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The Ontological Aspects of Puzzles into Metaverses

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Abstract

The present text talks about the substantiation and usage of logic-mathematical puzzles inside the metaverses and its incidences as cognitive objects. Starting from the evolving path of hypermedia to the metaverses, it is introduced some formal criteria to reflect on the interactive context of the metaverses exemplified in the presentation and solution of logic-mathematical puzzles, taking as a paradigm example the metaverse experience of Myst online. It is concluded by the importance of the collaboration between the digital narrative and interactive problematical formulation for the research, production, knowledge and teaching-learning processes.

Keywords: metaverse, ontology, puzzle, mathematical logic, games.

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The Ontological Aspects of Puzzles into Metaverses

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From the Hypermedia to Metaverses

Since the initial moments of computer history and personal computers, we can identify the existence of a whole development and cooperation path that connects collaboratively computer science and the narrative structures of western tradition. Amongst many and excellent reviews that were produced, we would like to enhance the ones accomplished by Murray (2003) and Manovich (2001), which points out by the hypermedia concept and accomplish a discussion of this concept in relation to the western tradition legacies of arts, literature, cinema and design. From the transposition of tradition content, like literature pieces, to the computational environment in the shape of regained text blocks capable of receiving search fields by words, until we reach the concept of cyberdrama postulated by Murray (2003) we have a rich path, which certainly will not be possible to contextualize completely in the present article's space. However, we let indicate the importance of the historical reference.

It is, however, the indication of the importance of the historical references that lead of the original experiments in the form of hypertexts, passing for interactive environments to the way point and click of the games Zork (release in 1980) and Myst (release in 1994), to arrive, in the turn of the third millennium, to the concept of metaverse, with games and highly complex interactive three-dimensional worlds digital, inside of which, problems logical-mathematicians (in the form of puzzles) they can be introduced and if to place as a cognitive space to player reach higher periods of training of understanding and rationality. The present paper focuses this problematic one of metaverse URU, in the series of the game Myst showing its relevance as logical-cognitive structure. For in such a way, we to trace a passage that, before description, must be taken as a way of the experience of thinking understood here inside the phenomenology.

The inaugurate paradigms of the experience with metaverses

In order to we context the importance of the origins this problematic of the metaverses in the context of the experience in cyberspace and the immersion the human being in the resolution of logical problems, teletransport ourselves them for the quarrel of hypermedia³ in the context of cyberspace emergent, namely, breaking of the work of Lev Manovich (2001) in *The Language of New Media*.

As Manovich has indicated, the occurred mutations in the cyberspace, since the beginning of the 1990s were neither free, nor planned⁴. Not only its springing out, but also its progressive mutation is related to the emerging of digital paradigms that determine the personal computer evolution means and its incorporation in human life and culture. As so, far from being an ordinary phenomena, the digital phenomenon, in this case having in mind its designation under the hypermedia field, has produced new cultural forms that has resituated themselves and continue to transform the western culture. These paradigms can be better understood when we have in mind their participation in games, and furthermore, in cyberspace with the emerge of metaverses.

Besides, according to Manovich, the 1990s were the years of the so called new media, in which we have the rising of numberless cultural objects that exemplify the new media potential, in the perspective of the computer usage, in the revealing of aesthetic shapes genuinely original and historically without any predecessors. Among these objects, two special ways are featured: they are two computer games, Doom⁵ and Myst⁶.

As paradigms, they opened specific digital economy types inside the post-modern era. Inside each one of these paradigms we have special economies producing and determining its social, cultural, technological and conceptual effects. These new type of economies, which are opened by the new ways of interfaces of both games are designed by Manovich (2001) as “cultural economies” that structure new ways of digital life. One of the examples of this turn produced by the new paradigms can be visualized when J. C. Herz says the following: “It was an idea that stipulated a new time. To release a thinner and free version (of the game) through the shareware sources, Internet and online services, followed by a complete, registered and for sale version of the software”⁷.

And with this procedure, it is formally initiated the Demo Plays policy, the playable version of softwares, in which we show the product potential. The Manovich analysis is supported by the studies of Michel de Certeau (1999), when he says that: “the producers define the basic structure of an object, and release some examples and tools to allow consumers to create their own versions, sharing it with other consumers”.

