



The imaginative embrayage through gaming deconstructions

Enrico Gandolfi / Roberto Semprebene

Abstract

Imaginary and technology are recursively intertwined, and digital entertainment is exemplar regarding this synergy. The myth of photo-realism aims to replicate reality, but a divergent trend is taking a foothold - i.e., generative games that allow deconstructive practices toward 1) the agential architecture supporting a specific interaction and 2) the symbolic representation on which the gaming performance relies. Such a revealing act may have a remarkable impact on how imagination is articulated and experienced. In order to shed light on the topic, in this article a multidisciplinary framework is applied to deepen three video games that let the player have an active part in shaping the game world and its features - i.e., Minecraft, Terraria, and Super Mario Maker. Suggestions from Semiotics, Cultural Studies and Game Studies lead the analysis with a peculiar emphasis on the concepts of “sign”, “circuit of culture”, and “metaphor”. Consequently, each case study is analysed according to the dimensions of representation (aesthetics), interaction (mechanics), and linearization (trailers). Therefore, specific imaginative affordances mediated through this creative technology are outlined within digital entertainment and toward interactive media.

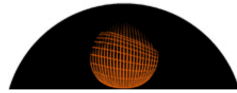
Keywords

Imaginary / technology / generative video games / metaphor / digital environments / creativity

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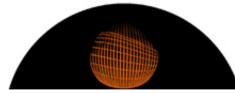


I. Introduction

Imaginary and technology are increasingly correlated by now. As stated by Appadurai (1996), while the first is now a critical social practice per se, the domestication of the latter among old and new generations is a matter of fact. Their synergy discloses a terrific potential in terms of identification, modularity and creativity that, according to Manovich (2002), is empowered by the evolving social and computational features of new media. Although the relation between media images and reality is a significantly debated one, the increasing interaction allowed by technological innovation suggests to consider people agency a reference criterion rather than focus on endless realism versus hyper-realism dilemmas (Baudrillard, 2002).

It is well-known that current creative industries (Caves, 2006) are characterized by convergence trends (Jenkins, 2006) and transmedia worlds (Wolf, 2012), which allow and even ask audiences to experiment multiple expressive channels within an integrated perspective. This new kind of consumption is supported by technological affordances (digital languages, social platforms, etc.) and cultural routines (synergies between different sectors and media practices) as well, triggering a significant autonomy in experiencing media contents and structures. Accordingly, imaginary is enriched by such a multiplication of connections, which are increased by a growing participation from the bottom (Abercrombie and Longhurst, 1998).

Digital games are among the most glaring proofs of this trend. With a business of 111 billions of dollars in 2015 (Gartner, 2013) and more than one billion players worldwide (Spil Games, 2013), they represent the leading sector of the current entertainment market. Furthermore, the technological excellence that supports them is often groundbreaking (e.g., Oculus Rift, Sony PlayStation VR, Microsoft HoloLens). Consequently, their influence on imaginative repertoires (Abruzzese, 2001) is taking a foothold by harnessing virtual worlds, augmented realities and innovative ways of expression. Indeed, it is not only a matter of current visual repertoires but also a practice-oriented one. Being "ergodic media" (Aarseth, 1997) digital games require an active and constant intervention by users in order to work as "text" (Eco, 1975). Consequently, images are manipulated, explored and felt as operative components in digital environments; to summarize, the switch is from interpretation to "operativization". Indeed, video games are all about images: even the simple act of make the avatar walk can be interpreted as a diachronic manipulation of visuals. The virtual environment, which means what happens on the screen, is actually created by the user by combining the elements that the video game let him/her use. Some products like Minecraft and Lego Worlds go even beyond this formula by letting the player use their engines for creating new experiences and patterns; in essence, gamers become able to deconstruct the ludic setting into its core mechanics and exploit them to



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develop personal instances. Therefore, a “meta-lens” is staged toward the processes that rule the playing system itself. In this article, such category (from now, “generative games”) is deepened concerning its impact on imaginary and related attitudes. Accordingly, a multidisciplinary framework that draws suggestions from Media Studies, Sociology and Game Studies is applied to Minecraft, Terraria and Super Mario Maker in order to shed light on how such a reverse engineering design can affect imaginative orientations and the generation of related myths. The study is structured as follows: the second and third sections concerns imagination and current digital entertainment trends; in the fourth, an analytic framework is proposed, while the fifth, sixth and seventh deepen the three case studies accordingly; finally, the eighth discusses the results, outlines possible implications and suggests future developments.

