

Ludophrases: Ludics Before Mechanics

[Blog Post] <http://www.fredericseraphine.com/index.php/2016/08/19/ludophrases/>

Frederic SERAPHINE
Ph.D. Candidate at the University of Tokyo.
Graduate School of Interdisciplinary Information Studies.
seraphine [at] g.ecc.u-tokyo.ac.jp

DOI: 10.13140/RG.2.2.34313.85603/2

Why this Blog Post ?

Something like 2 years ago, I published a 40 pages essay about game semiotics (Seraphine, 2014). This essay was a very important step in my academic life; It was thanks to it that I could drag the attention of the professor who would become my Ph.D. Thesis advisor at the University of Tokyo: The eminent Professor Akira Baba, whose laboratory was one of the only ones focusing on game studies in Japan. Now that I started this blog, I would like to share with you - and maybe fine-tune - one of the main concepts that were driving this essay: the *ludophrase*. I guess you never heard of this word, and it might be because I created it. Not simply because it is fun to create new words, but out of necessity ... Because I found not existing way to express this idea. Basically, a Ludophrase is an association of in-game signs that constitutes the very basic semiotic building block of a videogame.

I've written the previous essay because I wanted to understand better the workings of in-game storytelling. To understand how to tell a story in a way that would be specific to gameplay, you don't have to look at games through the lens of ludology or narratology. You have to understand how meaning is created at a lower level. It was obvious to me that I had to look at game design through the lens of semiotics.

Keywords - Game mechanics, Game research, Game Studies, Ludics, Ludology, ludophrase, Narratology, Semiotics

Adapting Peircean semiotics to video-games

About Charles Sanders Peirce's Theory of Signs

Charles Sanders Peirce (Peirce, 1955) was, *inter alia*, an American philosopher, and semiotician who is well known for his theory of signs. A useful framework for the semiotic analyses of anything: from films to everyday life, through paintings ... and well, maybe also through videogames !

His framework is based on the three trichotomies of signs. A complicated name for an idea that we can fairly simplify here.

In Peircean semiotics, there is this idea of a certain level of abstraction of a sign, which he calls, the *firstness*, the *secondness*, and the *thirdness*.

The firstness defines the relation of the sign to itself, we could say that it is the ontology of the sign. Thus, the firstness is monadic.

The secondness is the sign in relation to its object, the relation between the sign and what it signifies. So secondness is dyadic.

And at last, the thirdness is the sign in relation to an interpretant. The thirdness involves 3 entities, the sign, the object and the interpretant, it is triadic in nature.

However, still according to Peirce, all those categories of this first trichotomy, can also be subdivided into 3 subcategories that are following the same pattern of triadic relationship.

The **firstness** - the relation of the sign to itself- can be subdivided into 3 typologies which are not yet signs because of their monadic nature, but are nonetheless essential in the process of meaning:

- The **Qualisign** is a quality or a possibility. For instance, the idea of a dot is already a possibility of a sign, it could be a period, the dot over the letter i, a part of an ink splatter, or one the three dots in the signature of a freemason, but monadically it is only a mere possibility. Another example would be the blue color, monadically it is abstract, it has only the possibility to be part of a sign, it is the blue color, but it is not yet a blue flower, a blue sky, nor even blue light, which is the physical embodiment of the blue color. It is just the *idea* of blue, we could say that blueness is a qualisign, but blue itself might not really be.
- The **Sinsign** is an actual thing which exists through its qualities. To pursue with the same examples as before, if we take the qualisign of a dot and the qualisign of blueness and associate them, we obtain a sinsign, which is a blue dot. Once again, it is not a physical blue dot, but it is still the possibility of signifying something through the use of a blue dot.

- The **Legisign** could be an idea, a law or a habit. If we continue with the dot example: ending a sentence with a dot is a convention. This convention is the legisign. However, the actual use of a black (or blue) dot - typed on a computer or written with a pen - to indicate the end of a sentence, is what Peirce calls a *replica*. The legisign, is just the rule by itself, as abstract as it may sound.

