

TO PLAY AGAINST: DESCRIBING COMPETITION IN GAMIFICATION

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1 TOWARDS A SEMIOTIC PERSPECTIVE ON GAMIFICATION

This paper presents a set of categories to interpret the field of gamification by examining different features that emerge in the competition between players and adversaries. To do so, notions from the disciplines of semiotics, narratology, and philosophy will be adapted to describe gamified experiences.

Within the relatively new sector of game studies, gamification is an even more recent development. Many current perspectives have their roots in marketing, business communications, and advertising, as gamification attracts significant attention and economic investments from corporate entities. However, more theoretical approaches can also bring concrete benefits to this market-oriented area.

At the same time, the reception of gamified apps within videogame culture has often been controversial. Opposed to enthusiastic proponents such as Priebatsch (2010), other game scholars and designers have stressed how limited the current concept of gamification is (Robertson 2010). The overall consumer response to gamified apps seems to mirror this division as, on one hand, products like Foursquare (2009) or Nike+ Running (2006) attracted a

significant user base but, on the other hand, influential magazines and opinion leaders have criticised this phenomenon (Poole 2011).

Moving on from these premises, it is interesting to discuss from a theoretical perspective how gamification relates to other types of games by analysing their competitive features. To do so, semiotic and narratological categories will be adapted to describe the logical opposition of subjects and adversaries, and this will allow us to distinguish between different modes of competition in various types of gamified apps.

2 A COMPLEMENTARY MODEL TO QUANTITATIVE APPROACHES

Today, most studies on gamification are entrenched in market-specific contexts and aim towards immediate objectives – with a majority of quantitative approaches to marketing, customer loyalty, or employee motivation. Instead, the approach discussed here is rooted in semiotics and narratology, and complements existing models that draw from game design, human-computer interaction, informatics, marketing, and business communication. As the study of gamification is making its first steps, it will benefit from more detailed methodology to describe gamified activities in relation to games, narratives, and other significant everyday events. Without being in contrast with other methodologies, a semiotic view contributes to this field by introducing more abstract categories and by allowing more general comparisons between different gamified and non-gamified activities.

Let us begin this discussion by introducing some of the lenses through which gamification will be examined in these pages. The relation between gamified activities and other associated experiences has not been satisfyingly described yet: the one between advergames and gamification will be considered here as a first step to exemplify the benefits brought by semiotic categories. In general, advergames are simple video games used for advertisement purposes: they usually elaborate on popular game genres such as puzzles, racing, or platform games; they make use of simple and widely available technologies such as Adobe Flash and they are closely coordinated with the public image of the brand they promote. Similarly to the field of gamification, advergaming is rapidly gaining relevance, as testified by the wide distribution of titles like *Magnum Pleasure Hunt* (2011). Consumers often distinguish in an instinctive way between advergames, conventional

advertisements, video games, linear narratives, and other everyday practices (Bogost 2007; Cauberghe and De Pelsmacker 2010; Smith and Just 2009; IAB Game Committee 2010) without elaborating on their specific differences. Here, the main reason for comparing advergames with gamified apps is that they share the persuasive and pragmatic objective of attracting and retaining customers.

The forms and the degrees of competition between players, and against the computer system, are the second lens through which gamification will be studied in these pages. As argued above, the relation between gamified apps and other games is complex and not yet fully studied. Video games and gamified apps appear to share the same medium, but also to diverge in their ways of competing against players. Structured video games are often characterised by some degree of competitive attitude, but gamified apps seem to promote different agonistic forms – such as a generally softer competition, often lacking defeat conditions, and strong computer-generated antagonists. All this makes competition a promising parameter for producing more detailed analyses and comparisons.

2.1 A Field in Need of a More Formal Methodology

Several meaningful differences between ordinary games, advergames, gamified activities, and other everyday activities have been intuited by many users – often with the more passionate players arguing against gamified apps being *proper games* – but have not yet been featured prominently in scholarly discussion. In some respects, such blurring among different fields might be beneficial, with marketing campaigns intuitively playing with the ambiguity between what is ludic and what is not, or what is competitive and what is not. However, the lack of formal categories makes it difficult for researchers and content producers to reflect on gamification past a certain intuitive level, and weakens both theory and practical design.

