

Which Narrations for Persuasive Technologies? Habits and Procedures in Ayiti: The Cost of Life

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Abstract

Ayiti: The Cost of Life is a very successful *edutainment* game pursuing persuasive aims through an unusually high level of difficulty. Analyzing this game, comprehending its unfolding meaning-making processes and describing its persuasive effectiveness is a challenging task¹. To achieve it, it will be necessary to discuss how semiotics, ludology and procedural criticism intend *narrativity* in relation to games. A novel approach, based on Peirce's notion of *habit*, will be used to overcome some analytical shortcomings of current theories. Three of the habits emerging from *Ayiti*'s narrative unfolding will be more detailedly discussed in order to finally describe its didactic, persuasive functioning.

Introduction

Since 2006, the UNICEF-funded Voices of Youth website (www.unicef.org/voy) has been distributing *Ayiti: the Cost of Life*, an *edutainment* package aimed at making primary school children from industrialized countries aware of the social reality of Third World countries and of the difficulties of life and survival there. The package consists of: 1) an apparently simple family-management game, set in the country of Haiti; 2) two lesson plans (activities, references and debriefing questions) for primary-school teachers. Both plans require the students to learn some socio-economical facts dealing with life in developing countries (especially children's rights and underage labour), to play the game and to discuss their strategies and outcomes with each other and with their teacher.

Ayiti soon manifests an unusually high difficulty level, since it systematically frustrates practically every strategy deemed commonsensical and plausible by children. *Ayiti* simulates the difficulties of Haitian families and to do so it unfolds a seemingly unusual set of responses: sending every child to school, for instance, is a safe ticket for hopeless poverty, sickness and finally death. No matter the gaming skills and strategies, the development of an adequate com-

petence and a happy ending are very hard to achieve. Nevertheless, *Ayiti* has been found an effective didactic tool and it won the Games For Change award in 2007. Semiotics and game studies find an interesting challenge in this game. How to adequately describe and model the structures of *Ayiti* and the practices through which the game is experienced? How does meaning emerge from the many unsuccessful attempts at winning the game, and how does the game build a new perspective on the life in Haiti? Which conceptual tools can model these mechanisms and, thus, be employed to further understand and develop interactive technologies?

To answer these questions, we begin with an account of the basic assumptions of our theoretical perspective. As a second step, the game's ludological structures (Järvinen 2007) are sketched. As a third step, the issues of *narrativity* emerging from these structures are compared with a traditional semiotic perspective (Greimas 1970). As a fourth step, the tendentially static and *a posteriori* structuralist description is complemented with a *procedurality*-oriented approach, detailing particularly how algorithms implemented in the game react to users' actions. Finally a habit-based approach is developed to overcome the shortcomings which have previously emerged: staticity, an *a posteriori* linear perspective and a too narrow focus on immanent game mechanics. Three habits are closely examined, showing how player engagement is generated through a narrative and emotional conflict and how implicit assumptions are made visible. Thus, our case study shows how a traditional and persuasive didactic practice, to make someone aware of his own assumptions in order to modify them, is re-mediated and takes advantage of interactive narrative mechanisms.

A pragmatic(ist) approach to meaning in computer games

Semiotics investigates meaningful experiences as they emerge from the interaction of subjects with their environment, in its physical, intersubjective and socio-cultural aspects. A certain simplification of phenomenology that has had a large course in semiotics, describes phenomena as being "given" to consciousness, emerging as primary data. A different account of experiential phenomena can be produced, its foundations laid in Charles S. Peirce's *phaneroscopy*: phenomena are in fact signs, triadic relations

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¹While thoroughly thought and reviewed in a joint effort, Ferri has materially written the paragraphs Introduction, A ludological approach, Procedures, Three Habits and Fusaroli A pragmaticist approach, Narration, Habits, Thou shalt not win, Conclusions.