2. Imaginary as a range of action in the video-ludic era

Imaginary is quite a controversial term. Despite the common definition interprets it as something “existing only in the imagination” (Oxford Dictionary), in the last decades several suggestions from a multitude of disciplines (e.g., Sociology, Anthropology, Cultural Studies, Media Studies) have problematized and reformulated its meaning. Trying a synthesis, imaginary becomes the repertoire of visualizable images (static as dynamic, single as connected) that characterizes an individual, a culture, or a society; its boundaries are dynamic and contextual, and it affects not only “what” but even “how” we visualize and imagine (Derrida, 1997; Hall, 1997). Therefore, it becomes something more than an illusory tool for escapist activities; indeed, as suggested by Appadurai (1996), imagination – i.e., the use of imaginary – is a tangible social practice among current audiences, and media environments play a fundamental role in its articulation. Similarly, Lacan (1997) describes it as a form of consciousness able to entail concrete outcomes. Actually, almost all the controversies about the topic concern how post-modern imaginary influences critical skills and perceptions. For instance, Baudrillard argues that current reality is merging with digital media triggering a spread hyper-realism that damages analytic attitudes. In this loop of fake, real and more than real, simulacra become the new references and individuals lose their ability to distinguish between screen and reality. Conversely, Maffesoli (2009) asserts that a return to primitive images and values is happening: rigid value-systems (political ideologies, religions, etc.) are leaving the place to media celebrities and stars entailing a new and fluid polytheism of screen myths. Looking for a median point, Cultural Studies scholars (e.g., Hall, 1997; Du Gay, Hall, Janes, Mackay & Negus, 1997) interpret current media-scapes and related images as socio-economic battlegrounds, in which contextual factors operate and are intertwined along with an active role of audiences. The resulting imaginary is a compromise between top-down prerogatives and bottom-up tendencies,



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thus cultural hegemonies and consequent representations are constantly under development. This position is more aware of people autonomy in handling media contents, but a significant attention is also given to cultural and creative industries as image-providers. Media scholars (Carpentier, 2012; Couldry, 2012) are cautious in celebrating users' freedom (as done by Abercrombie & Longhurst, 1998) indeed, because power hierarchies and productive standards still remain and influence reception even if they are plural and potentially contestable.

In turn, technology and media become part of imaginary itself in terms of patterns, functioning and structures. Network and computational metaphors are increasingly popular in current culture and discursive practices (Castells, 2001; Manovich, 2002; Codeluppi, 2013) sketching new guidelines in experiencing and reading reality. Therefore, a recursive relation operates between imagination and technology, dealing with people creativity, media industries (Hesmondhalgh, 2013), and interactive affordances. The evolution of the concept of "culture" in its micro-declination is associable: according to Swidler (1986), this term could be interpreted as a tool of schemata and strategies used by individuals to deal with their own life. Resources and models for taking examples and developing and enriching this tool are offered by society and macro-culture (Sewell, 1992) as surrounding and reference environments. Broad and media imaginaries give a fundamental contribution to such a "source" by suggesting models and possibilities that people can manipulate and translate into their everyday life.

Consistently with these views, the focus of the article is on how imaginary attitudes can be influenced by a medium that directly puts individuals at the bottom of its design and dynamics - i.e., digital games and especially those that can be deconstructed and reformulated by players. Indeed, aside from the popularity of digital entertainment, little efforts have been done in deepening their impact on imaginary and related "visualization" practices.