To progress after the current stage, research in this field will benefit from a better typology of gamified practices. Moving towards it, this contribution investigates how a semiotic approach might be used to describe the presence, the absence, and the relative weight of competition in gamified applications. The proposed model is based on abstract logic relations and, thus, easier to generalise and adopt for comparing artefacts and experiences

across different domains (e.g. gamified products versus everyday practices, or versus unilinear advertising). This aims at two beneficial effects:

1. A more detailed understanding of the internal boundaries in the field, distinguishing different types of gamification
2. More effective comparisons with non-gamified artefacts or experiences, made possible by adopting shared, general descriptive categories

2.2 Using Semiotic Categories

In this context, a categorisation based on the semiotic notion of an actant contributes to the resolution of the above-mentioned current shortcomings. Programmatically, the semiotic categories that will be proposed in this work aim at being:

1. Abstract and logical, favouring the deep semantic structures underlying the analysed artefact rather than its specific figurative qualities: In other words, they look beyond the single example and its particular characteristics and they concentrate on finding more general similarities and differences across a wide corpus.
2. Technologically agnostic: semiotic categories – especially the most abstract ones such as actants and their disposition on a semiotic square – remain the same, independent from the specific medium considered. Complementing other media-specific approaches, this particular method allows evaluations across different media and accounts for the pervasiveness of certain gamified activities.
3. Scalable, allowing the description of simple or complex activities regardless of their size or of the number of players taking part in them.
4. Generative, capable of giving useful insights to practitioners: While they are not directly intended as design tools, semiotic categories can inspire practitioners, highlighting relevant differences and points of view.

As the majority of the semiotic approaches, this contribution is mainly descriptive and aims at complementing prescriptive design methodologies. Well-articulated analyses can facilitate the understanding of gamified activities, their assessment beyond quantitative/economical parameters, their evaluation, and their comparison. The overall objective is to open an interdisciplinary dialogue with a common metalanguage that could facilitate, in a longer perspective, a selection of best practices and shared examples in the field of gamification.

3 TOWARDS A MODEL FOR GAMIFICATION: A SEMIOTIC FRAMEWORK

This contribution on gamified activities draws from the logical categories of narration to describe the abstract schemas at work in the competitive aspects of gamification, and situates itself in the tradition of general semiotics.

In the most general terms, semiotics refers to a systematic study of signs, their possible uses, their classification, and their role in social contexts. Umberto Eco (1976) distinguishes between specific semiotics, describing the organisation of particular systems such as linguistics, proxemics or iconography, and general semiotics, a more philosophical approach concerned with the emergence of meaning. Semiotics is largely a descriptive discipline but specific semiotics is also, in some respects, prescriptive and predictive – as it aims to analyse and foresee how a typical interpreter would react to certain stimuli given some contextual rules. General semiotics, on the other hand, constructs schemas and shared categories to describe heterogeneous phenomena. This paper will adopt the broader point of view of general semiotics, constructing a framework that links gamification with deeper logical categories and that is not limited to the specific textual types of games.

To have a clearer view, a model based on the notions of actant, actor, and automata will be adopted – rooted in the tradition of the Paris school of narrative semiotics (Greimas and Courtés 1979). The semiotic model constituted a mainstream contribution to the past decades of European narratology, from Tesnière (1959) and Barthes (1966) to recent developments in cognitive sciences (Herman 2009; Herman 2013). Since its first steps in the 1960s, narrative semiotics has deemed it necessary to take distance from the empirical author and related psychological issues and to favour, instead, qualitative analyses through interdefined notions. While early semiotics was mostly concerned with signs and texts, current theoreticians have extended its scope to include also computer games and interactive practices. In this context, the generative trajectory (Greimas 1970; Greimas 1983; Greimas and Courtés 1979; Bertrand 2000) provides a skeleton for understanding how different, concrete texts emerge from deep, abstract structures. In brief, the generative trajectory traverses different layers: abstract semantic values (e.g. good vs. evil) are converted in narrative structures (e.g. a protagonist desires to obtain a precious object, but an antagonist fights back) and, finally, into discursive structures with concrete, figurative, and thematic elements

(e.g. a virtuous knight, with a white and blue armour and a white horse, is searching for a magical gem, but an evil wizard with a dark cape tries to prevent it). In this minimal case, meaning emerges from a trajectory across many levels: for example, the abstract notion of *being evil* flows into the role of the antagonist and then is made more concrete with the *dark cape*. This is not an interpretive schema – as it does not describe the hypotheses formulated by specific subjects or how interpretation is guided by the text – but it is a general guideline for understanding how abstract concepts are articulated in concrete texts: for example, it would be possible to trace the distribution of a semantic oppositions such as young vs. old, or local vs. foreign, in its many narrative or ludic expressions across a whole novel, or in a set of advertisements, or in a computer game.