connecting an object to an interpretant through the selection or the construction of a common ground. Objects signs and interpretant do not have a pre-defined ontological status: they are topological positions. Objects for instance are not physical objects, but the object of the ongoing semiotic process, be it a mental image, a physical tool, an emotion, a drawing, a sentence, etc. and the same is valid for signs and interpretants. Every sign, and thus any meaningful phenomenon, is the result of a situated dynamic process. This conception of meaning has continuity at its core, the possibility of passing from a semiotic entity to another. It is not, though, a shapeless continuum where everything can be connected in any circumstance to everything else, the much dreaded spectre of unlimited semiosis. Continuity has a structure: the sign, the passage from an object to an interpretant, is made possible by an already established or emerging habit. From a background of more generic practices, and indiscriminate through the interaction of situated habits the single sign emerges by difference saying something more, thus enabling the subject to proceed further in her/his perception, action and interpretation (Eco 2007; Stjernfelt 2007). Habits can be defined as the structure of continuity, “praxeologic operative principles” (Fabbrichesi and Leoni 2005), dispositions to act/interpret/perceive in a similar manner in similar situations (Peirce 1931-58, CP 1.148, 1.157, 6.612 and also paragraph 3.3 of this article). This definition enables us to point out two of their particularly relevant features. First of all, the stress is on “similarity” and not “sameness”. Habits are not mechanical rules, but regularities. The second crucial feature is the peculiar conception of cognition that emerges. A sign is always situated in practices and emerges only through them. Habits emerge through ecological interactions in a physical environment that is also profoundly shaped by social and cultural structures. The habit is thus a structure of cognition in the distributed conception of the term (Clark 2008), it needs the support of a text, the enaction through an interpreting disposition, and the repetition and integration by a culture to exist². So far, the interest of a pragmatist and interpretive semiotics towards situatedness and tendencies has been stressed. Applying all this to computer games means to investigate meaning-making processes inside playful practices. Focusing on habits - as they have been characterized - means: i) focusing on unstable reconfigurable structures emerging in the unfolding of meaning; ii) focusing on intersubjectively shareable aspects connected to cognitive and embodied environments, practices of use and socio-cultural contexts. Our semiotic approach to computer games aims at defining the conditions and the dynamics of meaning construction in the interplay between the unfolding of

²In other works features of the concept of habit - other than flexibility and distributedness - have been (or are being) explored: i) its not being reducible to single tokens, due to its constitutive variability and tension towards the future; ii) its closeness to the concept of attractor; iii) its accessibility to consciousness; iv) its constitutively intersubjectivity; v) its involving the world, being situatedly embodied; vi) its tendency to be translated from domain to domain, from practice to practice; vii) its combining Thirdness, Secondness and Firstness. (Fusaroli and Vandi 2009)

the game and the habits that imbue it. Examining how such an approach relates to existing critical tools and what it contributes to them will therefore be the next step towards our analysis.

Story vs. Action: theoretical approaches to Ayiti (and computer games in general)

A ludological approach

Ludologists have developed a formal descriptive approach favouring game-related mechanics over player-response, rhetoric or narrative analyses. Adopting Järvinen’s (2007) terms, Ayiti’s gameplay can be described as a system containing three groups of *components*³: characters (the Guinard family), objects to be purchased (books, shoes or other commodities) and places (environments metonymically representing different activities, such as going to school, working or getting cured). Each Guinard family member has three numeric variables (health, happiness, education) in addition to abilities and limitations - e.g. only female characters can work as market women. There are two global variables: the amount of money available to the Guinard family and the level of structures that NGOs have developed in the village. While the former is known to the player, the latter constitutes a hidden parameter. The *ruleset*⁴ includes defeat conditions (death of both the adults of the family) and two ways of evaluating success (one is autonomously enacted by the game and takes into account only the number of diplomas acquired by family members, the other needs the teacher’s intervention and requires students to explicitly choose their preferred strategy and discuss its outcomes during a post-game debriefing). The main *game mechanics*⁵ consists of assigning, turn after turn, an activity to each character; deciding whether to buy additional objects; and then observing the consequences of those choices unfold.

Narration

A very reasonable further inquiry would be to detail which kind of story is narrated by these mechanics: which values are articulated, which narrative positions the different components assume, and so on. Narratives have indeed been deemed crucial in many meaning-related disciplinary areas: psychology (Bruner 1990), philosophy (Dennett 1992; Hutto 2008), cognitive linguistics (Turner 1996), psychiatry (Sacks 1985). Along with this, a very popular trend in continental semiotics - the generative approach developed by Algirdas Greimas - assumes that narrativity is a constitutive component of any meaningful experience and it develops a very articulate generative path to give an account of this fundamental narrative dimension in all possible domains of application. Narrations can be described as a complex set of

³“The resources for play; what is being moved or modified [...] in the game, between players and the system.” (Järvinen 2007)

⁴“The procedures with which the game system constrains and moderates play, with goal hierarchy as an especially important subset.” (Järvinen 2007)

