

# Persuasive Impact Games

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## Abstract

Videogames as media and learning tools are slowly but steadily gaining voice within the academic field, while private companies and institutions look more and more to include these systems into their working environments — and sometimes *as* their working environments. In this article some literature on videogames as expression of procedural rhetorics and examples of educational content put into this form are discussed.

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## 1. Introduction

This short article aims to introduce the concept of Ian Bogost's procedural rhetorics, meaningful play, and Salem and Zimmerman's cultural schema of game design as tools to create games with social impact, through examples of videogames designed within a transmedia environment to convey educational content in public spaces.

The first part will be devoted to introduce the concepts of cultural play and procedural rhetorics, placed with actual criticism and other perspectives on the use of videogames as means of communication. Research on the status of games (and 'gamification') within institutions and its relation with other established media, as well as with the Games for Change movement will follow. Two examples of what has been accomplished using these concepts (play, procedural rhetorics, gamification) in terms of non-formal education and public reach through videogames will be shown in the second part.

## 2. Procedural rhetorics: through Serious Games to Games for Change

In the extensive work of gathering information on the conceptualization of games and its components, Rules of Play [2004], Katie Salem and Eric Zimmerman began by describing core concepts to then focus their efforts on three major schemas that also serve to compose the book's sections: Rules, Play and Culture.

They are somehow inserted into each other — rules inside play inside culture — and this progression is analogue to the identity of the game. The rules are formal game design schemas, describing what is inside and what is outside the game as well as how the universe inside works; play is the experiential game design schema that interact with rules as the experience of the participants (and the observers) in the game, how they respond to life; culture is the contextual game design schema, placing the game in space and time, defining the game system inside another larger environmental system. The definition of game must consider all schemas, but the distinction between games lies ultimately on the formal schema.

Procedural rhetorics, as viewed in Bogost [2007], is the act of representing process with processes — rather than with the description (in wood, paint, marble, code etc) of it. It takes from procedurality the "symbol manipulation, the construction and interpretation of a symbolic system that governs human thought or action" and from rhetorics both the idea of persuasion (as in ancient Greek) and the idea of effective expression. This combination came to be very useful at the time computer literacy has turned into a desirable (and in some places, ordinary) set of skills, communication and sharing is accelerated, and game studies has accumulated a significant volume of authors and audience. Even in Miguel Sicart's [2011] critic of procedural rhetorics, the good timing of developing a frame of thought as procedural rhetorics in early 21st century comes to mind: "Proceduralism both justified the cultural validity of computer games providing arguments for the exceptionality argument (computer games as unique, expressive cultural objects), and opened the possibility for a new take on serious games that combined design approaches with a strong humanist discourse." It is guidelines how to craft a tool, it is grammar, "to craft and understand arguments mounted through unit operations represented in code" [Bogost 2007].

Videogames are one of the process-driven medium that allows this kind of representation to happen — requiring one person's previous design thinking, scrutinizing and translating choices and outcomes into code, choosing a 'skin' (or no skin) to that code and presenting it so another person can actively study that structure's boundaries — a very expressive interactive media. In his own words [Bogost 2007], "A procedural model like a videogame could be seen as a system of nested enthymemes, individual procedural claims that the player literally completes through interaction".

Bogost can be seen as a formalist; he is primarily interested in the core structures that constitute games as objects. He considers the deviant interpretations of the rules that come out at play very briefly compared to the formal aspects of the game to focus on justifying and dissecting games into rules, to polish them so they are as effective and useful as possible for the designer's purposes. Still he cannot escape the 'play' reality of games — that intermediate platform between the rules and the cultural changes, our very personal impressions and emotions evoked by the game. That said, the choice to think of an environment where the rules are followed or just slightly moved is a step towards the games' conclusion by the designer. While play has the power to re-interpret the games' rules giving it a complete new meaning, as we think about design practices, it might be too distracting to lay down all play possibilities firsthand.