3.1 Keeping an Open Dialogue with Ludology

In a preliminary review of the impact of semiotics in this field, the ludology versus narratology debate cannot be ignored. In the past decade, the discussion centred on whether games constituted a class of their own, requiring a specific methodology for analysis and criticism, or if they should be understood in relation to non-ludic and non-digital media. The discipline of ludology strongly argued against narrative-based approaches to games (Aarseth 2001; Eskelinen 2001; Juul 2001; Frasca 1999, 2003) and for the autonomy of that field from disciplines such as media studies, film studies, or literary criticism. The proponents of this new approach advocated a strong specificity of rules, playfulness, interactivity, and agency to video game experiences, as opposed to narrative interpretation. They aimed at describing game systems with formal categorisations like Järvinen's (2007) – with categories such as elements, mechanics, goals, ability sets, and emotions. Over the course of the years, the distance between ludology and other analytical approaches to games has diminished and interdisciplinary methods have been introduced, as exemplified by Aarseth proposing a "Narrative Theory of Games" (Aarseth 2012) as a possible synthesis.

While this is not the place to discuss such debate, it is necessary to specify that the approach proposed here is not specifically narrative but, more broadly, semiotic. A semiotic perspective on games obtained international visibility in 2009 with *Computer Games Between Text and Practice* (Coppock

and Compagno 2009). Its editors sum up a possible definition for a semiotics of games as:

[. . .] a strictly formal analytical (or descriptive) methodology, independently of any of the more specific characteristics of the actual objects and other phenomena it was supposed to be applied to [. . .] A semiotic plane or level of analysis does in fact exist; it is intuitively easy to isolate, since it is precisely this analytical sphere in which both Narratology and Ludology operate. (Ibid., 2)

In other words, following the direction taken by Compagno and Coppock, this contribution will not attempt to make games and other gamified activities fit in the mould of verbal narratives. Instead, it will aim at adopting general, abstract categories encompassing different fields.

3.2 Competition

If we adopt a point of view rooted in narrative categories, the competition between user and system might be, at first, difficult to position in such theoretical approach. While the presence of persuasive or manipulatory components in many texts, such as advertising, is well known and well described, a first humanistic reading might find it anomalous that videoludic experiences also deploy competitive strategies against the player. When considering that video games play against their users, it is important to stress that it is quite literally a pragmatic activity and not simply a textual strategy. Written texts remain static and do not actively interfere with their reader, even in the case of texts specifically designed to be ambiguous or misleading (e.g. murder mystery novels often contain decoys and other strategies to keep readers guessing) or art pieces whose open interpretation is part of the intended experience. The focus, instead, is on systems that actively contrast the player's actions: in other words, while a verbal text might be difficult to interpret while still being static, a video game may be difficult as its components react pragmatically to the player's actions. Of course, ludology has dealt with these specific characteristics of games, described as simulated challenges and their canonical form involves at least two subjects in mutual competition, each one enacting strategies and actions against an adversary (Järvinen 2007). In this context, electronic games are never completely solitary activities, as

even single-player games require computer-generated antagonists or some kind of system or environment or set of rules to keep a certain level of competition.

Differently from what it might appear to be at a first glance, a general semiotic approach is well suited to explore the components constituting the competitive instances of electronic games. A first step in this direction is to recognise that players have indeed some authorial properties in video game experiences – at minimum whether a session actually takes place and, in general, the overall outcome of a session – and gameplay practices show both competitive and cooperative traits at the same time. It would be a mistake to consider such competitive and cooperative parts in mutual conflict as both participate in creating a fully videoludic experience. They are cooperative as users are required at least not to produce aberrant behaviours – such as refusing to play, or deliberately killing their own avatar – and competitive thanks to the agonistic nature of games. While this may be taken as granted in a certain sense, a satisfactory study of gamification should be based on a more complete understanding of the interaction between a game and its player. In this sense, games demand to be played, they challenge players and they teach them how to play through different codified strategies.