3. Digital Creat-ainment

As stated above, digital entertainment is the leading creative industry in terms of revenues and technological advancement. Unsurprisingly, several trends and perspectives characterize it like cloud gaming, virtual reality and social games (just to mention a few). Despite the tendency to hyper-realism (Bateman & Boon, 2006) is diffused across different genres (e.g., sports, shooters, simulations) following the increasing computational capabilities provided by technology, a divergent turn is spreading - i.e., the deconstructing play: products like Minecraft and Terraria adopt pixel-oriented aesthetics and modular gameplays that allow a significant customization by the player. Such a bottom-up intervention operates toward both the two main dimensions of the medium: the agential architecture that structures a specific interaction (game as a system to enable and keep



working); and the symbolic representation on which the ludic experience relies (game as a representation to interpret and decompose) (Mäyrä, 2008; Elias, Garfield & Gutschera, 2012).

Indeed, while realistic games are based on continuative mechanics and foster a feeling of fluidity and objectivity, deconstructing ones depend on discrete dynamics (Adams & Dormans, 2012), which reveal the inner structure of the interaction; accordingly, they trigger a feeling of control and meta-agency on the ludic system itself. It could be argued that it is an “embayage effect” in semiotic terms (Greimas, 1983): the patterns that rule the text (Eco, 1975) are elicited in order to involve and legitimize the reader (in this case, the gamer). The return and empowerment of phenomena like Lego and pixel art fit into this revelation of core mechanisms and elements; consequently, the correlated hybridizations (Lego-video games, block-style graphics in independent productions, etc.) are taking a foothold (e.g., Lego: Dimensions, Minecraft). As every cultural phenomenon (Du Gay et al., 1997), this success is affected by multiple economic and social drivers, among which: the increment of age of gaming audiences (thus the nostalgic appealing of vintage layouts), the productive convenience of 8/16 bit aesthetics (conversely, huge graphics require expensive engines), the centrality of fandom and interpretative communities often helped by User Generated Contents (UGCs) (Sihvonen, 2011), and so on.

Regardless, this showing act may have a remarkable impact on how imagination is configured and articulated even among new generations; for instance, Minecraft is exploited all around the world as an educative tool for primary and secondary education; furthermore, popular concepts like “computational technology” (Wing, 2006) and “computational literacy” (diSessa, 2000) highlight the need for a “smart deconstruction” through an interactive and customizable technology. It is a being in charge of the expressive landscape for a pro-active orientation; the core lens focuses on the functioning rather than on the mere surface and then triggers an imaginative reverse engineering. Albeit video-ludic references are thriving as pop culture icons (e.g., Super Mario, Lara Croft, Pac-Man) and harnessed by other media (e.g., the movies Pixels and Wreck-it Ralph), this deconstructing articulation of the medium deserves a specific attention, which is still missing. As anticipated, the objective of the article is to address this lack with an emphasis on the imaginative processes triggered.

4. Attempting a restoring overview

In order to enlighten the relation between deconstructive gameplay and imaginary, in the article a multidisciplinary framework is advanced. Specifically, three cornerstones lead the analysis as driving concepts: “sign” as an iconic, indexical and symbolic reference (Greimas, 1983); “Circuit of culture” as a broad frame in terms of contextual inferences that



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surround signs and influence their interpretation (Du Gay et al., 1997); and “metaphor” (Ricoeur, 1990) as a transformative bridge. Their combination aims to enlighten how generative game systems work and enable new visualiz-actions in both micro and macro contexts.

