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Ludic Re-Enchantment and The Power of Locative Games: A Case Study of the Game Ingress

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Abstract

Games can promote a powerful form of reversal of the Weberian disenchantment of the modern world, which we refer to as "ludic re-enchantment". In this article, we present the notion of ludic re-enchantment and situate it in relation to other forms of re-enchantment, proposed by previous authors. Ludic re-enchantment is particularly powerful in locative games, which affect the experience of urban life both with respect to the associations between the inhabitants of the city and with respect to their relationship with urban materialities. These claims are exemplified with an ethnographically inspired study of the game Ingress in the city of Porto Alegre, Brazil. The double composition of gameplay and narrative of Ingress is shown to interlace with urban life in a variety of ways. The strength of ludic re-enchantment by locative games is confirmed and demonstrated to be modified according to the characteristics of Ingress narrative and gameplay. Although play always results in some degree of ludic re-enchantment, the meanings deriving from that re-enchantment vary depending on the attributes of the game.

Keywords: Re-Enchantment;, Ludic; Locative Games; Ingress;

1 Introduction

Locative Games are games in which the physical world is used as a "tabletop" and Alternate Reality Games are games which deliberately integrate fictional narratives with real world experiences. Locative ARGs (LARGs) are a subgenre of both, in which fiction is integrated to physical space, usually public urban spaces. Digital mobile technologies and wireless networks were decisive for the increase of popularity of Locative Games over the last decade and some authors prefer to include technology in their definition of Locative Games and even of ARGs. This is the case of Kiefer et al. [20], for example, differentiate Locative Games from other types of games in which the position of the players is an important element of gameplay. The authors, who prefer the designation "Location-Based Game", differentiate between Mixed-Reality and Augmented Reality Games. The former are defined as those which "add a virtual game layer to the real world, which is embedded through cognitive reasoning" and therefore comply with our understanding of LARG [20] (p. 4). The latter are experienced in first-person and therefore required the mediation of virtual reality technologies [20] (p. 4).

Montola et al. [26] think of Locative Games in terms of three types of "expansion": spatial, temporal and social. The spatial expansion promoted by Locative Games is due to the change of the grounds of play: from a virtual environment, a board or a tabletop to the city. The temporal expansion refers to the fact that these games are played in mobile devices which are constantly with the player, allowing for more playing time. Social expansion refers to the eventual inclusion of passers-by into the game, with or without their acknowledgment. Thus, Locative Games can change the experience of the places in which they are played for those present at those place, be them playing or not.

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LARGs players describe changes in their relation with the city, as space and as place. When a game is multiplayer, those who play refer to peculiar social interactions: friends who are rivals due to their relation to enemies from other dimensions, gatherings that cannot be missed but the need for which the non-initiated will not understand.

We take these to be signs of a new form of experience of urban life, both with respect to the associations between the inhabitants of the city and with respect to the relationship with urban elements and city structure. This understanding directed our interpretation toward a Weberian perspective of the disenchantment of the modern world. More specifically, it led us to perceive the existence of a specific type of re-enchantment of urban life promoted by locative games. We refer to re-enchantment by games in general as 'ludic re-enchantment', a denomination that encompasses the special case of locative games.

In this paper, we present the idea of ludic re-enchantment and search for evidence of it with an ethnographically inspired study of the LARG *Ingress* in Porto Alegre, Brazil. Launched in 2012 by *Google* and *Niantic Labs*, *Ingress* is played *in situ*, using mobile devices for in-game interaction. Context is provided by a cross-platform narrative which invites players to join one of two factions.

The article is organized as follows: in the next section, we introduce the notions of disenchantment and re-enchantment of the world and of the city, as proposed by Weber and contemporary authors. This is followed by the presentation of our idea of ludic re-enchantment by games in general and considerations about the particularities of ludic re-enchantment by locative games. The second part of the article is dedicated to the case study. It starts with brief descriptions of the game *Ingress* and of the methods and techniques used for data collection. After which there is the presentation and discussion of the results and final considerations.

2. Disenchantment and Re-enchantment

Max Weber attributed the disenchantment of the world to the convergence of several forces at the intersection of the Protestant Reform and the Scientific Revolution. As secularization and the modern scientific paradigm advanced, traditional political and religious forms of authority became increasingly meaningless. This process weakened understandings of the world based on religious or traditional meta-narratives, leading to the subjugation of "legitimate forms of domination"[3] by bureaucratic arrangements. Commitment and passion declined in favour of instrumentality and objectivity.

Before modernity, the world was understood in metaphorical ways and ruled by multiple supernatural forces. Invisible beings and spirits were tightly interwoven with natural phenomena, causing awe and admiration. As modernity advanced, a new world was created: a rational world, in which everything can be calculated and controlled. Enchantment was thus expelled from the world and the only means to explain and even question reality are instrumental.

However, as previous authors have already noted, modernity was never fully realised and, given its internal contradictions, could not have been (Latour, 1993). Consequently, the world has never been completely disenchanted.

Assunção (2010) studied the works of several authors who have discussed the possibility of re-enchantment of the world and identified interesting patterns. A few commentators, he says, restrict their search for opportunities of re-enchantment to Weber's own work. The majority, however, compare and contrast Weber's ideas with those of his contemporaries and/or current scholarship. In both cases, the discussion oscillates between science and religion as the most

[3] The notions of legitimate and non-legitimate forms of domination are at the basis of Weber's considerations about the modern city. He defines domination as"the probability that a command with a given specific content will be obeyed by a given group of persons" (1978, p. 53). Domination "may be based on the most diverse motives (...) from simple habituation to the most purely rational calculation of advantage" (1978, pg 212).

promising fields for re-enchantment. A large degree of variation is found with regard to religion: some authors restrict their considerations to institutionalized religion and others consider broader notions of mystical experience, including the wonder and fascination of arts, sports, or even tourism. These broader approaches treat new forms of "*latu sensu* religion", an intensity, a "diffuse energy", an impulse, that pertains to certain behaviours and could be qualified as religious" [4] (p. 176).