3.3 Narrativity, Actors, Actants, Automata

This premise allows us to introduce a semiotic view on competition as an effective contribution, as structuralist semiotics has already developed theoretical models to describe the conflict between characters in fictional and narrative settings and the same models have more recently been adapted for the description of social activities and situated contexts (Landowski 1989). In the next parts of this article, a semiotic polemico-contractual model (Greimas 1970; Greimas and Courtés 1979) analysing competition between a subject and one or more antagonists will be applied to gamified contexts. Structuralist and poststructuralist semiotics adopt the notion of narrativity as the deepest, most general and abstract identifiable level of any text and as a common layer for any meaningful artefact regardless of the medium adopted. In this sense, narrativity is intended as the logic baseline of every form of expression, and can be described in highly abstract terms – as detailed in the works of Greimas (1966) and subsequent evolutions. In this case, narrativity does not refer to *having a narrative* or *being a narrative* in

the ordinary or literary sense of the term, but is defined as the quality of every text to be formalised as a network of semantic opposition and of actantial roles that change over time following a canonical schema. As Coppock and Compagno remark:

[...] every meaningful artifact or activity is then narrative in this abstract theoretical sense, and all cultural productions specify the way in which they determine how a interpreter is able to understand and respond to them (thus integrating these interpretations into his/her prior cultural knowledge base). If we agree on this notion of narrativity, then computer games cannot but be narrative. (Coppock and Compagno 2009, 2)

In the following paragraphs, the basic elements of these definitions will be explored and, then, this model will be applied to the categorisation of gamified activities.

Actants are part of a general narrative grammar (Greimas and Courtés 1979) and – in the most accepted version of the model – are described as mutually defined positions to be filled during the course of a narrative. The labels used to identify them (subject, object, sender) are rooted in narratology, but today their use has been generalised and is not limited to traditional narrations. An actor occupies a subject actantial position when it is characterised by agency, competences, desires; it occupies an object position when it is acted upon; and a sender actantial position is defined by the transfer of knowledge, aims, and tasks to a subject. While actants are positions in an abstract network, actors are concrete entities occupying them: this way, actors are defined figuratively and thematically, as well as situated in specific narrative programs. The notion of automata, already present in classical Greimasian semiotics as a tool to analyse scientific discourses, gains further relevance when adapted for studying interactive objects such as digital media. In this specific context, I argue that the original definition of automata as neutral subjects should be extended and brought up to date with interactive technologies as autonomous actors with an algorithmic programming capable of reacting to outer stimuli, such as a user's behaviour.

Competition enters the semiotic model through polemico-contractual relations (Greimas 1970; Greimas and Courtés 1979): instead of distinguishing between a protagonist and an antagonist, mature narrative semiotics

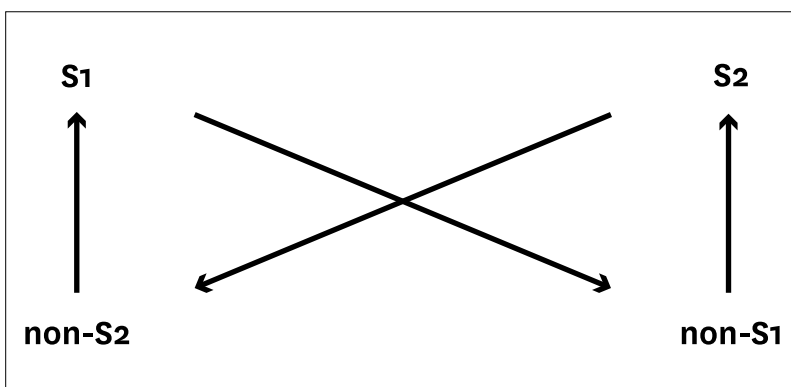


Figure 1: A Semiotic Square Articulating Two Generic Semantic Categories (s1 vs. s2)

adopts a general schema where many actants (a subject and one or more anti-subjects) compete for an object. From a logical point of view, subject and anti-subject are equivalent and try to achieve the same goal from different starting points: a dual actant similar to the classical ludic situation in which two players struggle for a ball. The subject vs. anti-subject opposition may be unpacked further by positioning each piece in a semiotic square. Derived from Aristotelian logic, the square articulates the constituent relationships of a category in terms of contrariety, contradiction and complementarity or implication. Its underlying principle requires the development of a semantic category (s1 vs. s2) through the negation of each component (non-s1 vs. non-s2) – in this case, constructing a square between subject, anti-subject, non-subject (non-s), and non-antisubject (non-as).

