Paper-made digital games. The poetic of cardboard from *Crayon Physics Deluxe* to *Nintendo Labo*

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DIGITAL GAMES AND THE POST-DIGITAL PARADIGM

In January 2018 the first promotional materials of *Nintendo Labo* (an expansion for Nintendo Switch allowing players to build cardboard interfaces, Figure 1) raised a lot of interest and hype around the product: the mixture of digital games and analogue playfulness, of sophisticated software and low-fi interface was both novel and appealing. In this paper I argue that the material aspect of the cardboard interface of *Nintendo Labo* is the last step of the construction of an aesthetics, which has been undergoing for several years and that has its roots in the post-digital paradigm: that of "paper-made digital games". Talking about paper-made digital games may seem a contradiction. Digital technologies are often seen as a synonymous of de-materialization: they allow us to interact with institutions, restaurants or banks without moving from home, eroding the meaning of physical space (Thibault 2016), while digital goods de-materialize several products such as books, films or music.

The digital saturation that has undergone in the last decade, however, has finally led to the emergence of an inverse tendency the so-called post-digital paradigm. Post-digital, according to Cramer (2015) indicates the contemporary disenchantment with digital information systems and technological gadgets and entails a revival of "old" media and tools, such as vinyl discs and typewriters – the so-called hypsteria and the love for vintage are certainly part of this cultural trend.

Hipster subculture and digital games may seem to have almost nothing in common, however it is likely that the nostalgia that leads to paper-like aesthetics is not dissimilar to the one that leads to vintage taste (Thibault 2016). Nostalgia has a twofold nature in gaming (Garda 2013): on the one hand, it involves a restorative nostalgia (that focus on the creation of emulators and retro-gaming) and on the other hand, it involves a reflective nostalgia (that sees the past as an inspirational set of stiles). The latter is what triggers the extremely positive response of an elite part of the game community to the indie style(s) described in Juul (2014).

Post-digital shouldn't be considered as a Luddite reaction to the digital, advocating for a nostalgic return to the origins. It is a change of paradigm prone to hybridize them with a

renewed taste for the analogue: digital music is recorded on vinyl records; digitally designed toys are made out of laser-cut wood and digital game graphics that are sometimes drawn instead of being digitally designed.

DRAWING DIGITAL GAMES

The idea of hand-drawn or cardboard-made digital games can seem odd at first, but it is not a new one. In a prophetical paper promoting the use of rendering styles alternative to photorealism, Masuch and Röber (2003) imagined that. one day: "Gamers might become saturated [by photorealism] and will look for something different. (...) NPR techniques can also be used to support storytelling and to fulfil an artistic vision. Something that unleashes the power of dreams and fantasy and which allows us to drift away from our own world, just limited by our own imagination." (Masuch and Röber 2003, 10). Among the graphic alternatives that they imagined is an *analogue aesthetics* capable of combining visual pleasure and nostalgia.

Several indie games (and more and more important productions) feature hand-drawn or hand-drawn-like graphics that don't appear (or sometimes aren't) digitally generated. Analogue aesthetics can offer a more nuanced emotional palette and original and pleasurable dream-like visuals, but their contemporary success is also due their ability to trigger a wide range of "nostalgias", both personal (connected with childhood memories) and historical (the longing of a mythological time that we have never experienced, Stern 1992). Paper-like aesthetics, as well as games whose creation process involves actual paper and cardboard, must be understood within this context.

To trace a sort of typology of paper-made digital games we should articulate them according to the depth of their relationship with this material.

First, we have imitation: games that are completely digital, but whose rendering imitates paper-craft, as – among many others – *Crayon Physics Deluxe* (Petri Purho, 2009) and *Tearaway* (Media Molecule, 2013). In both cases the imitation isn't purely visual, but grounds key game mechanics: players will have to draw, to cut or to fold in origami the digital paper in order to advance in the game.

Secondly, we have various methods of digitization, where drawings or handmade cardboard structures become part of the digital content of games. For example, *Cuphead Don't deal with the Devil* (MDHR 2017) is entirely drawn in the style of 1930s cartoons. Each game animation has been drawn by hand and all backgrounds hand-painted (Moldenhauer 2014). Something similar can be said for *The Banner Saga* (Stoic 2014) whose hand-drawn elements are inspired by Eyvind Earle's works. State of Play's game *Lumino City* (2014) goes even further as it is completely hand-crafted. State of Play members built the entire set of the game out of paper and cardboard, photographed it and turned it into a natural-feeling digital game world.

Finally, the hybridization becomes complete when cardboard is no longer simply represented or digitized but becomes part of the interface. It is the case of *Google Cardboard*, a DIY viewer that turns a normal smartphone in a VR game device. More importantly, it is the case of *Nintendo Labo* which allows players to build cardboard artefacts (such as a fishing rod, a motorcycle, a robot or a 13 keys piano) that will interact with Nintendo Switch allowing hybrid forms of play.

Figure 2: Screenshots (from up left to right) from *Crayon Physics Deluxe, Cuphead Don't Deal with the Devil, The Banner Saga* and *Lumino City*.

CONCLUSIONS

The passage from digitized to actual paper is not a simply practical matter – cardboard may be inexpensive and eco-friendly, but the choice was clearly a poetic one: the material features of cardboard have been put in the foreground of these products, from their names (*Google Cardboard*) to their color (with the typical cardboard brown being the default). Their "substance of the expression" (Hjemslev 1961), then, is at the center of a poetic discourse. Roland Barthes in his Mythologies makes a similar point on wooden toys stating that wood "is a familiar and poetic substance, which does not sever the child from close contact with the tree, the table, the floor" (Barthes 2013: 54). Similarly, paper and cardboard connote a continuity with hand-writing and drawing, with paper-dolls and boxes, in other words with a certain nostalgic idea of a childhood filled with analogue and fantastic play. In other words, it works like an ideologeme (see Kristeva 1980), connecting intertextually these games to each other and to the cultural practices (and/or their representations) involving the use of carboard. Paper-made digital games, therefore, are appealing exactly because of their ability embodying a poetic that draws from a culturally shared nostalgia.

OPTIONAL BIO

Mattia Thibault, PhD, is a research fellow at Turin University and a prospective postdoctoral researcher at Tampere University of Technology. He worked as research fellow at Turin University, where, in 2017, he earned a PhD in Semiotics and Media within SEMKNOW, the first pan-European doctoral program on semiotics, and has been visiting researcher at Tartu University (Estonia), The Strong Museum of Play (Rochester, NY, US), and Helsinki University (Finland). His research interests revolve around the semiotics of play and the cultural relevance of games while his current research focuses on establishing an interdisciplinary framework for urban gamification.

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