Science, in its turn, is mostly discussed in terms of the differences between the modern and contemporary scientific paradigms, generally translated as views of man as master or as part of the natural world, between the marvels of science, on the one hand, and towards ecological notions of reunification on the other.

Assunção's generalizations certainly discard many details from each author. This does not diminish the merit of the broad picture he managed to draw, which is particularly useful as a synthesis of the many ways in which the current configurations of the two main axes of Weber's notion of disenchantment, science and religion, can be leading to a re-enchantment of the world.

Different understandings of disenchantment lead to different views about the possibilities for re-enchantment. This article is concerned with a specific possibility of re-enchantment, based on ludic appropriations of urban spaces. Before presenting and discussing this possibility, it is necessary to understand some specific aspects of the disenchantment of urban life.

2.1. Disenchantment and Urban Experience

Weber's considerations about the city are concentrated on a long chapter of *Economy and Society*, a book which is not primarily about the disenchantment of the world [33] (p. LXIV)[4]. The text occupies an important place in the history of urban studies, as Weber's emphasis on the need to "explain inter-human actions in terms of the meanings they have to the parties involved as well as in terms of the specific changes they entail" [25] (p. 51) represented a turning point in urban theories at the time.

In its early years, urban theory concentrated on the physical elements and structure of urban spaces. Authors who included city dwellers in the equation focused on their relation to the material settings. Weber's view of the city as a system of social relations and focus on the rationalization of human associations and power structures provided a new perspective. As described by Weber, the Modern city supplied the princely and Episcopal authorities with revenue, but did not count on their administrative resources, which were insufficient to meet urban economic needs. The gap was filled by what Weber called "non-legitimate forms of domination", that is, by multiple and circumstantial local authorities, who subsumed legal and charismatic powers to their instrumental and unstable agendas. As the locus *per excellence* of "non-legitimate forms of domination", modern Western cities are also the perfect stage for the disenchantment of the world.

We contend that a proper understanding of the city and urban life requires the integration of those three approaches. The material aspects of urban spaces, the ways city dwellers relate to that materiality and their congregations and hierarchies must be taken into account simultaneously, and considered in relation to each other. This threefold approach will be followed in the discussion of the case study presented in this paper.

3. Ludic Re-enchantment

Ludic re-enchantment is a particular form of re-enchantment that derives from the experience of games and play.

[4] The chapter, "The City (Non-Legitimate Domination)" was also published as a book entitled "The City" (1958).

There are some intriguing parallels between the literature on play and games and Weber's considerations about the imperative of rationalization in the modern world. In *Homo Ludens* [17], which is probably the best-known text about play and games, Huizinga affirms the importance of play in all matters related to people and their relations to each other, as well as to the natural world. Huizinga makes clear separations between play and seriousness and places himself decisively within the modern scientific paradigm in the Foreword, when he stresses his choice to approach the question of play "historically, not scientifically" assuring his readers that they would "find no mention of *mana* and the like, and hardly any of magic" [17] (p. x).

However, magic is the word Huizinga chooses to name one of his main concepts: the "magic circle". He arrives at the notion of magic circle by his considerations about the differences between play and "ordinary life". These same differences direct him to the conclusion that play "always belongs to the sphere of festival and ritual - the sacred sphere" and, "as there is no formal difference between play and ritual, so the "consecrated spot" cannot be formally distinguished from the play-ground" [17] (p. 9-10). This would authorize the use of the expression "magic circle" to talk about the borders that separate different types of "temporary worlds within the ordinary world" [17] (p. 10). This supposedly well-defined separation has been challenged by contemporary views of the magic circle as, at best, a permeable boundary repeatedly traversed during gameplay [1, 26, 31].

It is also worth considering that the relation between play and seriousness is also not clear-cut as posited by Huizinga. In "The Play of Art", for example, Gadamer [13] discusses play in a different, more general note, which can be informative to consider. As often quoted, he understands play as something that "contains its own, even sacred, seriousness" [13] (p. 102). By denying Cartesian dualities, he is led to an understanding of play neither on the side of the player nor of the game, but "in-between the player and the game". This is the basis of his idea of the medial character of play [13][5].

For Fragoso [12], the differential character of playing games is agency, which she defines as "the dynamic and continuous process of symbolic exchanges between players and game systems". Its spatiality is not that of one "magic circle", but of many, ontologically different, tightly interwoven circles. In this scenario, play consists of continually traversing different instances of materiality and representation. As players experience fictional and physical spaces separately and integrally at the same time [12], play (re)unifies the real and the magic, the secular and the sacred, the modern disenchanted world and other, enchanted, worlds. No wonder modern rationality had banned it from adult life.

3.1 Ludic Re-enchantment and the City: Locative Games

In the case of LARGs, game experience is enriched by the fact that materialities of ordinary life are also part of the game world, anchoring the magic circle from within as well as from without. All gameplay is a simultaneous experience of fictional and real spaces, but in LARGs, the elements of the game world and the real world are one and the same. As a result, the magic, the mystery and the challenges of the game interlace with ordinary life more closely and easily. This is why LARGs promote a particularly powerful form of ludic re-enchantment.

Most of the literature on LARGs has focused on players' social interactions and ties [7], predominantly emphasizing game aspects over urban aspects [6]. Fewer authors have studied how players relate to the city as a game space and even fewer focused on the urban elements incorporated to the game worlds [34]. There are still those who focus on technological issues [29], the educational potential of LARGs [9] and their use for surveillance or counter surveillance [11]. Works about the LARG chosen for our study, *Ingress*, follow the same lines.

[5] In parallel to the recognition of the importance of Gadamer's perceptions to the present discussion, it should not be forgotten that the context of his discussion of play is rather different from ours. Gadamer approaches play in relation to the realm of art and is interested in its medial character as a way to understanding central binding elements in his hermeneutics.