By expanding the dichotomy between subject and anti-subject, it is possible to obtain a more fine-grained distinction. To understand the mechanisms at work in the subject vs. anti-subject semiotic square in a linear narration, let us consider, for example, the final part of the movie *Star Wars Episode VI: Return of the Jedi* (Lucas 1983). Luke Skywalker, the protagonist, surrenders and is brought to Vader and the Emperor, the two main villains. Luke and Vader engage in a duel, Vader's hand is severed, and the Emperor tempts Luke, asking him to kill Vader and take his place. As Luke refuses, the Emperor attacks him, but Vader takes pity and slays the Emperor. Mortally wounded, Vader removes his mask and lets Luke finally see that there was

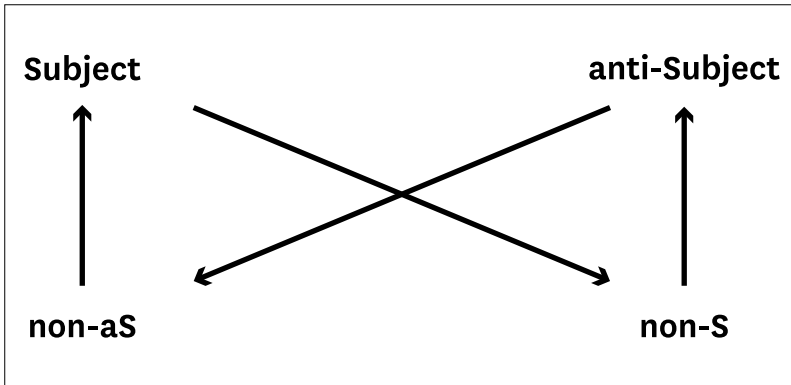


Figure 2: A Semiotic Square Articulating the Opposition Between a Subject Actant and an Anti-Subject Actant

still good left in him. These narrative developments are structurally complex and benefit from a schematisation based on a semiotic square. In the beginning, Luke occupied the subject position while Vader and the Emperor were anti-subjects. As Luke surrendered, he moved from subject (the active protagonist of the story) to non-subject (suddenly passive in front of the antagonist); then he is tempted to move towards anti-subject when the Emperor invited him to join his cause. However, it was Vader who chose the opposite movement – from anti-subject (actively opposing Luke), to non-antisubject (the active opposition stops), and to subject together with Luke (killing the Emperor).

Drawing from this narrative logic will allow us to produce a mapping of actantial competitive stances in games continuing research initiated – and then interrupted – by David Myers (1991) to discuss more in-depth the different competitive situations in gamified activities.

4 DIFFERENTIATING COMPETITION IN GAMIFIED APPLICATIONS

Several points of view on gamification have been recently formulated – from scholars (Deterding et al. 2011), practitioners and enthusiastic proponents (Zicherman 2011; Bunchball 2013), or critics (Robertson 2010; Mosca 2012). However, competition has not yet been proposed as an analytical lens to understand gamified activities. Instead, a preliminary exploration shows

that they feature different types and intensities of agonistic activity among players or between players and computer-controlled automata. To map such possibilities, it will be particularly useful to track which kinds of actors enter the role of anti-subjects and, thus, compete against players. To do so, they will now be subdivided in three sets, whose characteristics will be modelled and described using actantial analysis and narrative semiotic categories. The nature of actors opposed to players is, indeed, instrumental in determining which type and intensity the competition will exhibit.

As a first distinction, it is possible to isolate three general categories of actors contrasting the players' actions:

1. Other human participants
2. Contextual elements
3. Computer-controlled automata

More specifically, the first category may be further complicated by considering the social and logical distance between a player and other competitors. Human competitors might be friends using the same gamified app, or they may be part of a wider social network to which the gamified app is linked, or even complete strangers taking part in the same activity. As an extreme case, players might be even competing against their own previous performances – as it happens, for example, if an athlete attempts to beat his or her own best performance.

Foursquare is a canonical example for the first category, where a bland agonistic activity takes place among human actors. Foursquare users compete principally by accumulating and comparing points on a leaderboard accessible from within the app and its scoreboard is not exported to wider social networks such as Facebook. Other systems, for example Nike+ Running, favour the second option and allow their users to compete both on in-app leaderboards against their friends and also to share their performances on general social networking sites. Further fitness-oriented apps explore approaches that are even more competitive: for instance, Runno combines a GPS activity tracker with other mechanics similar to the traditional, open-air game “capture the flag”.

Different gamified practices might also select contextual elements to occupy anti-subject positions; this is the case, in other words, for apps and initiatives that ask players to avoid or to prefer certain actions, or objects, during their activities. Motivational and feedback systems that increase or

reduce the users' score whenever they carry out a task – or refrain from doing so – are suitable examples for this category. The EpicWin app (2010) is a well-known example, but it is possible to include also car insurance policies rewarding customers for driving safely, or credit card companies giving bonuses to clients paying their balance on time.