From this type of economical politics, opens the path to establish new digital objects: the open source software, the free software and all the production and licenses group that it is reachable in the cyberspace. It will be this emphasis on this type of perspective of facing things that has allowed, in a short period of time that Internet converted into cyberspace or else, in a surfable and interactive space, as it was the project of the Web creator, Tim-Burnes Lee.

According to this perspective, one of the consequences that we have is that cyberspace has become progressively a place in which is made available an infinity of paths that are visualized mentally by the user as “environments to be visited”. This was the idea presented by Robin Miller, when he said that they “were creating environments to be briefly followed” – lacking a better term, many have called this a game and the authors themselves called it like that because they lacked a better concept. With Manovich studies (2001) and Murray (2003), the fulminating light of the narrative concept is released on the cyberspace landscape. Games such as Doom, and above all Myst, constitute themselves as digital narrative, in navigable and interactive digital environment and, in particular, make public specific and powerful “cultural forms” sufficiently able to reshape a series of aspects of human life and culture.

Such as cyberspace navigation allows the introduction of the new cultural forms perspective and its respective economical policies, the navigable space in cyberspace (especially structured games over narratives), opens the possibility of understanding the digital universe and its revolution, not as opposite ruptures of the development of the western tradition of Gutenberg’s culture, but as an extension of the human world, of being in a world and share with your similar being the living in narrative processes as powerful cultural forms, in which we identify here as metaverses. According to Dannam⁸, the Myst universe was created to put in front of the user a digital narrative more likely to be the Shakespearian method.

Meanwhile, in Doom, another game pointed out by Manovich as paradigmatic, the rhythm is fast, whereas in Myst, it is slow, rhythmic by an expressive new age soundtrack. In the world of Myst, and we speak here mainly of Myst Original in 1993, “the player moves in the world literally step by step, discovering the narrative along the route”. In this discovery the user soon

verifies that the worlds of *Myst*, full of landscapes and sound constructions were complete and profoundly empty. At the time (1993) it was about lonely worlds, in which the user was unleashed in a digital adventure in pursuit of its puzzle. In *Myst* there aren't game levels, but complete and differentiated environments that offer a variety of situations, in which they present themselves as enigma to be solved.

From the resolution action of the puzzles, new faces of the narrative emerge. At them, the user accomplishes a tour in the pursuit of worlds and the solution of its mysteries. The essence of the game, in which resides in a terrific architecture and the navigation possibility inside it, making available the intervention of its paths, its destination. As in an anticipated dream by Schopenhauer (2007), the digital Argonaut mingles inside the navigable worlds of *Doom* and *Myst*, and there their avatars live intensively in systematic conditions of proto-metaverses.

Characteristics of the navigable space in the metaverses from an experience with games

One of the differentiable game elements is its possibility of introducing into the plan of computerized human action, in the relation man-machine-world, that we can call the Discovery logic. Since its first version, *Myst* already initiates the proposal of introduction the digital Argonaut in the position of opening itself to the progressive apprehension of a logical discovery and, with that, assimilate more and more increasing complexity schemes inside a basic narrative of the game. With a delicate intellectual property, Manovich tells us that “the player moves in the world literally step by step, discovering the narrative along the route”. This is a structure in which “the logic of the discovery is necessary”. Each enigma or puzzle presented in *Myst* contributes to a resolution of a part of a mystery and allows you to advance in the understanding of the game, in the narrative comprehension and even in its navigation. In this process the subject of the navigation is persuaded to dedicate itself hours in front of the game and through the schemes accomplished inside the game, reinforces its “elementary logical structures”, according to the ideas of Piaget (1970).

Another important aspect consists in the navigation structure. *Myst* organizes itself as a universe commanded by a navigation aesthetic that proposes a freedom of movement. The user can remain as long as he/she wants in each of the various worlds and, if that is the case, for the simple pleasure of walking through it, appreciating its landscapes, or even, accomplishing an intimate contact with the local cultures of the game. The authors themselves have declared that if they have not reached the status of the game, they would be simply satisfied by producing worlds in which we could just go by. This is one of the great qualities of *Myst* (Murray, 2003), the free navigation around digital worlds that the metaverse of *Myst* unleashes.