For example, Li, Li, Liu et al [23] focused on social interactions at the local community level and Chess [8] on how *Ingress* narrative can promote alternatives to globalism and regionalism. Morgado [27] notices the importance of the reinterpretation of reality by the addition of alternative layers of information, but emphasizes *Ingress* promotion of social interactions as the main point of its education possibilities. The use of *Ingress* for data collection has been discussed from the point of view of surveillance [18] and as an incentive for participation in collaborative mapping projects [3].

Nearest to our proposal in this paper is the work of Andrade [2]. The author's study of the IFSs in two Brazilian cities exemplifies how the urban structure interferes in *Ingress* gameplay. The author describes how the labyrinthic experience of attacking and defending portals in the narrow winding streets of Juazeiro differed from the larger scale run between distant portals in Petrolina's wider streets. He also noticed the influence of non-players present in the game areas, who interfered in the dispute blocking the movement of players, screaming, cheering and providing information to help or hinder. Andrade also mentions that "the movement of players in the city interferes in an important way in the in-game movements, connecting in a peculiar way the game space, [as] seen on the screen of the smartphone, and the physical space" [2] (p. 19). Unfortunately, there are no further details about this point.

The first and foremost difference between our work and Andrade's is that he was concerned with how "the function of space and place in game culture is reconfigured by the ludic use of locative media"; that is, how ordinary space and place are reconfigured during gameplay. Our focus is on how the ludic re-enchants the ordinary experience of space and place, that is, how the out-of-game experience of the city is reconfigured by the game. We searched for evidences of this with an empirical case study of the LARG *Ingress* in Porto Alegre, Brazil. The next section consists of a brief description of the game.

4. *Ingress* is [not] a game

Ingress catch phrase "The World around you is not what it seems" introduces the story of the recent discovery of a strange energy (Exotic Matter, or XM) which flows from portals distributed around the world. Ingress promotional images are self-explanatory (Fig. 1).



Fig. 1. Ingress promotional video: XM (in blue) flows from the portal (the fountain).

Little is known about XM beyond that it alters human cognition and it is controlled by a mysterious group, which has been given the nickname 'Shapers'. Players must join one of two factions, known as the Enlightened and the Resistance. The Enlightened believe that XM is beneficial and will lead humanity to a higher stage of evolution. For the Resistance, XM is a way to control human minds that will ultimately lead to enslavement by the Shapers. Thus, both factions play to control XM: the Enlightened, to help the "mental evolution" of those under its

influence; the Resistance to protect humanity against that influence. Developments in the narrative of the game do not clarify whether the XM influence is good or bad, or who or what the Shapers are; therefore, there is no right or good faction, nor a wrong or bad faction.

The effect of XM on humans explains the location of *Ingress* portals in "monuments, memorials, historic buildings and sites, exterior works of art, significant structures and unique businesses" [15], that is, materializations of high levels of human intelligence and inspiration. Players can propose new portals, which become active after approval by the game managers. In reference to the expected impact of Ingress on ordinary experience, portals are said to "help Agents discover and enjoy their community" [30].

Ingress' mechanics and gameplay are relatively simple: players can hack any portal which is less than 40 meters distant from them. If the portal belongs to their faction, hacking allows them to place or upgrade a "resonator". If the portal is under the control of the rival faction, they can attack their resonators[6]. Contiguous portals of the same faction can be linked, forming control fields which capture new mind units, strengthening the faction which controls the field (Fig. 2).

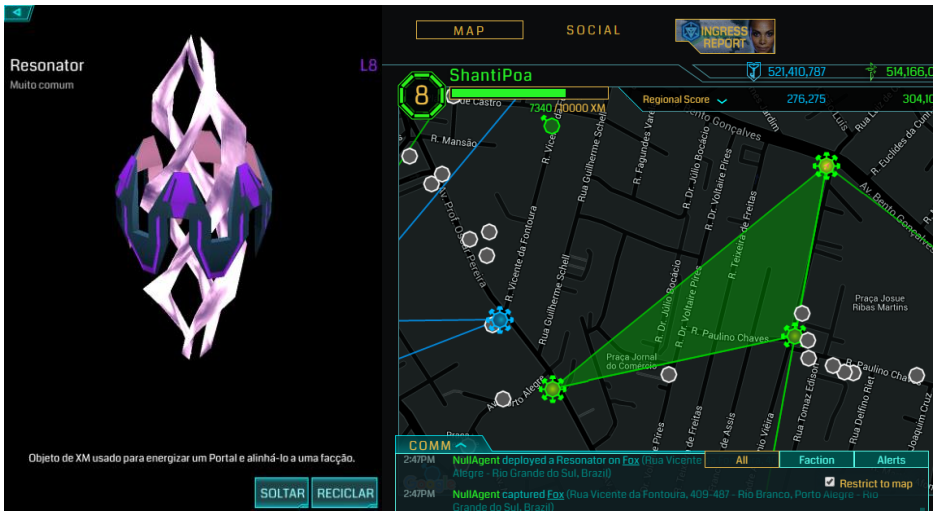


Fig. 2. Left: *Ingress* resonator. Right: field composed of 3 portals in a neighbourhood of Porto Alegre

Ingress players coordinate attacks on portals under control of the opposite faction, and join forces to protect their own. They form teams in which special attention is given to beginners, who are helped with hints and explanations for the good of the whole faction. Thus, *Ingress* gameplay enhances collaboration. The narrative, on the other hand, is based on conquest, rivalry and suspicion.

Two years after the release of the beta version of *Ingress*, *Google* and *Niantic* assumed the general coordination of large scale meetings between factions. There are different types of *Ingress* events, for example, *XM Anomaly*, *Mission Day*, *Ingress First Saturday* (IFS) and *#NL-1331* [19].