According to Greimas (1983), a sign is a connection, something that means something else. The relation can be iconic – i.e., the sign partially replicates the object –, indexical – i.e., the sign indicates the object through a proximity, a physical bound – or symbolic – i.e., the sign is connected to the object by an arbitrary bond. The object per se can be considered the “target domain” (what I want to describe), while the sign is the “source domain” (what I use to explain the object). According to Ricoeur (1990), when these areas are similar (or traditionally tied), we are referring to an association; conversely, when their contiguity is innovative and unexpected, we are dealing with a metaphor. Although the boundaries of these categories seem well-defined, a sign is often hybrid and results in a dynamic combination of symbolic, iconic and even indexical dimensions. As observed by Eco (1975), interpretation is a performative act that constantly evolves by relying on contextual and dynamic variables. Digital media have problematized this labelling further: virtual scenarios and interactive environments lead to textual affordances that ask to be harnessed, used and adopted by users. It is a matter of agency rather than of mere representation indeed; signs become buttons, keys, and spaces of possibilities (etc.). Accordingly, they can be analysed through two different perspectives, that are, representational and agential. The first concerns how signs evoke objects and entities (e.g., a digital block that represents a brick in an iconic way); the second addresses the range of actions that signs suggest (e.g., a digital flashing brick that can be moved by the avatar). Even if these two dimensions are intertwined, as suggested by Mäyrä (2008) it is functional to keep them separated in game analysis. According to Latour and Woolgar (1979), objects always imply patterns of action toward themselves – i.e., “inscriptions” – (e.g., a button on the screen means that the user can push it); however, several video games allow players to manipulate them and stage fresh and potentially new strategies. Indeed, in-game references and models can be realistic (i.e., real scripts guide virtual behaviours) but even innovative, overturning the influence from real to non-real and from non-game to game. This possible outcome is at the bottom of the concept of “magic circle” theorized by Huizinga (1938), which is the reduced (rules are fewer and clearer than everyday life’s ones) but propulsive (alternative situations and challenges might be provided) space created by a ludic system. In essence, the relation that links representational inscriptions and agential ones may follow different paths and orientations in digital entertainment. Therefore, imagination as a visualization practice can be influenced by this bi-directionality: managing virtual objects in unexpected and alternative ways can have an impact on how we embrace and deal with those objects (and similar ones) in direct and mediated settings as well.



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Nevertheless, the criteria through which we label a sign as icon, symbol or index are not pre-given as they might appear at first glance. Conversely, our interpretation is influenced by the socio-cultural context that surrounds us. According to the Cultural Studies' approach (Couldry, 2012; Hall, 1997), the cultural meaning of an object is the output of multiple forces that recursively interact with each other. The "Circuit of Culture" suggested by Du Gay and colleagues (1997) is exemplar in pursuing this line. In the related heuristic model, five cornerstones are considered: regulation, representation, identity, consumption, and production. Their influences are mutual and dynamic rather than causal and univocally defined, and the resulting meaning relies on the Derridean concept of "différance" – i.e., the identity as a relative tag that relies on an opposition with (and then a difference from) other identities (Derrida, 1982). For instance, symbolic signs are based on consuetudes and habits; furthermore, even icons that appear objective rely on contextual interferences; finally, indexes trigger continuity with the contiguous objects according to codified schemes. Consequently, analysing digital entertainment's trends and topoi (e.g., genre isotopies) is basilar for outlining a complete overview of the digital gaming's impact on imagination. For example, the use of hearts that loose parts or get emptied in games is nowadays a clear symbol of life and personal status (e.g., see emoticons on Facebook and other social networks), but it is also a matter of fact that some video games simply replicate standards of reality (e.g., a sport simulation). Moreover, the communities that operate around a game are another factor to ponder carefully. Several scholars (e.g., Consalvo, 2007; Elias et al., 2012) have highlighted their importance in framing and enriching the economic and cultural impact of a ludic product. Regarding the generative genre introduced above, user generated contents (UGC) and trailers of gameplay represent an essential source of stimuli and insights that is able to extend and/or transform the play into a spectacle. In light of that, the outcome in terms of imagination can acquire a relevant social dimension and a remarkable level of sharing (e.g., some Minecraft videos on YouTube and Twitch.tv - an online streaming platform focused on digital games - have millions of viewers).

Therefore, generative games' features can be deepened according to three perspectives:

- 1) The video game as a symbolic and aesthetic system (representational signs like characters, setting, graphics): how the representation is fragmented and reassembled.
- 2) The video game as an agential and structured system (agential signs like game mechanics, rules, and heuristics): how the interaction is made open, intelligible, and modifiable.
- 3) The video game as a linearized system (community interpretations of representational and agential signs): how the deconstruction is expressed and



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communicated in non-interactive media (e.g., Minecraft videos on YouTube) (Bolter & Grusin, 1999). In addition, this focus assists the researchers in understanding how people concretely interpret the video game.