Finally, computer-controlled automata explicitly competing against players are not common in gamified activities; whereas, they appear much more frequently in related genres that are closer to everyday computer games. Advergames are a fitting example of this category, where non-interactive ads, e.g. a visual advertising in newspapers, are translated into very simple games. Advergames often deploy the exact same mechanics of regular video games in smaller, simpler pieces where competition is generally between a single human player against computer-controlled adversaries and dangerous environments.

To synthesise the different types of actors occupying the position of anti-subject actant:

1. Human competitors, player's acquaintances inside the gamified app
2. Human competitors, from the player's social network (e.g. Facebook), even if they do not explicitly use the gamified app
3. Human competitors, even complete strangers
4. The player's own actions and other contextual circumstances in the case of motivational and self-help apps
5. Software automata, even though such category rarely appears in gamified apps while it is more common in ordinary computer games and advergames

This shortlist shows a variety of different elements entering the competition against players. For a more detailed view of their characteristics, it could be productive to come back to the subject versus anti-subject dichotomy articulated on a semiotic square, producing a more fine-grained logical view. The logical opposition between subject (s) and anti-subject (as) is expanded by finding two intermediate positions (non-s and non-as) acting as mediators and identifying competitive tendencies.

The Runno app is a fitting example of a system where adversaries occupy the proper anti-subject position. It is a fitness tracker where users claim territories by running around a specific area and then use in-game currency to fortify it. Other runners might attack the player's lands using mechanics

similar to the famous Risk board game (1957). The combat is resolved automatically by the system and ends with a clear victory or defeat. Each player

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is an anti-subject for the others, the competition is clearly represented, and intermediate positions are not possible. As a secondary example, we might recall that the majority of advergames feature automata in the anti-subject positions – either anthropomorphic characters or, more generically, a hostile environment opposing the player's progression.

Other actantial positions, non-s and non-as, appear in different proportions in other gamified applications in which the competitive stance is problematised. The next three examples – EpicWin, Foursquare, and Nike+ Running – will be used for mapping how such positions are used in practice. In general, non-s and non-as are seldom separated and, together, articulate non-burdening, playfully competitive situations. It is possible to identify non-s competition with the cases in which a player challenges himself or herself to do (or not to do) certain actions: it is not a concrete adversary to play against but a component of the player's own activity. Non-as adversaries represent a complementary approach and appear in the situations where competition is blurred, amicable, and the other participants are not fully opposing the player's actions. To understand better what has been briefly presented here, let us now consider three examples showing how non-s and non-as positions are concretely articulated.

User experience in EpicWin and similar apps is fundamentally different from the Runno app (2013), as there seem to be no actors or automata actively contrasting the player's actions. EpicWin is a gamified to-do list that allows the user to create their avatars as if they were characters of a fantasy-themed massively multiplayer online game; the system encourages users to rephrase mundane tasks on the to-do list (e.g. washing the dishes) into more heroic quests (e.g. banishing the grease monster). EpicWin, finally, rewards its users by assigned experience points and virtual treasures for completing tasks, fostering some kind of competition among players. Within the logical framework outlined before, no concrete actors appear to occupy the anti-subject position as nothing inside the system actively opposes the subject. In concrete terms, users of this type of gamified motivational apps are

more in conflict with their own actions (or lack thereof) rather than with other actors. For this reason, the adversarial role is more focused on the non-s position on the semiotic square rather than on anti-subject.

In addition, the Foursquare system does not feature any anti-s actant opposing the users' actions but, differently from the previous example, relies on the non-as position. The user experience of these gamified apps involves collecting a score on a shared leaderboard "against" other participants – who might be more or less connected to the player's social network depending on the implementation. For example, it is certainly possible to "win" a weekly competition in Foursquare by accumulating the largest amount of points, but it constitutes a weak agonistic activity that has little impact on the overall experience. In the Foursquare example, the role of opponents is situated in the non-as actantial position and not in the anti-subject because the game-play experience lacks any strong sense of victory: typical Foursquare users are more engaged in an urban experience than in a fight against any competitor.

Finally, Nike+ Running and the Nike+ ecosystem in general emerge as a synthesis of the above-mentioned positions, as the actors taking part to its experience might transit through all the actantial roles detailed so far. An actual competitive challenge between two runners would see one of them in the subject position and the other as anti-subject. Its use by a single person trying to beat his or her own best performance would position that simulacrum in the non-s role and, finally, using it as a sort of social network for tracking the other's activities in a low-key competition would refer to a non-as position.