The **secondness** - the relation of a sign to its signified object - the most reused and relatable of the trichotomies of Peirce, is subdivided as such:

- The **Icon** is a sign that denotes its object by virtue of shared characteristics (or qualisigns). An icon of a tree might be a painted representation that shares the silhouette, the colors and the textures of a tree. It might not share other characteristics that define the tree, but it is somewhat sufficient to signify a tree, without a real tree.
- The **Index** is a sign that denotes its object by virtue of a relation between them. The shadow of a tree is an icon of this tree, it shares the silhouette of the tree. However, it is also an index of the tree because the shadow indicates the probable presence of a tree nearby. If someone sees leaves lifted by a wind blow behind a hill, those leaves might indicate as well that there are maybe trees behind the hill.
- The **Symbol** is a sign that denotes its object by virtue of a law (or a legisign). For Instance, in J.R.R. Tolkien's *Lord of the Rings*, the knights of the Gondor display a sigil which is a white tree. This sigil is an icon of a tree, it is also an index, as it represents the white tree of Minas Tirith, but it is a symbol, because by virtue of the cultural conventions of the knights of the Gondor, displaying a white tree means that you are a sworn sword of the Gondor.

Then, with the **thirdness**, things get a little bit more complicated, but to make it simple, discourse and communication can only happen through the thirdness. Which is trichotomized by Peirce as the following types:

- The **Rheme** denotes the possible existence of its object by virtue of an interpretant. A rheme is nor true or false, thus it can be presented to the interpretant for mere contemplation. The word 'woman' which symbolizes a person whose gender is female, through the use of letters - which are also signs that individually represent possibilities of phonemes - and via the code (or the legisign) of English language, presented to an interpretant which is an English speaker, might denote an actual woman. The English word 'woman' is a proposition that cannot be deemed as true or false, thus it is a rheme.

- The **Dicisign** is a sign which could be an assertion or a possibility of an assertion. If we watch a movie and this movie, shows us a shadow which looks like a woman, this proposition might be true or false, The shadow might be projected by a doll, or even by a very different object which shadow projected from this angle happen to look like the silhouette of a woman. A movie shot, or a full sentence, can often be considered as a dicisign. However, a simple icon - which is not an index, nor a symbol - cannot be a dicisign.
- The **Argument** is an articulated proposition that can be constituted of both rhemes and dicisigns. It is defining the relation between the sign and its object. According to Peirce, it can take three forms. The first is the deduction: "if she is pregnant, she must be a woman". The second is induction: "There is the scent of a woman's perfume in the room, maybe the person who was here before, was a woman". The third one is abduction: "Someone left a lighter on the table in the room that smells like a woman's perfume, it must belong to the woman who was there before". The argument can be a scene from a movie, a chapter from a book, or a whole level from a videogame.

Now is the moment you'll ask me, how is this useful to game-design? And I'll answer that Peirce already gives us a lot of tools to look at videogames through the lens of semiotics, at least to analyze audiovisual contents. The third trichotomy, for instance, can really help a game designer to create incentives for the player, things to induce, to deduce or to abduct. But the reason why I was writing my previous essay was to drag meaning from the interactions, from the gameplay ! For this reason, I needed to make a special trichotomy - inherited mainly from the Peircean secondness in my previous essay, but maybe applicable to firstness and thirdness - that would take into account the interactions with the game state at its core. For this purpose, my previous essay proposed the three following concepts: Actum, Tactum, and Factum ...

Actum, Tactum, and Factum or Reaction, Interaction, and Fact

Following Peirce's concepts of firstness, secondness, and thirdness, my previous article was proposing a trichotomous framework for the semiotic analyze of in-game interactions; it was emitting the hypothesis that every action performed within the game-state - triggered by the player or not - can be interpreted as a typology of signs. It is absolutely not replacing the three trichotomies of Peirce, but can nonetheless be used on top of them.

- The **Actum**, or what we may also call the **Reaction**, is defined as any action in the game-state that is directly triggered by the player input. In the logic of Peircean semiotics, the first element should be monadic, but when dealing with the semiotics of gameplay, the

firstness might already be an interaction that some may call dyadic. We might call it the reaction because any actions performed by the controllable object in a game is not the player's action, but a reaction to his input. The movement the character, or the camera, or any in-game object does, when the player pushes the stick forward is already a sign. A sign that denotes the power that the player has over the game-state. For instance, *Super Mario's* jump, which happens when the player presses the jump button, is an actum.