In order to stage a comparison among the case studies deepened, these dimensions will be analyzed by considering digital games metaphors. As anticipated, according to Ricoeur (1990) a metaphor can be interpreted as an original way to give meaning, build new semantic connections, and foster imagination beyond standards and clichés. Coherently, the cognitivist approach of language (Johnson & Lakoff, 1980) sees metaphors as bearers of a conceptual question resolvable with different languages and codes. Regarding signs, the key point is the bond between the “target domain”, “the thing that is being talked about”, and the “source one”, “the source of a meaningful conceptual model through which we understand the target” (Gauntlett, 2007, p. 146). As claimed by several game scholars and practitioners (e.g., Bateman & Boon, 2006; Järvinen, 2008; Sylvester, 2013), digital games can be considered metaphorical devices. They provide source domains (i.e., the ludic system in terms of agency and representation) in order to depict something else (e.g., a serious theme, the reality, a memory) - i.e., the target domain. Metaphors are relevant concepts also in game design: according to Järvinen (2008), they represent incisive tools to stimulate and communicate to the player. Sylvester (2013) argues that “one of the most important reasons we wrap mechanics in fiction is to communicate faster”, and metaphors are powerful instruments for achieving this goal: “In a sense, the entire fiction layer of a game is a giant metaphor” (pp. 220-221). Sign, circuit of culture, and metaphor were selected as leading concepts of analysis because of their relational orientation. They enlighten how two different objects can be tied and connected in multiple ways. Accordingly, it is possible to deepen the imaginative practices that are generated by the combination of customizable features (the creativity allowed by the game) and reference models (what is possible to replicate and generate with the game).

As anticipated, in the article the spotlight is on three products that allow players to create their own items, levels, worlds, and so on. By adopting the key-concepts and the analytic dimensions depicted above, we have analysed Minecraft, Terraria and Super Mario Maker because of their popularity and complementary in terms of aesthetics, mechanics, and productive history. The motivations behind this attention are two: 1) generative games are at the forefront of interactivity (reaching a meta and deconstructing experience) and sharing (mods, entertaining performances, machinima, etc.), but 2) they were poorly investigated and not as a whole genre; consequently, the imaginative processes elicited by this technology are still blurry and not properly framed. Therefore, the leading research question becomes:

how does the generative entertainment handle the metaphorical bridge between its creative affordances and the target domain, and what are the outcomes in terms



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of imagination?

5. Minecraft

With more than 70 millions of copies sold from its release in 2011 (although the beta was already active in 2009), Minecraft can be considered the most important title within the generative games genre. With its modular gameplay and 3D block-based aesthetics, it triggered a turn in the whole game industry, inspiring several productions and becoming a popular and cross-media phenomenon. Developed by the independent programmer Markus “Notch” Persson and finalized by his software house Majong, the brand was acquired in 2014 by Microsoft for 2.5 billion dollars and it is now available on PC, MAC and the major home and handheld consoles.

According to the analytic framework, graphics are based on a 3D environment that can be experienced with first-person (from the eyes of the avatar) and third-person (from the avatar’s shoulders) perspectives. The digital setting is composed by blocks, composing a somewhat cubist-like or even pointillisme-alike layout. The overall effect is of a rational and modular scenario that follows the rules of geometry and mathematics (proportion, equivalence, etc.). By knowing them, players are able to plan their actions and envision the related consequences. In light of that, ludic elements become iconic from a representational point of view, which means that a reality is portrayed and segmented through basic and abstract forms. Hence, Minecraft aims to be the source domain of the target domain “reality” by adopting a rational perspective, what Caillois (1984) has defined a “second-order space” mediated by human lenses. Coherently, its ludic system reduces the complexity of everyday life with fewer and clearer patterns based on a clear structure of connections. The game mechanics pursue this line: players can move, tie and harness blocks, which are of different types (wood, stone, etc.) and then have different characteristics; fantastic entities (e.g., the hostile creepers), even if present, are marginal. These attributions are iconic as well; they reproduce real affordances and traits of materials by incorporating them into the gameplay. Consequently, Minecraft supports and awards building skills and creativity based on this intuitive system of relations; although players have to survive against some pitfalls and dangers, the gameplay is a mainly generative one and it does not have precedents in the industry, except for some game modes in video games as Little Big Planet, which anyway has a different orientation – i.e., completing levels instead of exploring and shaping a game world.