By this understanding play and rules enter a positive feedback loop — for the game to exist there has to be players and a experience to be lived, and there are rules that magnify and give meaning to the players actions towards that experience — and every imperfection gives room for a change in rules or a change in play; whatever change in one sphere that comes first will necessarily affect the other. Many people around the world play tag, each on a very specific way. If anything in the environment of the game is unbalancing it, players gather to agree on new rules that will then generate another (probably closer to their 'optimal experience') experience of play. Even rules encrypted hard on a locked down code of a downloadable videogame can be changed — it is normal between rivals in online gaming to gather and debate on new rules, the most impressive being the ones that constrain their action in the game by mere 'word of mouth' where code itself lets them free to act. This fluid conversation involving game designer, rules, players, observers, game and culture is often referred to as creative play.

As videogames spread, 'casual game' form brought back to the scene the audience once scared off by hardcore games (and 'gamers'). Portability and easy access through mobile gaming and thousands of free internet games also contribute to this phenomenon until it was possible to the layman to think of public policies and other 'serious issues' (as in everything that is not taken as entertainment) transformed into videogame form. Serious games passed rapidly from a single game company to be considered a genre — the one where 'serious business' like education, government, health, politics, military, science etc. are addressed, more often than not just as re-skinned classic games in which the messages could be better conceived through writing, pictures or videos — for the videogame adoption came by to institutions long before a number of game studies programmes could graduate their second classes. As Bogost [2007] puts it, "Serious games are videogames created to support the existing and established interests of political, corporate, and social institutions."

The serious games movement was not alone, though, in the exploration of games beyond entertainment. Regardless of having the same areas of interest (education, government, health and so on), the Games for Change initiative was born with the purpose to "facilitate the creation and distribution of social impact games that serve as critical tools in humanitarian and educational efforts" and works on a nonprofit base. Since 2004 it has produced a vast array of games, from the short representation of a mother in Rwanda trying to hush her crying baby to a real time rendering code academy. Among over a hundred titles there are also games more directly aimed to real world changing such as alternate-reality games (ARGs) and games that grow a social community of supporters to a cause in order to keep being played. These are the ones where the inner rules of the game communicate with other systems and media to form a higher-level integrated system designed towards social change. Given the goal and characteristics of these games, they can relate to what Bogost calls persuasive games; "games that mount meaningful procedural rhetorics, and if procedural rhetorics facilitate dialectical interrogation of process-based claims about how real-world processes do, could, or should work, then persuasive games can also make claims that speak past or against the fixed worldviews of institutions like governments or corporations." [2007]. Questions raised by procedural rhetorics "What are the rules of the system? What is the significance of these rules (over other rules)? What claims about the world do these rules make? How do I respond to those claims?" are of great help in designing the games made to critically engage a large audience towards social good.

### 3. Successful experiences

The WellcomeCollection, located in London, is a free-to-all space dedicated to "explore the connections between medicine, life and art in the past, present and future" in the form of exhibitions, events and a library. For a recent exhibition "Brain: Mind as Matter" (2012), the curators brought to the public artworks, manuscripts, artefacts, videos, photography and even real brains. To have it all, they commissioned Preloaded, a Game Studio (whose motto is "Games, with a purpose") also based in London to come up with a game about neurons, proteins and axons. Preloaded teamed up with neuroscientists and built a game mechanic based on real data and deep understanding of the brain's processes and graphics that remind - the result was Axon, a game set in a foetal brain, where the player have to grow her neuron as long as possible, often finding competition from other neurons, to make connection with distant areas of the brain. Packed with the game are scientific articles, a video and links to Wikipedia on neuroanatomy; the game also went online on the Wellcome servers to the gaming websites Kongregate, MiniClip, Newsgrounds and

Armourgames hitting 3,643,578 plays within two months of release. On the websites communities, thousands of comments from praising the game itself to bits of ‘additional information’ on the brain, and general discussion around the topic were posted.