⁵“What actions the players take as means to attain goals when playing.” (Järvinen 2007)

layers and components (interactant networks, sequences of events, structures of values, modalities, figurativity, narrating voices, etc.). However, referential time, space and characters should in other words be distinguished from narrativity defined as the logical organization of the underlying narrative structures. At the core of narration, according to Greimas' foundational works, lies "an internal structure which assigns a general form to the action and which distributes a limited number of general roles to be played by the protagonists" (Bundgaard 2007). This internal skeleton is called canonical narrative schema, a "cultural grid of narrative organisation sedimented in the collective memory by tradition as a primitive" (Bertrand 2000) and is made up - in its most recent version - of three phases: manipulation, action, sanction⁶ - involving interdefined actantial positions like destinant and destinee, subject, anti-subject and object. The interactant network is connected to a moral stance, to a valorial configuration endorsed: for instance opposing the values embodied by the subject and the ones embodied by the anti-subject and presenting as positive the first ones. This skeleton "gives an account of the emergence and of the articulation of any signification (not only verbal) and able to promote narrative performances, but also to articulate the different forms of the discursive competence" (Greimas and Courtés 1979). In other words semiotics has staged an *a posteriori* perspective in order to create a closed, linear and manageable structure for meaning and make it exemplar. Going back to Ayiti, it is not hard to define a manipulative phase in the beginning of the game when the player has to make his object of value explicit, deciding if to aim for Health, Happiness, Education or Money. Then a macro-phase of repeated tentative performances. And finally a sanction as the achievement of the aim or as the death of the family. While certainly an important feature of the game, and crucial both for the instructions and the lessons plans, this all-enclosing schema falls short of taking into account some basic facts of how meaning unfolds in the game. First, this schema enters the scene either *a priori* - in the instructions - or *a posteriori* - during the discursivisation of the experience through the didactic practice - not necessarily during the gameplay's progress. During the game, we do not experience a linear narration, but a repetition of seasons and performances in the attempt of keeping up with life in Ayiti, of correcting previous mistakes, of researching effective strategies to win the game and of readjusting one's own understanding of the game. We witness a clash and an interaction between what is usually called enunciate and enunciation: the aim assumed by the player, let us say getting the highest possible number of diplomas, is not necessarily shared by the game characters that express their unhappiness and sickness through crying faces. The object

⁶The original and still widely used formulation of the Canonical Narrative Schema consisted in four phases: Manipulation, Competence, Performance and Sanction. A formulation that is easily attacked confronting it with the dynamical systems models of human action, where competence is something that develops through performance and can never be separated by it.

of value is often reconfigured in the course of the game⁷. The canonical narrative schema - due to its roots in Saint Augustine's theological readings of human actions and Aristotle's dramaturgical theories of action (Rastier 1999) - aims for a straightforward narration, a stable skeleton of roles. What the schema does not consider is the constitutive instability of human actions (interpretive ones included), their having multiple possible unstable rationalities at once, the openness of meaning-construction processes, the inextricable mixture of the story and the practice that constructs it. In other words, using a canonical narrative schema seems to make an abstraction of the continuous flow of meaning in which human beings are immersed, of its situatedness and of its constitutively tentative and fallible nature.

Attentive scholars of computer games have widely criticized a narrative approach as totally inadequate to the nature of computer games, giving rise to "the ludology vs narratology debate". A number of researchers, defining themselves as *ludologists*, argued - in the first issue of *Game Studies*⁸ - for a crucial gap between "game" and "story". Espen Aarseth complained that "[while] games are not a kind of cinema, or literature, [...] colonising attempts from both these fields have already happened" (Aarseth 2001). While literary works, movies and computer games all present characters and plots, a narrative is also defined by other elements - such as narrator and narratee - which are not - Juul (2001) claims - necessarily present in games. In the end, ludologists argue in favor of leaving "stories" out of academic inquiries on games: "[they] are just uninteresting ornaments or gift-wrappings to games, and laying any emphasis on studying these kinds of marketing tools is just a waste of time and energy" (Eskelinen 2001). In order to turn ludology into a formal methodology (Järvinen 2007), games have to be interpreted as members of their own class, in terms of their own defining abstract formal qualities. And what has - for instance - Tetris to do with a story? Ludologists claim that focusing on the pragmatic aspects of Tetris' gameplay is going to be way more fruitful.