5. Methods

The study we present in this paper was performed with the intention of grounding our hypothesis about ludic re-enchantment and locative games. Data collection included participation, survey and interviews. One of the authors, an *Ingress* player, was in charge of

[6]A resonator is a virtual element which contains XM energy. There are 8 slots for resonators in each portal. For a more detailed description of resonators, portals, and other elements of Ingress, see for example http://decodeingress.me/ingress-manual/. Access date: 10 Feb. 2016.

participation[7], which took place over a period of months. Observation was directed towards the IFSs in Porto Alegre. This choice was guided by many facts, amongst which is that IFSs are held in a large number of cities throughout the globe, their date and time are known in advance and the specific location of the meetings is widely informed. A decisive factor was that an IFS starts with the resetting of all portals in the area[8], which intensifies the need of orchestrated action and movement around the play area. Thus, during an IFS, the key elements of locative games in general, and Ingress in particular, are amplified: levelling the portals increases the attention to the material elements of the city that also pertain to the gameworld and the need to build new fields requires thinking about their distribution on the urban tissue. As a result, during IFSs the interactions with portals, with the city and between players is intensified.

The survey was divided in 3 sections: player profile, game experience and final considerations. It was distributed to groups of both factions in online platforms and applications (*Whatsapp, Telegram* and *Google +*) and responded by 28 players[9]. Three players agreed to participate in face-to-face interviews, with sound recording. Questions were directed to the player's relation to other players and non-players during gameplay, to the city and the play areas in general and to the elements of the city which are portals in *Ingress*. Possible signs of re-enchantment were investigated with questions about *Ingress* narrative, integration of gameplay to ordinary life and eventual alterations of urban sociability by playing *Ingress*.

6. Playing *Ingress*

Ingress' narrative adds a fictional layer to ordinary cities, that of the existence of a strange energy which affects human cognition and is controlled by a mysterious group. This energy, XM, flows through some material elements of the city, called portals, which are *Ingress'* most prominent anchors in the real world. To conquer a portal, players have to remain physically near to it for a couple of minutes, while the "hacking" takes place. This increases the attention to the elements chosen as portals.

Links between portals establish fields that amplify the interference of XM, which reach a larger number of human minds. Creating fields require knowledge of portals location, their relative positions and their accessibility. As a result, Ingress players are particularly aware of the relative position of portals and the urban structure.

In the city narrated by *Ingress*, portals and non-portals, agents and non-agents, XM and daily life are tightly connected. The gameplay, however, appears to take place in a different city, composed solely of portals, the streets around them and the flows of XM. This city is represented to the player as seen in Fig. 3; it is a magic, ethereal place and, also, an empty space. The emptiness of this representation makes it easier to understand the independence between *Ingress* narrative and gameplay. In the words of one player:

> *I don't follow [the narrative]. At times I watch the videos [...] I know of novelties, but more the technical aspects of the game. I always know when new objects are launched, but of the story [I know] little. At times people talk of anomalies and I become aware of them, but I don't know much about them.*

Another interviewee is of the opinion that even though the narrative can be complex and at times confusing and hard to follow, the gameplay itself and the actions required to hack, attack or defend one portal are very simple. Even when only the basic facts of the narrative are taken into account, everything that is, or can be, a portal, is resignified in ordinary life.

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[7] We avoid the use of "participant observation" as, despite compatible with the *latu sensu* understanding of the expression, it was not planned, performed or documented in strict accordance to ethnographic methods.

[8] More information about Ingress events can be found at https://www.ingress.com/events

[9] Questions (in Portuguese) can be seen at https://professor.ufrgs.br/suelyfragoso/files/IngressSurvey2016.pdf

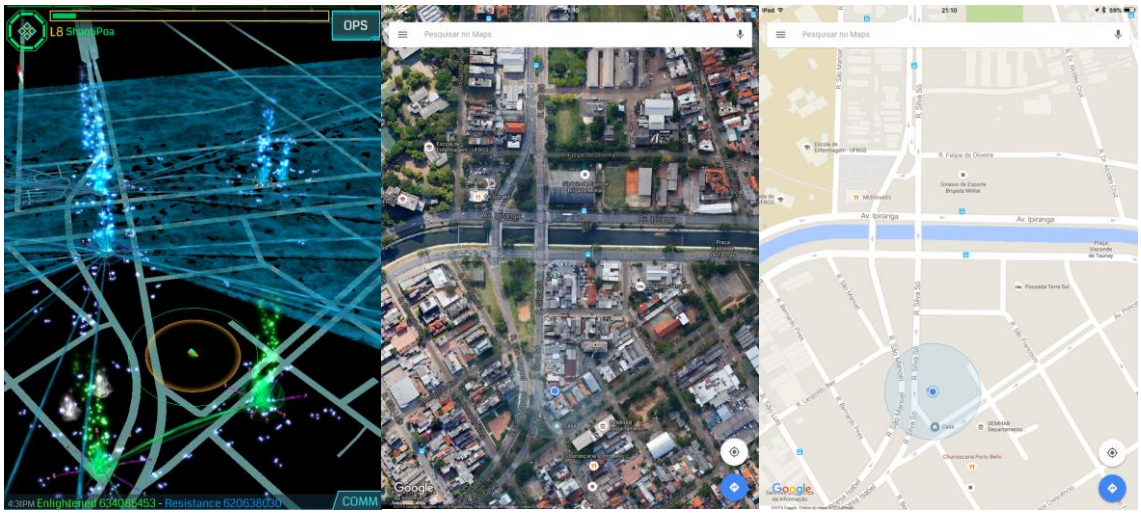


Fig. 3. Left: in-game representation of the player's surroundings. Middle: satellite image of the same area. Right: map of the same area.

Those who are in the area, but not playing, are also erased from the empty Porto Alegre of *Ingress*. The mechanical voice reporting the situation of the portals nearby in the players' earphones help reduce the awareness of the surroundings. Interviewees mentioned being sufficiently engrossed in play to risk their physical integrity in falls or by entering violent districts of Porto Alegre's metropolitan area to create or expand fields.