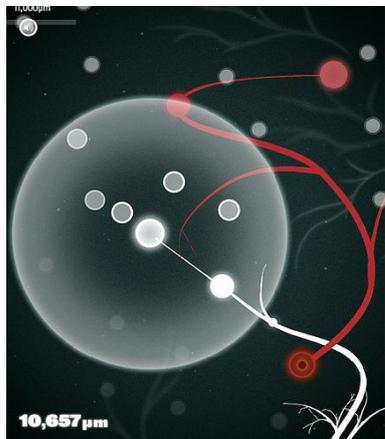


Figure 1: Axon

Following almost the same composition, Epidemik was an exhibition on epidemic diseases conceived by the Cité des Sciences et de l'Industrie/Universcience (Paris), featuring a large array of videos, textual information (official documents and reports, articles) and artistic material on patients, health care providers, public policies, history of medicine and science as a whole and its relation to society. Epidemik was also the name of the large collaborative game developed for the exhibition. In the game, malign cells from five major diseases (Malaria, Aids, Black Plague, Flu, Dengue fever) projected on the floor threatened the players, who then had to counter the attacks with right actions and right timing, suggested on a screen. But as diseases spread, the up to forty players need to watch for their good health as for their neighbours. The disease scenarios refer to major outbursts through history and take place in all continents. Its brazilian edition was supported by the government through the Ministry of Culture and had a special scenario - Rio de Janeiro - developed by the Oswaldo Cruz Foundation; the exposition travelled to three major cities across the country (São Paulo, Foz do Iguaçú, Natal) and was seen by nearly 65.000 people.



Figure 2: Epidemik

Axon and Epidemik are recent and successful experiences with formal content embedded in videogame media, for large, unrated audiences - and portable from place to place.

#### 4. Related Work

Procedural rhetoric is thoroughly discussed on “Persuasive Games” by Ian Bogost and is supported by game designers such as Brenda Brathwaite.

Some objection to a closed paradigm where procedural rhetoric sets the tone of game scholarship can be found on works by Miguel Sicart, as “Against Procedurality” [2012].

Video games that involve real-world engagement can relate to ARGs (Alternate Reality Games), and later on to major platforms like Gameful, games like EVOKE and World Without Oil, both by Jane MacGonigal.

Babycastles is a well-known arcade in New York promoting an independent gaming space with a do-it-yourself and ‘have a blast’ spirit, with thematic events such as “Games That Will Make You Cry”.

#### 5. Conclusion

Proceduralists’ games may be good, fun and well crafted only because they’re empathic towards their audience. Designers that make other games’ games are good, fun and well crafted only because they understand the effects of the rules so well they’re capable of changing them in real-time. Studying focus is a matter of personal choice, not of the medium’s strong and weak points, let alone the medium’s limitations. If we are to adopt a perspective on videogames not only as “Mario’s platformer” or “Modern Warfare shooter” or tridimensional sandboxes — but as aesthetic access to systemic structures — and critically address social issues within this media, other forms of media that does not give room for agency can be treated as a cristalization or rendering of a moment, a node in these structures. That’s when learning as a whole goes beyond books, rooms, joysticks and screens - it remains at an in-between stage, and benefits from the transmediatic relationship between all.

Given the literature and the examples, we can see how it is possible to extract valuable advice (maybe workflows, framing perspectives) from the hard thinking and detailed works of proceduralism and the fluid joyful line of creative play, and how the world gives us plenty of content to fill those structures with. Physical and biological processes are already well scripted into our languages; social interaction in micro

and macro structures is tested and transformed into the most incredible (sometimes even irrelevant) data; cognition, neuroscience and the environment are often found at the same phrases once again. Most of the natural and social phenomena already exposed to learners through textual and visual media are still there to be republished and explored through processes and play, be it in computational form or poetic adaptation and twisting. Day by day new tools qualify and cover skill gaps that prevented ‘ordinary’ people from making games themselves — games about anything, everything — shells of unknown experiences we can share and learn from.

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