- The **Tactum**, that we may also call **Interaction**, could designate any actions that are happening between the player's object and any other in-game objects, it is thus an interaction. For example, the interaction between Mario - the character controlled by the player - and a question mark block (or a breakable block) during the actum of jumping, is a tactum. Being hit by an enemy, landing on the head of a Koopa Troopa, are also tactums. Tactums can denote the changes that the playable object can do on other objects and *vice versa*.
- The **Factum**, that we could also simply call **Fact**, is any actions that happen between objects of the game-state. Those actions may, or may not, affect the player indirectly, and may, or may not, have been triggered indirectly by an action of the player. They also may, or may not, be witnessed by the player. To pursue with the example of Mario, the fact the question mark block creates a bonus when it is hit by the player is already a factum between the question mark block and the bonus created (a mushroom or a star for example). But two non-playable characters (or other players in multiplayer games) fighting each other is, also from the player's perspective, a factum.

Simple association of Actums, tactums, and factums may create a form of building block for the creation of meaning within gameplay, this is what, in my previous essay, is called the **ludophrase**.

Mechanics and ludophrases, what is the difference?

As stated in my previous essay, "all game-mechanics are ludophrases, but not all ludophrases are game-mechanics"(Seraphine, 2014, loc. 457-478.) , and thus, in my opinion, choosing one or the other as the main building block of videogames may influence drastically the philosophy of the resulting gameplay. Thus this question seemed really important, as the words we use to design games may influence the way we design. The word mechanics implies - or induces as Peirce may say - the idea of mechanism, or repetitiveness. Of course, this way of thinking about games draws its justification both from the definition of the word 'game' - in English at least - and from

the very workings of game development, but are digital games intrinsically defined by our traditional definition of games? And should videogames be based on mechanical principles for the only reason that they are made and played on machines? The hypothesis is that considering mechanics as the core element of Game design is a roadblock to the emergence of a narrative framework that would be entirely based on gameplay.

About game mechanics

Game mechanics are methods invoked by agents, designed for interaction with the game state.

Miguel Sicart (Sicart, 2008)

The definition of game mechanics given by Miguel Sicart is one of the most concise I have been given to see. This is the reason why I chose this definition to base my reasoning on the issue. Miguel Sicart chose this definition of the game mechanics precisely because it is also the definition of interactions in object-oriented programming. Object orientation, according to Sicart, provides a "formal framework for the description of games, and as such is a useful analytical tool". Sicart's definition is also getting rid of the "anthropocentric" bias that previous definitions might have had. As the methods are invoked by "agents", they can be called by the player or by in-game agents. Game mechanics in Sicart's definition might be actums, factums or tactums, which complies perfectly with this essay's vision of game semiotics. But whenever he is defining a game mechanics, Miguel Sicart comes back to the concept of "rule". Jaärvinen(Jaärvinen, 2008) states for example that game mechanics can be perceived as verbs with other syntactical elements, such as rules, influencing how those verbs interact with the game states. Semiotically, this omnipresence of the rule associated with the game mechanics, imposes a notion of thirdness onto the very concept of game mechanics. When game mechanics are defined as "methods invoked by agents, designed for interaction with the game state". Comparatively, the Ludophrase could be defined as a syntactical combination of interactions of objects within the game state. When dealing with the semiotics of gameplay, we need to focus on the interaction instead of the agents.

And what about the MDA framework ?