> when we play, all that interests is playing, is getting AP[10], *then we stay in that bubble. You don't notice the world*

When not playing, players are aware of the correspondences between the fictional city and the ordinary city. Some mentioned using *Ingress* map (the "Intel") to encounter places in their ordinary life, in preference to other tools equally at hand. The Intel map is also used to verify the availability of portals and adapt daily routes accordingly.

> *at times, before leaving for work, I set up a little 'scheme' with a print of the screen on the mobile and [...] plan. But I also keep an eye on things, checking how my house is, the size of my field in relation to the city, etc.*

Our interviewees have become more aware of the physical elements of the city, always considering whether they are or could be a portal. This changes their perception of the city, as "*even when not playing (...) we see things with other eyes*". Elements that were previously unnoticed, or even seen negatively, acquire a new meaning and greater importance. Local history emerges through the characteristics of portals, particularly as a result of the need to approach and stay near the portal for long enough to read signs and other indications, for example, in monuments.

> *[The IFS Porto Alegre location] is the historical city centre. There is the Cathedral Square, which is pretty cool, there is the Piratini [Government Palace], which is where we should – theoretically - praise our history, there is this guy who always has a pigeon on his head, General Osorio[11]...*

[10] APs, or Action Points, can be gained by hacking or updating portals, for example. They are cumulative and it is through them that a player can reach higher levels, what grants access to more powerful items.

[11] Niantic's specification that portals must be expressions of human intelligence and artistic skills leads to a concentration of portals in specific areas of the cities. In Porto Alegre, one of these areas is the historical centre, which contians several recently restored buildings, squares and monuments. The IFSs Porto Alegre takes place between two squares that date back to the foundation of the city: and Praça da Alfândega (Customs Square) by the lake, is the site of the original settlement, and Praça da Matriz (Cathedral Square), on higher terrain, is the site of the official foundation.

The same applies to personal histories, as in the case of the player who discovered the identity of the person in the monument she passed by everyday:

> *when I started to play, I noticed there is a bust on the square that I had never seen. I didn't know who [a historical figure her school was named after] it was. There is an obelisk in honour of [other historical figure] which is the name of the street. It was something I changed my way to avoid when going to the bus stop. This was the greatest shock [I passed by those] for nearly 14 years and had never seen [them]. It is a great square [...] and I had never sat there before playing [Ingress]*

Some players report having developed strong affection to portals they have guarded for a long period. Referred to as guardians, these are as valuable as those which are difficult to conquer. These portals are not special in *Ingress* narrative, they become special by features exclusively related to gameplay. Beyond personal satisfaction, conquering and maintaining portals are important for players' reputation and for the hierarchy of the local Ingress community. Ingress players level up by accumulating points earned with the control of portals and creation of fields. At level 8, players cross an important threshold in the game's hierarchy. In Porto Alegre, there is a special discussion group for players above this level.

There are signs of other layers of meaning in the investment to control of portals and create fields, which are noticeable, for example, when players refer to their habitual playing areas as "workplaces". It is also worth noticing that players refer to each other by their in-game names (agent names) in out-of-game situations.

All interviewees identify sociability as their main motivation to play Ingress. However, it must be taken into account that all are known to participate in Ingress First Saturday events which, despite centred on gameplay, involve a great amount of social interaction and are usually followed by social gatherings. On the other hand, a sense of community can also emerge from individual play, due to the knowledge that others are also playing in other physical locations.

> *The game helped me to work better in teams [...] be part of a faction. Even if you are not participating in a specific operation, you know what is happening [...] In game, you appear alone, so you can do things independently from other players, who don't need to be playing at the same time as you, but they can help you anyway [...] even if I don't contribute much, I know it helps a little and I am always connected to my people. If I close a field, it is for my faction. I am not closing a field and that is it. It is a field for my team.*

As important as in-game social ties, in-game rivalries also impregnate the social relation of players beyond the gameplay. The profiles of Enlightened and Resistance players are undistinguishable from one another, but those in the other faction, Enlightened or Resistance, are seen respectively as alienated and gullible or conservative and fearful. Even in social situations that do not involve gameplay, players aggregate by faction. One of our interviewees mentioned that an *Ingress First Saturday* had been suspended due to the hostilities between two players. Their disagreements started with the dispute of a guardian portal and have degenerated to material grounds such as the ownership of *Ingress* memorabilia imported to Brazil by one or the other.

Diffuse as they are, the boundaries of the magic circle interfere with social associations which are not related to the game. Playing or not playing *Ingress* is more important than the choice of faction and affects the relevance of others in ordinary life. Everyone who is seen using a mobile phone is a potential player and, as such, a fellow member of the *Ingress* community: "for me, anyone with the mobile phone on the street is an Ingress player". The sympathy towards those who play is instantaneous:

> *I have many times passed by players, first time was "wow, there is someone else playing here" Some other times I hid, when it was a player of the other faction. I [hid and] watched that other person playing*

Non-players who acknowledge the fiction can be respected, as in the case of the daughter who proudly described how her mother points out buildings which she thinks are or could be portals.

Andrade [2] mentioned non-players interfering with the gameplay in Juazeiro and Petrolina. In Porto Alegre, however, non-players disappear and, as everything else that is not represented in the Intel map, become irrelevant. When questioned about the presence of others in the areas of Ingress events, one of the interviewees was emphatic:

> *I enter the game [...] and don't pay attention to anything [else]. Not [even] the people, but yes, [I pay attention] to places, what are the portals around, [I pay attention to the architecture and the like. Human beings that are not playing don't matter at all.*

Curiously, this attitude is in direct contradiction to how *Ingress* narrative justifies the need to conquer portals and create fields, which is to alter the flow of XM and, therefore, its influence on the minds of those in their surroundings: the non-players. When reminded of this, our interviewees were surprised of having forgotten the narrative to the point of not taking it into account.