Along with an aesthetic of free navigation, we have an extremely generous and detailed exploration economy of the environment. This type of economy has as a result the development of the environment observation, of its details and characteristics. As a result, the analytical potential of the cybernaut is motivated inside the richness of the world's details and its objects that were abandoned to solitude: labs, libraries, galleries, refineries and a number of equipment are put to be explored. Many of them, already interactive in the first version of the game in 1993, in which will become more and more complete, complex and functional, each time the narrative is incremented with a new episode (the various versions of the game). In this case, the technological evolution of the computers and its processing capacity are followed by the interactive resources that are made available to the cybernaut agency and the transformation of the digital universe. Thus, to define a game based on the exploration economy is to define the

knowledge progression of the man.

Finally, our synthetic analysis allows us to situate ourselves in this metaverse inside a constructive perspective. There isn't a pre-data: the secrets and enigmas need to be found and solved so that we have the sequence of the central and tragic story. Inside this universe, in which today works in an open narrative in the WEB (URU live), the structure of the solution of the narrative, even better, its outcome, tends to offer multiple possibilities, including different endings, all of which are linked with the interactive behavior of the user. The strong factor that boosts the constructive fundament resides in the organization of the puzzles and in the independence of its solutions, not having a linear order to their resolution, but leaving the possibility of the manifestation of various player styles.

Mathematical Logic and Interactive Puzzles

If the design structure of *Myst* organizes itself as a navigable space (Manovich, 2001) opened in the production of an even more variable narrative (Murray, 2003), this means that the more we advance in the various versions of *Myst*, the more we find the progressive construction of a discovery logic (Tonéis & Petry, 2008) that assumes Wagnerian proportions. At one point we have here an emergent phenomenon that becomes more and more evident if we are to be taken to suppose that they organize themselves from a fundamental structure of this world, we can say here, the metaverse that can be designed as the aesthetic experience of metaverses. At another point, this theme of aesthetic experience constitutes in a conceptual work object in the phenomenology (Gadamer, 1999; Petry, 2003; Tonéis & Petry, 2008). In this case the secret passion between the aesthetic and organization of interactive puzzles founded in the mathematical logic constitutes in one of the fundamental metaverse elements, such as our model example here, *Myst*. It is in this aspect that we think that the modern science game, not only allows the technical digital world but also reserves many surprises to the man. Regarding navigable and interactive adventures that we can allow in the numberless metaverses, they can open the possibility of challenges in which both the logical and mathematical reasoning can be inextricably connected.

In Tonéis & Petry (2008), the central theme of the analysis is taken inside the question of the aesthetic experience, identified as the first form of constitution and reckoning of the living world. We have learnt with the hermeneutics phenomenology that each and every experience must be taken as an encounter: like a happening that touches us and invites us to discoveries. The personal experience is born from a reflexive process, when something happens to us, touches us, passes by us resulting in a transformation, because we understand that the reflexive act has a transformer character, and consequently, the actions to be followed. A cognitive discovery, a solution to a problem that has taken all of our attention, tends to generalize to our whole life the impact of its solution: therefore, the entire discovery matters in a reflective experience. Inside it we can observe that the importance of the significance of the objects by the individual is in considering that without this last one the process of the knowledge construction, in its wider conception, will be harmed. In the usage of the digital universe, in the navigable space, in a metaverse, for example, we can invite the Argonauts to participate in the immersive narratives so that those story protagonists wish to proceed in their script overcoming challenges – puzzles – and in this way developing, in several levels, an ontological math, before calculation and algebra. It will be in this sense that this ontological opening in math or even in logic will be in the origin of the problem resolution, in reflective process application and action, etc... Such dynamism is,

unquestionably, offered by *Myst* to its visitors⁹.

While the *Argonaut* explores the spaces offered in the landscapes and environments of the metaverse, inside its alternate universe, it will be living unique experiences that will be able to be converted in the future in high level logic-mathematical structures. The experiences in the metaverse help the structuring of the capacity of problem solving. It is like this that, when developing a method to “escape the problem”, to overcome this barrier or any other, that constitutes, progressively, in the way of acting positively in the construction of a mathematical reasoning, of a discovery logic (in which can have structural incidents in practical life).

Dominating the extension of verbal concepts and perceptive groups, restructuring itself logically, so, coming from its own experiences, actions and operations, the metaverse proposes its traveler an activity that establishes itself as a context of an autonomous activity, place in which it is demanded to discover itself (by the initiative of its actions) the relations and the notions of a complex network of meanings that constitutes its plot on the narrative, recreating them. When they are recreated, it is produced a new and personal knowledge! This is now founded in its own experiences, in the interaction with the environment, private and public – in the community. To know the real is also to configure it and to be able to reconfigure it.