According to the previous sketchy analysis of narrativity in Ayiti, ludologists seem both to have a good point and to ground it on a misunderstanding. Even if Ayiti would seem to be one of those games in which "an image of life by creating a concrete world populated by intelligent agents whose actions make this world evolve" (Ryan 2005) is offered, this is not its narrative specificity. In semiotic terms the depiction of a fictive world pertains more to the figurative level than to the underlying narrative schema. And while they are certainly right in pointing out that human actions, in the form of the pragmatic aspects of gameplay, are not reducible

⁷Fontanille (2004) opens to analogous topics when he treats of the mistakes of destinants and subjects. We disagree with the author, however, in two points: i) his statement that mistakes open to a void of meaning, where new paths have to be constructed; ii) the term mistakes. We argue, instead that there is always a manifold of practices in action, of potential habits to be actualised. "Mistake" assumes only one of them as right and "void" (*default*) neglects the structure of potential habits already in the background.

⁸Game Studies is the first - and founding - peer-reviewed academic journal dealing with computer games.

to a traditional *a posteriori* narration, we will see how the Greimasian canonical narrative schema is not the only possible model of narrative developments/structures⁹. But we will come back to this. It is now time to analyse one last approach in game studies before developing our proposal.

Procedures

The development of a *procedural* approach to games - while contemporary to the birth of ludology - follows a different direction, aiming at an organic view that crosses the divide between narratology and ludology. Procedural criticism (Murray 1997) analyses systems examining the way they respond to certain events, thus satisfying the ludological demand of concentrating on the specificity of interactive media but considering also the narrative outcome of games. Therefore, procedures have a twofold nature – as both post-hoc algorithmic descriptions of what happened or could have happened in a gaming session, akin to ludological analyses, and actual routines considered into the flowchart of a program. This latter point marks the proximity of narratology and procedural criticism: it considers procedural authorship, the practice of writing both the content of an interactive system and the rules regulating its actualization, as the natural evolution of narrative authorship. Bogost (2006) further expanded the study of procedures outside interactive electronic media, calling for a general application of proceduralism. Recognizing unit operations as generalized procedures leads to consider “any medium – poetic, literary, cinematic, computational – [...] as a configurative system, an arranging of discrete, interlocking units of expressive meaning”. Unit analysis, the expansion of procedural criticism proposed by Bogost, is the practice of recognizing units across different media, ranging between ludological formalizations and intertextual narrative readings, creating a common ground for computational and non-interactive systems. A tightly focused procedural analysis of Ayiti may consider how its routines are balanced to favor certain outcomes and not others, while a broad unit analysis could start from the aforementioned one, look for analogous units in other media and compare them to find specificities and variations. Such comparisons are not idle: the point of unit analysis is that fruition of meaningful expressions is always a dynamic and situated process of interpreting units and the operations they enact. Thus, both in computational and non-interactive media, meaning emerges in fieri.

We have previously observed how the main game mechanics of Ayiti consists of managing activities and economic resources of the Guinards and in observing the consequences of these decisions. To be successful, a given strategy has to find a balance between costs and expenses in each attribute, considering the Guinards’ budget and current occupations. Thus, Ayiti’s core procedure consists of an algo-

⁹While the canonical narrative schema has a strong persuasive effect on many scholars, indubitably due to its profound roots in Western thought, shortcomings of the this powerful concept have begun to surface in the semiotic literature: cp. Bundgaard (2007), Fontanille (2004), Paolucci (2008), Rastier (1999), Østergaard and Bundgaard (2007).

rithm evaluating the variation of health, happiness and education for each character in relation to his activity - modified by the owned objects - and the consequent gain or loss of money. While much could be learned in a detailed description of this algorithm, would it be enough to explain how the game makes sense? Many players manifest and report a strong sense of frustration in playing the game, that sometimes lead them to abandon Ayiti.

In a sense, we agree with unit analysis: frustration - and the meaning it assumes in the wider context of Ayiti’s effectiveness - is not explicitly in the game, the immediate consequence of a ratio in this core procedure. Frustration depends on what players are expecting from the game, on how their strategies interact with the procedures, on how frustration is then taken into account by the game and by the teacher. Meaningful experiences emerge through an ongoing interaction in which procedures and game mechanics are only one of the elements involved – the others are lacking from procedural analyses. Those procedural structures are always constitutively situated in the ongoing interaction as it is structured by cultural and cognitive practices and interpretive tendencies - what *pragmati(ci)sm* defined as *habits*.