Addressing the linearization of such assemblage, the majority of the most popular YouTube and Twitch.tv videos about Minecraft concerns presentations of especially articulated constructions by users. Mods like Let it glow by TheAtlanticCraft are remarkable in terms of resources invested, details and even artistic talent involved, generating millions of visualizations (over 23 million for Let it glow). Furthermore, aside



from the creative session the game provides a spectator mode through which the generative act (performed by other players) can be observed staging a live show that can be freely explored by viewers. These popular performances work as propulsive inspirations for who is watching because they realize the potential of the ludic system per se. In other words, everyone can start to emulate them and exploit the ludic elements already available in Minecraft.

Looking at the macro-context, it is well-known that Minecraft was a sort of earthquake for the game industry: the combination of square (and then rough and vintage) aesthetics with a bottom-up modularity was able to engender a new path for the sector. We can argue that legitimating the poor graphic with a functional and rational need to construct and deconstruct succeeded in refreshing the concept of sand-box games. Indeed, previous similar products replicated reality by applying a simulative realism (the logic from source domain to target one, which is the reality per se - first order domain); resulting emergent play-styles (see Grand Theft Auto brand) elicited a sense of wonder and discovery instead of a feeling of control and framing as it happens in Majong's hit. Furthermore, this type of productive outcomes was and still is more affordable for independent developers than for major publishers, which can deploy more significant resources for creating appealing and hyper-detailed layouts. Thus, the appearance was of an artisanal and non-mainstream experience strengthening its own uniqueness. To summarize, Minecraft's appeal was highlighted by an iconic structure based on a rational and abstract lens (representational as agential) on the world. This pureness was enriched also by reducing references to gaming topoi and then limiting symbolic connections that might confuse non-expert audiences and damage potential translations in other cultural sectors.

6. Terraria

Terraria was published in 2011 and gradually achieved a significant success. After five years, it has sold 12 million of copies and its popularity is still growing across almost every gaming platform available. Although its graphics are pixel-oriented and the gameplay appears simple due to the 2D structure, the sophisticated mechanics make Terraria an articulated sandbox-game with an emphasis on exploration and combat. In comparison with Minecraft, representational aesthetics are more inspired by previous generations of digital games, with bitmap graphics and a lateral and vertical scrolling.

Similarly to Majong's product, players have room to construct buildings, craft weapons and so on; however, the mission of the game is to explore and rule an already existent world with several references to classical fantasy archetypes (dungeons, monsters etc.) already embraced by several old and current video games. Generating equipment, buildings and environmental elements is functional to this aim and then the creative process is more restricted in comparison with Minecraft. Unsurprisingly, role-playing features and well-defined paths of progression structure the whole ludic experience. We find a further



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significant difference with Minecraft in the less direct relation between representation and agency: pixels orient the player, but they are not the focus of action as the blocks in Minecraft. According to such an inter-mediation, the deconstructing layer has a specific scope that is based on symbolic links in terms of representation (pixel) and agency (kill enemies, become stronger, explore new settings, become even stronger). Indeed, the target domain for Terraria is the visual culture and mechanics characterizing the past of the industry trying to summarize them through conventions and associations; ludic components work as symbolic references for outlining and grounding a specific feeling of belonging. Players are able to embrace them especially if they have an adequate background. Coherently, the most popular videos about Terraria on YouTube and Twitch.tv are walkthroughs and tutorials in order to deepen and win the game rather than presentations of outstanding constructions. Despite its generative elements, the core of the game is a traditional one thriving (or intending to) nostalgic feelings. Seeking contextual comparisons, this lineage is intuitively explainable with a diachronic lens: the merge of pixels and old-fashioned gameplay aimed to involve hardcore audiences bored by realistic productions and redundant ludic systems. In addition, modern hardware and tools allow developers to create a highly articulated set of possibilities in terms of elements to find, combine and build, supporting an extremely complex gameplay.