7. Ludic Re-Enchantment in Ingress

Ingress is a fortunate example of LARGs power of re-enchantment. Its rich narrative and gameplay are relatively independent from each other, making it easier to identify the different forces of re-enchantment set in motion by the game. *Ingress'* narrative dialogues directly with the two axes of disenchantment and re-enchantment, science and religion. It also appeals simultaneously to the modern imaginary and to the contemporary desire of re-enchantment. *Ingress'* gameplay is less specific: most aspects of *Ingress'* mechanics and dynamics can be encountered in other LARGs[12]. Therefore, considerations about ludic re-enchantment emerging from *Ingress'* gameplay are more suitable for generalization than those deriving from the narrative.

Regardless of how independent gameplay and narrative appear to be in the description of a game, in the experience of play they are inseparable. In this section, narrative, gameplay and their intersection are discussed separately exclusively for clarity. The same is true for the organization of the discussion of gameplay according to the three major approaches previously identified in urban theories, which are the focus on city materialities, on how city inhabitants relate to the materialities and on the human associations which comprise the social hierarchies and urban power relations.

7.1. Ingress' Narrative: Religious and Scientific Re-Enchantment

Ingress overarching meta-narrative reestablishes the role of the supernatural in ordinary life. In *Ingress*, humanity is subject to forces that have resisted every wave of modernization.

XM interferes with a foundational aspect of Modernity: human cognition. Its mere existence challenges modern rationality. An even greater challenge comes from the existence of those who control it, the Shapers. They are "endowed with supernatural, superhuman, or at least specifically exceptional powers" [35] (p. 241) and, therefore, a typically charismatic source of

[12] Ingress' gameplay consists basically of a dispute of tokens and territories between two factions. As such, it can be thought of as a variation of the traditional children's game "capture the flag".

authority. Knowingly or not, humanity has always been subject to some degree of legitimate domination. This sets the scenario for the mystical qualities world of *Ingress*.

In parallel to a plot centered on scientific re-enchantment, *Ingress* world is closer to *strictu sensu* religion than some of the forces of re-enchantment by epiphany given as examples by Assunção [4]. *Ingress'* world is marvelous in several ways, starting from the beauty of its visual representation. The transparent shades of green and blue, the sparkle of XM and, perhaps above all, the emptiness, combine to suggest a space suspended from reality by incantation. Besides its visual atmosphere, the mechanical sounds that come from this world are trance-inducing and continuously repeated in a ritualistic fashion.

7.2 The intersection of Ingress' Gameplay and Narrative: Battle for Disenchantment

In contrast to the re-enchanting ingredients of its narrative, Ingress gameplay is a call to arms in defense of Modern values. It starts with a practical choice between the Enlightened and the Resistance both of which, contrarily to what the denominations suggest, appeal to a predominantly modern set of beliefs likely to be attuned to the profile of *Ingress* players. This is more obvious for the Enlightened, whose attempts to maneuver the flows of XM are based on confidence that science will be able to understand and control that mysterious force, elevating humanity to a demiurgic level. The Resistance is fighting for the Modern paradigm in a less obvious, but perhaps more effective, way. They attempt to overcome the charismatic domination of the Shapers and reestablish a social organization based on "non-legitimate domination". Regardless of which faction they choose, *Ingress* players always side with Modernity. The Enlightened defend Modernity because of their trust in science. The Resistance, because of their lack of trust in charismatic authority.

These battles for disenchantment are not clear when just *Ingress'* plot is considered, or when just the gameplay is taken into account. They only become apparent at the intersection of *Ingress'* narrative and gameplay.

7.3 Ingress' Gameplay: Re-Enchantment of the City

The discussion of Ingress gameplay in relation to disenchantment and re-enchantment is organized according to the threefold approach to the city and urban experienced previously proposed. Transposed to LARGs, its three axes correspond to the integration of the game to the physical elements and the structure of the city; the impact of the game on the relation players establish with that materiality and the effect of playing on social associations, with players and non-players.

7.3.1 Re-Enchanted Urban Materialities

The elements chosen to be *Ingress* portals are already enchanted by being incorporated into the fiction; that is, by being transposed from ordinary life to the experience of the game. More important for our search for signs of ludic re-enchantment in Ingress, however, is that they are also re-enchanted as part of ordinary life. An element identified as portal, or potential portal, is immediately sparked with the magic of XM. On the other hand, looking at the city under the new light and with the care required by Ingress reveals new facets which are independent of the game. The first reason to pay attention to a monument can be the fact that it is a portal, but the discovery that it is also part of the local history, or of the players' personal history, is a re-enchantment of them *in* real life and *by* real life. Ingress gameplay is only the trigger of that process of re-enchantment.

7.2.2 Re-Enchanted Urban Experience

Ingress players describe a highly immersive experience, in which they would be transported from the ordinary world to a different sphere, a space which can be identified with the maps on their Intel screens. In this sense, the mystical qualities of that empty and ethereal space qualify gameplay as an experience of religious re-enchantment. However, there is evidence that players forget or disconsider most elements of *Ingress'* narrative during gameplay. This is hardly surprising given that very few narrative elements are important for the game mechanics and dynamics: at the limit, only the existence of the two factions and of in-game objects like resonators and portals.

Ingress players need to move from one portal to the next and to identify contiguous portals to created fields. As a consequence, they develop awareness of the distribution of the portals in the city and learn to see the *Ingress* city in the real city, and vice-versa. The use of interactive maps to play and the Intel map in ordinary life increases and mixes the layers of meanings attributed to the areas around portals, expanding to embrace larger parts of the city as the player proceeds. Urban experience is re-enchanted by the non-instrumental relations to the urban tissue set in motion by *Ingress*.

Within the context of the game, the initial motivation to invest time and resources to conquer and maintain portals can be instrumental (leveling up), but the type of attachment that results from the investments of time and resources to maintain them is not. This is evident in the choice of words used by *Ingress* players to refer to portals they have controlled for some time: players care for portals, guard them, protect them. The hacking of a portal which has been guarded for some time is reason for grief and can be understood as a personal attack. These portals are re-enchanted by affection, and remain enchanted when the player is not in-game.