Habits: towards a situated and dynamic narrativity

We have described habits as dispositions to act/interpret/perceive similarly in similar situations which emerge from the interaction between the subject and its socio-cultural, intersubjective and physical environment and deeply restructure them. Introducing habits in this ongoing construction of a theoretical and methodological stance on computer games has some interesting consequences for the elements pertinent to the analysis, the role of repetitions and variations in the gameplay (and in the ongoing narration) and the role of consciousness in making sense of the game. The implication of the concept of habit leads in first of all to the need to sketch ongoing and emerging cognitive tendencies to act and to interpret in a certain way during the unfolding of the gameplay. These tendencies do not have to be explicitly outlined and/or exhausted in the game itself, as much as supported, and they shape the experience of the player. It is the case of expectations due to the genre to which the game belongs, or moral stances leading towards a certain strategy or another. A second contribution of the concept of habit is the strong focus on repetition and variations without reducing these to superficial details. While algorithms and procedures are rigid rules, habits are flexible tendencies. Using a *dynamic systems* metaphor, habits may be conceived as attractors, areas of the phase space defined by the convergence of a high number of trajectories. In particular, “[their profile depends] on the overall state of the organism involved in some activity and past basins of attractions created within the system” (Gibbs 2006). Thus they are constitutively situated and adaptable to contexts (Peirce 1932-58, CP 6.612). We will see this flexibility at work when analysing the change in the valorial stances that underlies different strategies in the gameplay. The third contribution is clarifying the cognitive and semiotic status of narrative schemas. Even if the cultural origin

of this primitive is sometimes made explicit (Bertrand 2000), Greimas often seemed to consider it as an almost transcendental category of human understanding, an *a-historical* formal mechanism. This has led many semiotic researchers to use the canonical narrative schema as a type under which to subsume any semiotic object, neglecting their varieties, dynamics and structures. A second possible conception of narrative schemas could be, like many cognitive semanticists propose (Lakoff and Johnson 1999; Adamson), to resort to the magmatic notion of unconscious cognition. According to this interpretation conceptual schemas emerge from sensorimotor skills without actually surfacing to the consciousness and act as determinants of our meaning-construction processes, both in production and interpretation. Thus the canonical narrative schema could be again reduced to a type and the rigid expectations due to it would support the *a posteriori* perspective: we already know that this structure is going to be there. But that is not what happens in many meaning-construction processes and it is not compatible with the habit-based perspective we are developing. Applying a distributed and pragmatic(ist) framework enables us to take into account the unfolding of meaning and its manifold of potentialities. Not only more than one habit is applicable in a given situation, but - while not usually consciously enacted - they are accessible to consciousness. Habits can be acknowledged and adapted or replaced by others, and the description and analysis of such processes is of high interest. This does not mean an abandoning of the concept of a narrative schema in favour of a more vague notion of tendencies. We consider narrative schemas as stable skeletons of relations but point out three shortcomings of the plain application of this notion. Narrative schemas are not universal, far from always presenting a unique and linear form¹⁰, and they emerge from an *a posteriori* perspective while ongoing processes are more a matter of tentative and local hypothesis to be further manipulated. To better describe the ongoing experience and the process through which a stable schema emerges, we propose a pragmaticist definition of habits as tentative relational structures in situation¹¹. Here, the relevant opposition is between the stability of a schema and the tentativeness of a habit. As a matter of fact, another possible way of defining the latter is to consider the tendency to take a form of relation which emerged in a past situation and to apply it to a new situation while adapting it at the same time. As a result, this tendency locally produces a disposition for the subject to act or to interpret in a certain way. We can finally say the a habit is the tentative and flexible permanence of those relations¹².

¹⁰Ayiti, for instance, exhibit a peculiar repetitive structure. Another example from another media: thriller movies often rely on the shift of narrative roles - Mulholland Drive, for example, presents a peculiar double narrative schema, where the variations between the two ground many of the *meaning-effects* of the movie.

¹¹In Peircean terms we could say that a habit is expression of a Thirdness, always articulated with a Secondness and a Firstness.

¹²But, as it was written before, it should be clear that permanence does not mean absolute stability. Permanence, in this case, is tentative because it is the result of an abductive, hypothetical and,

This tentative diagram of relations can be further manipulated and be subjected to changes. Local dynamics of forces within the system - such as the interactions of subjects and objects or subject and anti-subject¹³ - establish potential roles and prospective isotopies that could be found in the future unfolding of the current action and/or narration. Moreover, just like an expert spectator of thriller movies could doubt a character who is excessively friendly because he anticipates his reconfiguration as an antagonist, this tentative configuration of narrative positions is manipulable according to wider cultural practices¹⁴ and to the unfolding of the events. New local dynamics in the unfolding of the narration/game/action will be accommodated in this configuration, further confirming it, or forcing an adjustment. Narrative schemata like that Greimas proposed are the (asymptotic) hypostatization of these local diagrams, an attempt to reduce the dynamic variability and the way it emerges locally, to explain it away as local pragmatic variables, to ignore the constitution process of the relational configuration. The schema has a function and a certain explanatory power, but we have to be aware of its being hypostatized *a posteriori*. This reconceptualisation integrates the stability of the schema, the variability of local diagrams and the situatedness of habits in their reciprocal interaction and determination. More than one narrative schema can inhabit the space of the narration/gameplay/action. Narrativity can thus be properly conceived as the necessary disposition of relational positions, in order to make the single event understandable. But this disposition is not *a posteriori* and once for all. This disposition is more similar to the dynamic process of drawing tentative diagrams and manipulating them, while new events have to be considered, the unfolding of a plurality of possibilities¹⁵.

