of operation as varied as consulting or marketing. Mere elements of games appear to be capable of transforming mundane structures, systems, and spaces into ludic ones. This view on games opens up a variety of questions that go beyond a critique of gamification, some of which have been touched upon in the article, all of which need to be elaborated further.

One question concerns the circumstances under which digital games are charged with the ideas that have been described and analysed in this article. The conditions under which the assumptions of gamification are made have to be detailed, if we want to understand the mutual interference between digital games and the theories of instrumentalised gaming. To accomplish this, it is necessary to review the games that are cited as examples in the guidebooks, while also considering current developments in mainstream digital gaming such as achievements in an effort to carve out the backdrop of gaming culture against which gamification emerges.

The second, and perhaps more important question, is the problem of players and their position in gamified systems (and in the discourse of instrumentalised gaming in general). Every game and, perhaps even more so, every gamified application carries with it specific assumptions about the player the game is designed for. These assumptions are manifested in design

decisions, in code or in hardware architecture, and the physical quality of game elements. They have to be carefully examined and related to actual player practices. In the case of gamification, the implied player is actually not a player at all but instead she or he would be more aptly described as a test subject in the closed and determined experimental arrangement.¹¹ The chapter already shows that players and their practices can be very problematic for the experimental conditions of gamified environments. It is here that I see the greatest conflict between “classical” (digital) games and gamification: the former can be played with, while the latter cannot. Playing with games, as has been detailed on various occasions (Consalvo 2007; Sicart 2011), always involves a creative, unpredictable moment. This creativity is at odds with the approach gamification exhibits towards games and it is necessary to formulate a critique of gamification that has the player’s role in mind.

It is safe to assume that the controversy surrounding gamification and other attempts to instrumentalise games will stay with us for some time to come. Whether we participate in the attempts to make game-transcending use of digital games or not, they will shape the way digital games are perceived, what is thought about, and what is done with them. And regardless of the question whether these developments should be embraced or criticised, in my opinion they offer an excellent opportunity to broaden the scope of game studies as a transdisciplinary approach not only to digital games, but also to the way they are perceived and received as well as to the hopes, ideas, and expectations that take form in the popular utopian discourse surrounding them.

11 While there are rare cases of excellent games like *Portal* (2007) in which, ironically, player and test subject are one and the same, this cannot be said about gamification and the examples discussed in this chapter.

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