7.2.3 Re-Enchanted Urban Associations

Social interaction is at the core of *Ingress'* gameplay. Even individual actions such as conquering and maintaining portals are meaningful only in the context of the competition between the two factions. As typical in team games, *Ingress* players develop a sense of community which tends to cross the fuzzy boundaries of the "magic circle". In *Ingress*, this is amplified by fact that one of the few points in which the narrative fully impregnates the gameplay is the choice between the Enlightened and the Resistance. Joining one or the other influence in-game and out-of-game relations. Even the most rational players will at times be impregnated by beliefs such as those who joined the Enlightened are foolish or that those of the Resistance are fearful.

It is important to consider that the choice between the factions is typically a rational decision. The Enlightened and the Resistance are typical modern aggregations: their members are bound by instrumental, temporary and unstable links. This is not contradicted by the sense of belonging which tends to emerge within either faction. One of the internal contradictions of Modernity is that even the most disenchanted human relations never ceased to include enchantments such as love, hatred or camaraderie.

Ingress' gameplay does not erase only the materialities of town, but also others who happen to be in the play area, but are not participating in the game. Materialities which are not useful for the game, that is, that are not relevant for the instrumental logic of gameplay, have been erased, including all living beings. Even the mechanical sounds contribute to the perception that the esoteric city in the Intel map is inhuman and still.

However, the community of *Ingress* players is lively. The sense of belonging that binds all players is more important than the internal links of each faction, or the rivalry between them. Players become part of this community for non-instrumental reasons; they want to enjoy the game. This would be, in principle, a re-enchanted form of human association. However, *Ingress'* gameplay establishes hierarchies through conditional achievements. Added to gamification strategies such as token distribution, these give rise to power relations which are essentially disenchanted. When *Niantic* and *Google* took charge of the *Ingress* events, they chose to

establish fixed rules and start the distribution of material goods and mementos for a few elite players. Despite their express intention of motivating participation, these inherently disenchanting strategies are bound to have weakened the magic of *Ingress* social gatherings and run the risk of compromising the sense of belonging that has, so far, been an important aspect of playing Ingress.

8. Final Considerations

When defined in opposition to rationality, play is a form of re-enchantment; that which we chose to call ludic re-enchantment. Play is not restricted to games, but, in games, the intersection between fiction and reality is more evident. This is even clearer in ARGs, which enhance the effect by explicitly entangling the fantasy world with ordinary life. LARGs go one step further in their incorporation of spaces of the material world in the fictional universe. For this reason, one of the hypotheses of this paper was that ludic re-enchantment is particularly powerful in LARGs.

We searched for evidence of ludic re-enchantment with a study of the LARG Ingress. It confirmed the existence of ludic re-enchantment and made it possible to identify some of its characteristics. First and foremost, the study indicated that the peculiarities of a game interfere with the processes of re-enchantment it sets in motion. Ingress' narrative brings to the fore aspects of religious and the scientific re-enchantment which characterize it as a tale about an ongoing re-enchantment of the world. Ingress gameplay promotes three lines of reenchantment. The first derives from the incorporation of urban elements from ordinary life into the gameworld. Players interact with these elements as part of Ingress fiction, resignifying them in a variety of ways. These elements are also reenchanted in their role in ordinary life as, by looking at the city in a new light, players discover new aspects which are not related to the game and change their relation to the city to a less instrumental one. Finally, Ingress' gameplay requires joining one of two factions which are typical modern aggregations. On the other hand, these are essentially human associations and, as for Modernity in general, a contradiction always emerge from them. However rational at the start, even the most disenchanted human relations lead to enchantments such as love, hatred or camaraderie.

The dynamics and narrative of a game can be described and discussed in parallel, but they are never experienced separately. At the intersection between its gameplay and narrative, players of *Ingress* become champions of Modernity. Disenchantment is at the core of the instrumentality of the dispute of territory between two factions. Within each group, the defense of Modern values is clearer in the case of the Enlightened, but stronger and more effective in the Resistance. Moreover, when the narrative and gameplay are taken into account, playing *Ingress* revealed to be a complex convergence of processes of re-enchantment, disenchantment and even disenchantment of the re-enchanted.

Play does not always involve games. Ludic re-enchantment is not a privilege of LARGs, or even of games, it is part of the experience of play. Further studies are necessary to understand ludic re-enchantment not only in games, but also in other forms of play.

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References

1. Andrade, L. A. d. (2015a). *Jogos digitais, cidade e (trans)mídia: A próxima fase.* Curitiba: Appris.

2. Andrade, L. A. d. (2015b). Jogos locativos, espaço e lugar: o caso de Ingress. *Trama: Industria Criativa em Revista, Vol. 1*(N. 1).

3. Antoniou, V., & Schlieder, C. (2014). *Participation Patterns, VGI and Gamification*. Paper presented at the Proceedings of AGILE 2014, Castellón, Spain. https://www.researchgate.net/profile/Vyron_Antoniou/publication/262560822_Participation_Patterns_VGI_and_Gamification/links/0a85e537fa4ad2646b000000.pdf

4. Assunção, R. A. d. (2010). *O "Reencantamento do Mundo": Interpelando os intérpretes do desencantamento do mundo.* (Dissertação de Mestrado Dissertação), Universidade Federal de Santa Catarina, Florianópolis, SC. Retrieved from https://repositorio.ufsc.br/bitstream/handle/123456789/94369/292020.pdf?sequence=1&isAllowed=y

5. Bimber, O., & Raskar, R. (2005). *Spatial augmented reality : merging real and virtual worlds*. Wellesley: A K Peters.