Habit-based analysis

Three habits

This theoretical construction fits the meaningful unfolding of Ayiti. Many habits are at work at the same time in the progress of the game, amongst which the narrative, tentative, relational structures that were discussed earlier. We will isolate, for analytical purposes, three of them, through which

thus, fallible process.

¹³Østergaard and Bundgård (2007) in their analysis of *A Very Short Story* apply Talmy's force dynamics (2000) to similar local dynamics.

¹⁴Thus expressing what Peirce called "*diagrammatic reasoning*", that is "reasoning which constructs a diagram according to a precept expressed in general terms, performs experiments upon this diagram, notes their results, assures itself that similar experiments performed upon any diagram constructed according to the same precept would have the same results, and expresses this in general terms" NEM, vol. IV, p.47-48. Cp. also Stjernfelt 2007.

¹⁵While more traditional narratives can be defined as a mode of representation that is situated in a specific context or occasion for telling and that cues interpreters to draw inferences about a structured time-course of particularized events. In addition, the events represented are such that they introduce conflict into a storyworld (Herman 2007).

the educational features of Ayiti display their nature of situated practices. For simplicity, we will call them¹⁶:

- habit 1) “Ayiti is a computer game”
- habit 2) “The player is a benevolent divinity”
- habit 3) “Children should go to school”

At first, the elements supporting the first two habits will be mentioned. Then, we will examine the arising dispositions and the tension building up between them will be explicated. This paves the way for the analysis of the third habit, constituting the rhetorical pivot of Ayiti.

Habit 1 and habit 2: To Experiment or Not To Experiment?

The first lesson plan proposed by the UNICEF website states: “Take the students online to play Ayiti [...] for 20-25 minutes. It will not be necessary to give them further instructions on game-play”. No problems nor strategies are to be anticipated to the young students, no explicit evaluation is to be expected from the teacher – although peer-pressure may also be a factor influencing children’s behavior. Explicit marks of “seriousness” or “didacticism” are absent in the introductory part of the lesson. Ayiti does look like an ordinary computer game. The tendency towards such simple, playful framing is substantiated by different cues. First of all, written elements in the first dialogues¹⁷, cartoonish graphics and cheerful sound effects stress the similitude with other ludic objects. Moreover, Ayiti is played on a standard computer, just like other games that could have been experienced by the students. No classroom-related hardware, such as wall projectors, is required. Finally, its interface is designed to be easy and familiar: it is consistent with the Human-Machine Interaction standards adopted by major operating systems¹⁸ and their subset proposed by common strategy and management games¹⁹. In addition to the generically game-related elements we just mentioned, there are others pointing specifically towards the *god games* sub-genre of management games in which the player, while struggling to optimize his strategies to allocate resources, is also characterized by godly, all-powerful attributes²⁰. Although lacking some common features, such as the avatar’s ability to operate miracles and cast spells, the player’s simulacrum in Ayiti still exhibits some godlike qualities like omnipresence, omniscience and - to a certain extent - omnipotence. For instance, the game area is represented using a view from above, characters never disobey orders, they are never out of the player’s reach and their intimate feelings such as happiness or well-being can be easily read. The

¹⁶While this labelling operation risks to hypostatise the habit into a rule or a type, we thought it necessary to better clarify our argumentative structure.

¹⁷“The game lasts four seasons..”, “the player’s goal is...”.

¹⁸Pointing-and-clicking, selecting, scrolling, dealing with pop-up windows.

¹⁹Assigning tasks to units, turn-based management.