In conclusion, the meta-direction embodied in Terraria is a (dense) matter of references to digital entertainment's golden age and related cultural consumptions (e.g., table top role-playing games, fantasy literature) (Gandolfi, 2015). Creativity is significantly confined in this plotline and, albeit players can deconstruct the environment, the relation is with a specifically cultural reality rather than with reality per se. Among the game features, the 2D visual and the presence of bizarre items like magic staffs and powerful swords that trigger non-intuitive consequences (at least for who is not a long-time gamer) are probably the most influential ones. In essence, the game does not need a 1 to 1 tie between agential and representational elements because guidelines were already culturally framed. The challenge is to understand if this meta approach is a driver of freedom or, otherwise, containment. In other words, the point is if such a connoted set of references is able to elicit new imaginary attitudes beyond the game or it is just a replica of an old imaginary without a pro-active and spreadable value.

7. Super Mario Maker

Super Mario Maker overturns the gameplay of the most important Nintendo series of platforms by providing a flexible but powerful editor that allows players to create their own levels. Exploiting an extended library of mechanics and graphical effects, the reachable grade of detail is elevated and thousands of related UGCs were already uploaded after the first week of commercialization. Despite its newness (September



2015), Super Mario Maker was instantly assessed as one the most important games on the home console Wii-U.

The game provides four possible layouts that are based on the different aesthetics followed by the franchise through its own history; hence, Super Mario Bros, Super Mario Bros. 3, Super Mario World and New Super Mario Bros. U represented the reference visual styles. Accordingly, editor features change in terms of affordances and applicable components. Briefly, the passage is from the iconic abstraction of the first (and older) two (based on pixel graphics) to the symbolic cartoon effect of the remaining (and more recent) ones. As observed above, rational and simple aesthetics were typical of the previous states of the industry. From a representational point of view, they provide a square based visual that appears immediate to replicate (e.g., on a blank page) following spatial and geometric coordinates. However, the common 2D visual and the specific output in terms of experience (i.e., always a platform game) make Super Mario Maker auto-referential in its mechanics and generative outcomes. Even if first and second layouts are influenced by the same abstract style seen in Minecraft, the target domain is the entire brand of Super Mario and its evolution across time and platforms. We are referring to an homage that asks to deconstruct the target domain (the franchise) through its own rules. Specifically, elements are iconic in both representation and agency because they reproduce the original titles in terms of patterns and aesthetics. Despite we are addressing a famous character (and then the iconic bond is comprehensible for the majority of audiences), this reverse engineering toward a high-acclaimed series is something unique in the industry. Such a gaming reference is evident even in the sharing modality: players have to finish the levels that they design in order to share them with the community. Consequently, it occurs a continuous challenge with a spotlight on performance rather than on spectacle and personal creativity.

8. Discussion and conclusions

It is challenging to summarize such a variety of generative affordances and features. Nevertheless, some insights can be drawn from this overview. By addressing reality as its target domain, Minecraft is clearly iconic in representation and agency. However, the reference is to a squared and rational frame (second order language) rather than to a realistic setting. This reduction to the basilar blocks is functional to stage a reciprocal influence between source and target domains. In essence, the generative language provided by the game can be applied to every object because of its simplicity and heuristic orientation. Conversely, strengthening the realistic dimension would make more challenging this attempt; the sensorial world that individuals experience everyday is a dense flow that is impossible to entirely map and define. Indeed, the products that try to cover real (or semi-real) patterns foster wonder and not control (e.g., Call of Duty, The



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Witcher, Grand Theft Auto). Conversely, Minecraft should be interpreted as a rebel metaphor, which was able to overturn this process because of its iconic approach toward reality. Furthermore, it avoids symbolic ties that may damage its interpretation and appropriation by users. The result is an attitude that may widely influence imaginary. Indeed, the deconstructing layer of Minecraft can be applied to every type of setting, topic and image because of its “basicness”. Unsurprisingly, other media have adopted its aesthetics in a direct way (from television to comics and Lego). However, the brand was able to get a glaring identity because it was the first of its kind. Future products depending on second-order-language iconicity will have to deal with a predictable anonymity caused by their rational appearance. A possible solution is to use already legitimated brands such as Lego in order to emerge (as done by Lego Worlds, which indeed has several traits in common with Minecraft).