5 DIFFERENT CATEGORIES FOR GAMIFICATION

By definition, gamification blends ludic mechanics with non-ludic activities or objects and it is often experienced in contexts that are not usually considered playful. For this reason, gamified activities and applications seem to be inextricably intertwined with everyday practices and several descriptions have been proposed for this overlapping. Famously, Seth Priebatsch, founder and CEO of SCVNGR – a creative studio operating in the field of gamification – opened his TED-Boston speech in July 2010 claiming that through his company's products he was "fairly determined to try and build a game layer on top of the world" (Priebatsch 2010). Priebatsch's intuitive idea of game

layer seems to adhere to the gamification practice of using ludic mechanics to make non-game products more ludic, but it is possible to trace its roots to the tension between being in a magic circle and, on the opposite end, to being pervasive. While these concepts have been widely discussed in game studies and media studies, we might benefit from developing a more formal and logical framework for mapping different experiences. In the conclusion of this article, I will argue that using the anti-subject actantial position as a marker for different types of gamification may lead to a better understanding of their ludic qualities and social situation.

In 1938, cultural theorist Johann Huizinga gave a definition of the ludic context that has become influential in contemporary game studies:

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 the ordinary world, dedicated to the performance of an act apart. (Huizinga 1955, 10)

In Huizinga’s view, the magic circle delimits the real world from ad hoc, non-permanent fictional worlds created for playing. Current game studies have imported such a notion through the work of Katie Salen and Eric Zimmerman who, at first, operationalised this concept, describing gameplay as surrounded by physical or metaphorical boundaries remarking the subdivision of ludic space from everyday life. However, Salen and Zimmerman’s simplification had mostly didactic purposes and the authors themselves later note how, while games are in the most cases formal, defined, rule-based entities, the act of playing remains inevitably fuzzy:

[T]he boundary between the act of playing with the doll and not playing with the doll is fuzzy and permeable. Within this scenario, we can identify concrete play behaviours, such as making the doll move like a puppet. But there are just as many ambiguous behaviours, which might or not be play,

such as idly kneading its head while watching TV. There may be a frame between playing and not playing, but its boundaries are indistinct. (Salen and Zimmerman 2004, 94)

On the other end of the spectrum, pervasive games seem to defy the idea of magic circle. In research published in 2009, Markus Montola, Jaakko Stenros, and Annika Waern described playful pervasive practices as having in common one or more salient features that expand the contractual magic circle of play spatially, temporally, or socially. The three scholars note:

The contracts of pervasive games are different from the contracts of traditional, non-expanded games. The magic circle is not an isolating barrier distinguishing the ludic from the ordinary, but a secret agreement marking some actions as separate from the ordinary world. While all human actions are real, those that happen within the contract of a game are given a special social meaning. In conclusion, we can see that there is a twofold dynamic between the playful and the ordinary that provides pervasive games a reason to exist: Both play and ordinary life can benefit from the blurring of the boundary. (Montola, Stenros and Waern 2009, 21)

This dichotomy intersects productively the theme of gamification, understood either as the addition of “a game layer” on top of other activities or other texts (Priebatsch 2010) or “the use of design elements characteristic for games in non-game contexts” (Deterding et al. 2011). In other words, a gamified situation seems to be composed by a first-order activity or object (e.g. entering a train station) and a second-order one, having some component derived from game-design (e.g. checking-in using Foursquare at the train station, to improve one’s own score on the leaderboard but also – in the case of advergames – experiencing an advertisement as a platform game rather than as a non-interactive billboard). Some gamified activities emerge as interstitial and can easily take place at the same time as other actions, sharing their time, space and cognitive resources – they are, in brief, fit to be experienced while undertaking other tasks. The second type of gamified activities, instead, is exclusive – as they demand the player’s attention and they cannot share the same space and time with other everyday practices. In this analytical dimension, *interstitial gamification* will refer to gamified activities

that take place in parallel with other activities that do not require the user's full attention and that complement existing social practices. Foursquare and other similar apps are good examples of this category, as they coexist with other activities. Exclusive gamification is at the opposite end of the continuum and refers to games that require the user's concentration and that are difficult to play while doing other tasks. The proposal of an interstitial/exclusive continuum for gamified practices has its roots in – on one side – the classic notion of magic circle, widely adopted in game studies to theorise a separation between ludic and non-ludic activities, and – on the other – in the genre of pervasive games.