²⁰The Populous (Bullfrog 1989-2007), Black and White (Lionhead 2000-2005) or Sims (Maxis 2000-2004) franchises are some archetypes of the god-game sub-genre.

two habits we isolated create some dispositions throughout the unfolding of the game. Tendencies arising from the first habit enact a folk meaning of the ludic practices. Preliminary understanding of the gaming situation easily implies a separation from actual schoolwork and from other everyday activities. It also supports expectations about some kind of interaction and competition against the electronic system. Finally, regularities experienced in standard gaming practices normally exclude any concrete, real-world damage or benefit and the apparent lack of didactic purposes further substantiates this point. The Ayiti game is, following this first trajectory, experienced as an interactive, agonistic system with an emphasis on exploration and experimentation: without negative consequences, a disposition towards a trial-and-error strategy is made possible. The dispositions supported by this second habit (“The player is a benevolent divinity”) are twofold: on one hand, they may be complementary to those brought forth by the first one but, on the other, they conflict with them. Previous *interludical competence*²¹ closely associates god-games with management games, in which users need to finely allocate resources and evaluate variables. Since a disposition towards carefree experimentation is already supported by the first habit (Ayiti is just a computer game), it can also be projected on the second one: several sessions could be attempted in order to find the crucial variables to manipulate in order to master the simulation underlying Ayiti. On the other side, the second habit also substantiates more elaborate emotional and pathemic responses. Consistent with the god-games genre, characters appear not to have any will and goals on their own - lacking basic strategies such as spontaneously going to the hospital if sick. This resonates with the player’s near-divine powers and places the responsibility for their safety on his shoulders. Moreover, characters’ visual representation is, unlike in similar games, detailed to emphasize their feelings, from happiness to fatigue to sickness. This other side of the second habit disposes players towards a caring, empathic attitude towards his characters. The tension between some consequences of these habits on players’ practices builds up. The folk concept of gaming practice (careless trial and error) and the player’s apparent all-powerfulness come into conflict with the high level of difficulty of the game (high likelihood of disastrous outcomes) and with its emotional undertones (care, empathy, responsibility, reluctance to sacrifice characters). Such a discomforting situation, being given divine powers and responsibilities and yet failing to take care of the characters, creates the background on which the third habit operates.

Habit 3: children should go to school

While the first two habits are genre-related, the third one is a more pervasive habit grounded in Western contemporary culture. Because of its “taken for granted” rationality, this is where the rhetoric of Ayiti pivots and is going to be of special interest to our analysis. To better understand it, we should consider that the themes of youth and education are central in Ayiti since the very beginning of the gaming ex-

²¹A player’s knowledge of other games.

perience. As a matter of fact, users can find and access this game in three ways. First of all, they could use it at school during a workshop dealing with obstacles to education in Haiti. Or they could find it on the UNICEF website in the section about children's rights and underage labor. In both those cases, paratextual elements establish an isotopy hinting at youth education. Otherwise, if the game is found by chance while browsing the Internet, yet the UNICEF logo which appears during the loading - a stylized adult nurturing a child - still supports the educational isotopy. Such isotopy is sustained also by *peritextual* elements representing two active, working actors (parents) and three passive ones (sons and daughter) to be taken care of. As it was written before, the assumption that children should be sent to school instead of working is strongly rooted in today's Western culture and these elements are sufficient to make it emerge. Moreover, there is a likely possibility that young players experience this game while actually being themselves in school at an age at which education is compulsory in many countries, thus further reinforcing the "taken for granted" status of this third habit. Some commonsensical tendencies, commonly adopted in everyday life, are logical consequences of this assumption: children should be kept away from work, they should be sent to school or to the hospital if sick and they should enjoy festivities and receive gifts. Such pragmatic and interpretive dispositions, when imported into the gaming situation and extended to the young characters of the game, engender corresponding - and seemingly perfectly reasonable - sets of actions. Sending the Guynard kids to work, even for short periods, and never giving them any goodies could seem inappropriate, even cruel and thus conflicting with the empathic attitude from habit 2. On the other side, pushing the "children should go to school" habit to its consequences brings the Guynards to bankruptcy and to further sufferings. It is evident that players here face a dilemma that requires the reconfiguration of some habits in order to be solved.

Thou shalt not win: Repetition of unbeatable constraints

As we have previously said habits emerge and develop in interaction with the game mechanics and the procedures they imply. The game consists in a pattern of strict repetitions, each representing a season divided in: i) a decision phase, in which the habits at stake are applied through the players' decisions; ii) a more observative phase in which the consequences of those decisions unfold as the season progresses. Given the limited time granted by the gaming practice proposed by the lesson plans, the target audience (primary school children) has repeatedly proved not to be able to find a winning strategy. Gaming sessions consist, instead, of repeated attempts of applying the previously described habits, in a season of frustration after another, until defeat conditions are achieved. A clash emerges between habits and procedures evaluating the outcomes of characters' actions, such as:

- low economical gains, with a high rate of physical distress, accidents and diseases;

- low probability of achieving a diploma through normal schooling;
- high cost of maintaining acceptable health conditions.