6. Björk, S. & Peitz, J. (2007). *Understanding Pervasive Games through Gameplay Design Patterns.* Situated Play, Proceedings of DiGRA 2007 Conference. Tokyo, Japan. Retrieved from http://www.digra.org/wp-content/uploads/digital-library/07311.47471.pdf

7. Caon, M., Mugellini, E., & Khaled, O. A. (2013). *A pervasive game to promote social offline interaction*. Paper presented at the ACM conference on Pervasive and ubiquitous computing adjunct publication, Zurich, Switzerland. Retrieved from http://www.ubicomp.org/ubicomp2013/adjunct/adjunct/p1381.pdf

8. Chess, S. (2014). Augmented regionalism: Ingress as geomediated gaming narrative. *Information Communication & Society, 17*(9), 1105-1117. doi:10.1080/1369118X.2014.881903

9. de Souza e Silva, A., & Delacruz, G. C. (2006). Hybrid Reality Games Reframed: Potential Uses in Educational Contexts. *Games and Culture, 1*(3), 231-251. doi:10.1177/1555412006290443

10. de Souza e Silva, A., & Hjorth, L. (2009). Playful urban spaces: A historical approach to mobile games. *Simulation Gaming, 40*(5), 602-625. doi:10.1177/1046878109333723

11. Farman, J. (2014). Creative Misuse as Resistance: Surveillance, Mobile Technologies, and Locative Games . *Surveillance & Society*, 12(3), 377-388.. Retrieved from http://www.surveillance-and-society.org

12. Fragoso, S. (2015). The spatial experience of games and other media: notes from a theoretical-analytical model of representations of space . *Comunicação e Sociedade, 27*, 195 – 212. doi:http://dx.doi.org/10.17231/comsoc.27(2015).2098

13. Gadamer, H.-G. (1986). 'The Play of Art'. In R. Bernasconi (Ed.), *The Relevance of the Beautiful* (pp. 1-56). New York: Cambridge University Press.

14. Gee, J. P. (2008). Video Games and Embodiment. *Games and Culture, 3*(3-4), 253-263. doi:10.1177/1555412008317309

15. Ingress Field Guide. (2016). Portals & Linking. Retrieved from http://ingressfieldguide.com/content/portals-linking

16. Hodson, H. (2012). Tech to the streets: Google's Ingress game is a gold mine for augmented reality. *New Scientist, 216,* 1.

17. Huizinga, J. (1949). *Homo Ludens a Study of the Play-Element in Culture*. London: Routledge & Kegan Paul.

18. Hulsey, N., & Reeves, J. (2014). The Gift that Keeps on Giving: Google, Ingress, and the Gift of Surveillance. *Surveillance& Society, 12*(3), 389-400.

19. Ingress. (2016). Ingress Events. Retrieved from https://www.ingress.com/events

20. KIEFER, Peter; MATYAS, Sebastian; SCHLIEDER, Christoph. Systematically exploring the design space of location-based games 4th International Conference of Pervasive Computing (Pervasive'2006). Nova York 2006. Disponível em: http://iplaygames.eu/wp-content/uploads/2013/07/PerGames06_preprint_KieferMatyasSchlieder_Systematically-Exploring-the-Design-Space-of-Location-based-Games.pdf

21. Kwon, C., Kim, Y., & Woo, T. (2015). Digital–Physical Reality Game: Mapping of Physical Space With Fantasy in Context-Based Learning Games. *Games and Culture*. doi:10.1177/1555412014568789

22. Latour, B. (1993). *We have never been modern* Cambridge Harvard University Press.

23. Li, R., Liu, S., Liu, Y., Tu, H.-Y., & Yang, X. (2015). A Probe into Ingress and Its Social Interaction: Augmented Reality's Influence on Mobile Game. Retrieved from http://vince-li.com/pdf/ingress/paper.pdf

24. Majorek, M., & Vall, M. d. (2015). Ingress: An Example of a New Dimension in Entertainment. *Games and Culture*. doi:10.1177/1555412015575833

25. Martindale, D. (1958). Prefatory Remarks. In D. Martindale & G. Neuwirth (Eds.), *Max Weber The City* (pp. 9-62). New York: The Free Press.

26. Montola, M., Stenros, J., & Waern, A. (2009). *Pervasive Games, theory and design: Experiences on the boundary between life and play*. Burlington: Morgan Kaufmann.

27. Morgado, L. (2015). Ingress – potencialidades pedagógicas de um jogo georreferenciado de realidade alternativa em rede. In J. A. Moreira, D. Barros, & A.

28. Monteiro (Eds.), *Inovação e Formação na Sociedade Digital: Ambientes Virtuais, Tecnologias e Serious Games* (pp. 151-164). Santo Tirso, Portugal: Whitebooks.

29. Mun, H. & Lee, Y. (2015). *Traffic analysis of a social mobile game*. Paper Presented at the 17th Asia-Pacific Network Operations and Management Symposium (APNOMS) 2015. doi: 10.1109/APNOMS.2015.7275354

30. Niantic Labs (2015). Candidate Portal criteria. Retrieved from https://support.ingress.com/hc/en-us/articles/207343987-Candidate-Portal-criteria

31. Nieuwdorp, E. (2005). The pervasive interface: Tracing the magic circle In M. v. d. Boomen, S. Lammes, A.-S. Lehmann, J. Raessens, & M. T. Schäfer (Eds.), *Digital Material: Tracing New Media in Everyday Life and Technology*. Amsterdam: Amsterdam University Press.

32. Reis, B. M. S. (2014). A experiência urbana e apropriação espacial a partir do jogo de realidade aumentada (ARG) Ingress. *Iluminuras, 15*(36), 360-378.

33. Roth, G. (1978). Introduction. In G. Roth & C. Wittich (Eds.), *Max Weber Economy and Society: An outline of interpretative sociology* (pp. XXXIII - CX). Los Angeles University of California Press.

34. Walz, S.P. & Ballagas, T. (2007). *Pervasive Persuasive: A Rhetorical Design Approach to a Location-Based Spell-Casting Game for Tourists.* Situated Play, Proceedings of DiGRA 2007 Conference. Tokyo, Japan. Retrieved from http://www.digra.org/wp-content/uploads/digital-library/07311.17007.pdf

35. Weber, M. (1978). *Economy and Society: An outline of interpretative sociology*. Los Angeles: University of California Press.