Terraria operated in a remarkably different way. It is characterized by a dense level of references because its target domain is a game culture that has been popular years and even decades ago. Consequently, its “signal bridges” enable a contextual and symbolic relation and have to struggle with a language not as defined as the Minecraft’s geometrical one. Thus, the consequent meta dimension can be described as a loop of quotes that makes the experience rich but, at the same time, limits subjective creativity and autonomy. In other words, Terraria’s deconstructing and generative attitude is intertwined with a connoted cultural halo (old game genres, fantasy stereotypes, etc.) and remains difficult to be translated into other expressive languages. Not finally yet, symbols can be considered a source of identity (I recognize associations, then I am involved) but also a factor of inaccessibility (I do not recognize associations, then I am not able to understand). Consequently, the impact on imagination is as a nostalgic reminder rather than as a proactive input. The generative activity staged by the game follows criteria too rooted in symbolic peculiarities to be shared with other imaginaries. Albeit these ties improve the appealing of the product in comparison with less characterized video games, they damage its flexibility and adaptability.

Super Mario Maker stages a focused recovering of its own predecessors. In this case, the bond is near to a specular replica empowered by generative affordances offered to users. Accordingly, its scope is particularly limited and restricted to defined gaming criteria and traditions; even abstract layers are circumscribed by the requirements of the genre. Iconicity is here specialized toward a previous media consumption, which can be customized but not actually revolutionized beyond the brand’s prerogatives. The outcome is a game with a glaring identity but not able to widely affect imagination because of the extremely defined targeted reality.

To summarize, while the first one can be considered a real metaphor with the potential to stage new connections and bonds, the other two work more as closed associations that simply reiterate previous ties and schemas. Regardless, generative affordances are at the beginning of their development and the combinations of modular aesthetics and



agential customization deepened represent only the first step of the gaming generative path, which by the way already shows a certain variety of affordances. Aside from these peculiarities, the genre tries to follow an alternative way, which merges and re-unifies programming language (the software backend) with interactive language (the software frontend). This orientation can be described as an “antropologisation” of the digital code (which is hidden) and a new “harmony” between digital tools and imaginary predisposition, which is an increasing attitude among media consumers (Abercrombie & Longhurst, 1998). This deconstructing tendency, which involve players as second-level designers, struggles with the point-ification trends in the game industry – i.e., the reduction of ludic experience to points and scores that characterized part of Gamification movement (Fuchs, Fizek, Ruffino & Schrape, 2015) and can provide useful insights for developing alternative and pro-active products. Indeed, the implications of the analysis might concern two different audiences.

Starting from these findings, other researchers can address further types of virtual bricolages like procedural contents, disrupting mods and UGCs in order to stress and enrich the imagination-related lens on the generative genre. For example, a further topic that should be enlightened is the role of indexical signs in digital games as drivers of creativity, which was actually overlooked in the article because icons and symbols are more pertinent with imaginative stimuli; nevertheless, an analysis on “gaming indexes” will be noteworthy in order to integrate this overview.

Furthermore, developers and designers can harness the processes depicted for creating generative experiences more consciously. By taking into account the target domain’s connotations and the expectations of the final users, it is possible to envision the imaginative output and its articulations according to the three case studies. Not finally yet, the analytic parameters applied are flexible and can be easily harnessed from a practitioner’s perspective. To conclude, generative games affect imaginary in a variety of ways, from strengthening previous game cultures to mapping the entire expressive world that surrounds us. Their creative dimension can imply a deconstruction able to overturn game boundaries and reformulate our approach to images or, conversely, a systematic rescue of past references and patterns. Nevertheless, we believe that this is just the beginning of a synergy between images and technology that will strongly influence the imaginary of the future as a social, critical, and enriching practice.

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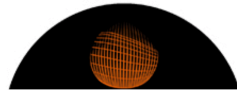


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