Insights from the analysis of actantial positions related to competition can be used together with other descriptive categories to construct a continuum from interstitial to exclusive practices and to map the blending (or lack thereof) between gamified experiences and their users' ordinary everyday activities. Using categories that are more abstract allows us to formalise the difference between the gamification of practices (weak anti-s, often in shifted positions on the square) and the gamification of texts and discourses (strong anti-s, usually in advergames). By examining the anti-subjects, their positions on the semiotic square, the kind of strategic actions the undertake, and the general victory conditions of the system, we can understand better the degree of flexibility and porousness of several types of gamification: weak anti-subject positions allow less-competitive gamified activities to be interstitial practices that can be easily paired with other everyday actions without much interference. Vice versa, a strong anti-subject with effective tactics generates an openly agonistic situation that may be quite engaging for the user, but might be more difficult to seamlessly blend the game into different other behaviours: to compete against a tough opponent requires concentration and strategic planning that risk subtracting cognitive resources from other parallel activities.

Among the abstract variables that can be considered while positioning examples on the interstitial/exclusive continuum, we can include:

Which actantial position is occupied by the adversaries in a semiotic square (anti-subject, non-s, non-as) during gameplay, as described in the previous section.

The type of actions the competitors undertake and the strategies they follow in relation to the user. Do the adversaries actively try to contrast the

player's actions, or do they simply act independently? This point is determined, in the case of software automata, by their algorithmic programming and, if the opponents are human actors, by the instructions or priming they have received from the system.

The presence, or absence, of victory and defeat conditions. In other words, whether the experience might potentially proceed indefinitely, or if it will end at one point with a win or a loss. If win/lose conditions are present, it is also important to assess their rigidity or flexibility describing, for example, if players are able to set their own victory conditions, or if they win or lose relatively to other players' performances, or if there is an absolute criteria for determining the outcome of a session.

These descriptive parameters help us to formalise the difference between interstitial and exclusive gamification at an abstract, logical level that does not depend on technological and contextual-specific characteristics. In other words, this type of approach aims at being technologically agnostic, generalisable, and potentially future-looking, not depending on specific characteristics of any implementation. On one side of the continuum, interstitial gamified practices like Foursquare feature a weak competitive situation where opponents do not occupy the anti-subject actantial position but rather the non-s or non-as ones. Adversaries in interstitial gamified activities do not generally enact specific strategies to hinder the player's activity. In addition, the victory conditions for this type of apps are usually quite flexible, without specific objectives that – once obtained – cause the end of the experience. Vice versa, exclusive gamification – such as, for example, an advergame like the well-known Magnum Pleasure Hunt – feature opponents in a strong anti-subject position which actively oppose the players and that are characterised by clear victory and defeat conditions.

6 DISCUSSION AND CONCLUSIONS. RESEARCH TRENDS AND FUTURE WORK

In these pages, a semiotic model for competition has been introduced using the notions of actants, automata, and semiotic square. In synthesis, why should a new methodology complement existing quantitative views? This approach provides the means for comparing different design strategies within the field of gamification, and also between gamified apps and other objects. The two results may be summarised as follows:

Adopting a semiotic square to articulate the opposition between subject and anti-subject allows us to examine more clearly different modes of competition. These preliminary results need further validation, but less competition seems so far to be correlated to a better flexibility inside a social context and to a higher compatibility with other activities at the same time: this mode could be named interstitial gamification. Vice versa, more intense competition seems to require a separation between the act of playing and other events – a mode that could be called “exclusive gamification”.

Subdividing the antagonists between those occupying the anti-subject position and those in intermediate collocations such as non-subject or non-antisubject allows us to contrast gamified apps with other ludic activities. Advergames, among other genres, were chosen here for comparison because their persuasive ends are close to those of gamification. In brief, initial observation suggests that gamified apps usually do not pit players against strong computer-controlled anti-subjects; whereas, advergames – and many other ludic activities – often do so.

Formulating design principles is not the main objective of semiotic analyses but, in conclusion, some tendencies can be sketched. Future gamified apps could explore other modes of competition and different actantial positions: this research suggests that new ways to automatically adjust the relation between the intensity of competition in relation to the social context (proposing harder challenges only at the right moments) could be beneficial for new products. Finally, by examining how the subject position is articulated, it emerges that only few titles collocate several players in subject positions as collaborators; thus, more cooperative and team-based gamified apps might be welcome additions to the field. These possible tendencies, along with further theoretical and comparative exploration, suggest a considerable expressive potential and will need more attention in the future from scholars and practitioners alike.

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