Sending the children to school from the beginning (a likely enaction of habit n.3) reduces the Guynards' budget too much to preserve decent living conditions, thus leading to faster health deterioration and the inability to work or study for the whole season. The assumption that the game can be won (habit n. 1), combined with the blunting emotive response deriving from the apparent uselessness of near-divine control (habit n.2), generates continuous frustration. The repeated attempt of creating a minimal narrative coherence, to tune the aim of the player (chosen amongst Health, Happiness, Education or Money) with the local performances of the family members, often fail. The characters display - through their appearance - sometimes different aims (rest, better health, more happiness). No performance is accomplished, or at least it doesn't fully achieve the aims of the player. New local tactics can be tried but an effective strategy can hardly be found - at least during the 20-25 minutes available. There is in fact a winning strategy, but its realization took expert gamers and much longer time²². The repeated failure to situate the ongoing habits locally enforce their suspension, and hints to the need to examine them in a more conscious way. This is exactly when the didactic practice enters the game. Habits and procedures clash. The consequent impossibility of a linear narrative coherence and of a positive sanction shakes the stability of the habit through the triggering of an emotional response. The didactic practice is designed to take advantage of this situation. The final screen of the game presents the player with a series of questions about the gaming experience and her/his beliefs. The lesson plans provide teachers with further questions dedicated to the conscious consideration of the failures thus making students aware of their habits and of the assumptions underlying them. What happens, though, is not a simple replacement of less adequate habits with better grounded ones, from "children should go to school" to "children should go to work". Indeed, even if sending children straight to school is a losing strategy, the number of diplomas achieved is still an important criterion for success evaluation. The clash and the didactic practice highlight the ground of daily practices and situations that define the adequateness of the "children should be taken care of and go to school" habit, that should not be taken for granted: money, social stability and decent health conditions are relatively uncommon things in a Third World country. If an awareness of the need to take into account the ground on which habits are adequate is aimed at, at the same time a Western ground of practice is given as an absolute. The few winning strategies consist in re-constructing it: sending the children straight to work to ensure a steady income, getting a vocational education for one of the parents to ensure a more rewarding job in the immediate future, buying books for homeschooling in the spare time and always having the volunteer positions occupied to increase the effectiveness of Western NGOs actions. This allows the

²²<http://jayisgames.com/archives/2006/11/cost-of-life.php>

player to re-construct the conditions at which sending children to school is effective.

These procedures are inescapably ideological. Two examples are enough to show this:

- why should homeschooling be more cost-effective than schooling, especially if the parents are not educated themselves?²³
- Why does setting the characters to *work hard* always produce better results also in terms of happiness, than balancing working hard and taking it easy?

While we want to stress that these procedures subtly establish the absoluteness of the ground of Western values and practices, we do not mean to advocate for a radical relativism and the absence of judgements of values. We just aim at showing the constitutive situatedness of every single habit, of every single cognitive process.

Conclusions

This article has put a semiotic approach at work on the analysis of Ayiti, attempting to explain its didactic effectiveness and its unusual level of difficulty. Through the introduction of the concept of habit we were able to take into account the role of narration, repetition and cognitive expectations into the unfolding of meaning construction processes. Three habits were studied, covering the supposition of Ayiti's ludic nature, its belonging to the god-games genre and the taken-for-granted assumption that caring for children always implies sending them to school and not to work. Through repeated actions and failures the player attempts to create a minimal narrative coherence, constituted not by the representation of a fictive world, but by basic narrative roles articulating values. Through the failing repetitions players' habits are shown as situated on a ground of Western practices and values. Nevertheless the situatedness is not brought to its utmost consequences. The winning strategy - do homeschooling while building a stable economic position and only then send children to school - aims at reconstructing exactly the same ground that re-states the habits, although slightly re-modulated. Narrative schemas are reconceptualised as dynamical conceptual structures, in this case emerging from an interaction of habits and procedures.

Interpretive semiotics, ludology and procedural criticism have been brought together to explore the unsuspectedly complex molecular landscape behind Ayiti, developing an analytical framework to investigate the persuasive effects of interactive narrations and to support design processes.

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²³We do not know if this was an intentional feature or an emerging one. But since it is there it has to be taken into account when considering how meaning unfolds.

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