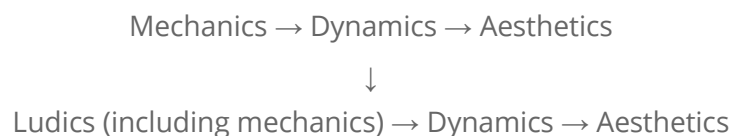
The MDA as described by Hunicke, LeBlanc and Zubek(Hunicke, LeBlanc, & Zubek, 2004)is a "formal approach to understanding games", it is presenting three levels of abstraction of video games that can be read from two perspectives, the designer's perspective, and the player's perspective. From the designer's point of view, the three levels of abstraction are Mechanics, Dynamics, and

Aesthetics. While, from the player's perspective it corresponds to the experienced concepts of Rules, System and "Fun". Here also, it seems that rules and mechanics are the two faces of the same coin. I'll certainly come back to the MDA framework in greater details in a future blog post, but for the moment, let us present the MDA framework in a few words:

In the MDA framework, the very essential building block of a video game is its game mechanics. The authors' definition of game mechanics is very close to the one proposed by Sicart, except it still suffers from the anthropocentric bias. But in this framework, from the game mechanics, the basic building block, a designer will be able to create the Dynamics which are the different parameters that will help him to achieve the game's aesthetics. For example, a game designer might want to achieve the creation of a challenge - that the authors describe as "game as an obstacle course" - as his aesthetic goal. For this purpose, he will have to fine tune the dynamics. They give the example of "time pressure" or "opponent play" as dynamics to achieve "challenge". But for instance "opponent play" might be a construct of game mechanics: it takes mechanics of damage taking, targeting, collision, *inter alia*, to create an opponent play dynamics in a shooting game.

But mechanics being somehow repetitive by nature, as they are triggered by an agent by virtue of a law, we might want to have a basic building block for games that retains the emphasis on interaction; but departs from the idea of repeatability implied by mechanics. This preoccupation is mainly semantic, but if we take the ludophrase, the interaction as a signifier, as a basic building block of this framework, it might widen the possibilities that game designers can envision.

There is maybe the term **Ludics**, which was first used by the French Logician Jean-Yves Girard(Girard, 2001); and which he defines as "a purely interactive approach to Logic". In a way, Ludics is putting an emphasis on the interaction instead of the proposition. Thus we could borrow the term of ludics to the fields of logics and mathematics and use it as the first level of abstraction of the framework. Of course in the context of game semiotics, the signification of the term is really different from its use in mathematics. But we could nonetheless propose the following modification of the framework.



With Ludics - pure interactions - as our main building blocks for game design, we would become able to create a wider range of dynamics, a range that would comply more with the idea of gameplay as a story-telling device. (Which is the objective of the research I am conducting.)

Indeed if we think of Ludophrases in terms of compounds of reactions, interactions, and facts (or actums, tactums, and factums); we are freed from the mechanical nature of game mechanics. Thus we can create ludophrases that don't necessarily occur according to rules, and may occur just once. It becomes then possible to create gameplay interactions that may change or even disappear during play, creating infinite possibilities of meaning through contrast. Of course, it doesn't erase the necessity of mechanics in game design, but mechanics becomes just one expression of ludics among others.

I tried to keep this article as short as I could, so it may seem a little condensed to you. If you are interested in reading more examples illustrating my thought process on the matter, I invite you to read my article from 2014 on Kindle. However, you might realize that some of my ideas have evolved since. If there are points that you would like me to develop in future blog posts, please do not hesitate to comment!

F.S.

References

- Girard, J.-Y. (2001). *Locus Solum: From the Rules of Logic to the Logic of Rules*. Retrieved June 20, 2016, from <http://iml.univ-mrs.fr/~girard/0.pdf>
- Hunicke, R., LeBlanc, M., & Zubek, R. (2004). *MDA: A Formal Approach to Game Design and Game Research*. Retrieved July 5, 2016, from <http://www.cs.northwestern.edu/~hunicke/MDA.pdf>
- Jaärvinen, A. (2008). *Games Without Frontiers: Theories and Methods for Game Studies and Design*. University of Tampere, Finland.
- Peirce, C., Sanders. (1955). *Philosophical Writings of Peirce*. (J. Buchler, Ed.). Dover Publications.
- Seraphine, F. (2014). *The Intrinsic Semiotics of Video-Games*[Kindle book]. KDP.
- Sicart, M. (2008). Defining Game Mechanics. *Game Studies: The International Journal of Computer Game Research*, 8(2), Retrieved from <http://gamestudies.org/0802/articles/sicart>