As such, this means that, in other words, to mean the real preserving the richness of the senses in the real. Like Merleau-Ponty (2006) used to say, the senses relate themselves before the language. The representation is born in the necessity of understanding this real¹⁰. At the same time, not only in the mathematical symbolism, but also in the logical abstraction can be understood as the delicate fruits of an adaptation process (Piaget, 1970) – assimilation and accommodation – arising from singular experiences of a subject of experience (aesthetic).

In this aspect, among many authors that currently have dedicated themselves to this new region of human thought and life, we remember here of the contributions of Mayer (1996), Miles (1999), Manovich (2001) and Murray (2003), among many others. It is like this that, by analyzing the game *Myst*, Miles proposes to discuss questions that are more general regarding the expressive possibilities of the multimedia environment. The present references in *Myst* include artistic works or traditions as diverse and rich as the *Odyssey* by Homer, the gothic romance, the painting tradition, the filmic surrealism, besides the, clearly, interactive fiction derivative from Borges. To Miles, *Myst* represents the beginning of a new form of art – that synthesizes different means in new combinations – and, what is equally important, recovers and reinvents different ancient art forms that for long have been claimed obsolete” (1999: 309). This relation of recovery and rescue constitutes to Miles the most important research object.

It is on this sense that *Myst* opens a new paradigm of interface man/computer (Mayer, 1996). The conceptual hyper-realist proposal and the image refinery, the tridimensional effects, the textures and the perspectives of the scenery contribute to an intense immersive experience.

But it will be in the introduction and the emphasis given in the solution of the enigmas (puzzles) that will transform the metaverse of *Myst* into something absolutely differentiated and putting it, as an experience that simulates the difficulties and progresses that the individual faces in its representations of the real world. Murray (2003) reminds us that the “solution of the puzzles usually depends on subtle sound clues, rising the attention of the player to the meticulous sound project”. The complete *Myst* project conspires to produce an essential connection between its visitor and the presented virtual world. When entering this holodeck the *Argonaut* converts himself in another element in the big puzzle that *Myst* is. Its first mission is to discover what to do and where to go. The clues will lead him to the discovery, in the virtual world, of its own potentialities in the resolution of problems and constructions of methodologies. In the resolution

of a puzzle we find an experience, and opportunity, a tool to logical organization of events and actions. Such organization can occur almost unconsciously, when it is about developed cognitive processes, due to the ease and familiarity with the world of *Myst* obtained by each visitor. What we expect at this point of our reflection is the comprehension of the mathematical experience in the resolution of a puzzle as being an attempt to formalize concept and actions taken during such resolution and so consciously understanding some concepts that are supporting such resolution.

As so in a comprehensive approach, we can say that here between a game the so called conscious takeover (Piaget, 1977), in which it focus on the action process that transforms an scheme into a concept, or else, going from the behavior of the resolution of the puzzle, to arrive at stages of generalization that get wider and more universal. Maybe that is the aspect to be initiated with the undefined practice to reach the episthème¹¹ that the activity of solving puzzles can be compared to a Maieutics Socratic that, by means of investigation, the person will find the answers to the question that has been formulated and like this it will be reckoned the methods involved in its investigation. From the arguments presented, we cannot fail to glimpse in *Myst* new possibilities that emerge from the immersion in the virtual world, in the constriction of the abstractions and mathematical concepts that are present in the digital universe.

The context of the puzzles inside the metaverse experience in *Myst* online: URU

With the growing development of software and hardware in a way of always overcoming its predecessors, in processing speed, space for data storage, the digital universe became fundamental part of our living world¹². It is almost impossible to designate how much we denominate in the virtual world to different people constituting in absolutely live experiences. We are connected beings; we keep in touch with the real time with the help of a virtual world, instant messages, chats, forums, etc. It will be in this path that Petry (2009) looks to present the emergency of the metaverse, from ontological elements, in which enable the structure of ubiquitous aesthetic-digital experience. From that point, “in an expansion of the concept of hypermedia by Manovich (2001), the metaverse can be thought as a collocation in a piece of the Wagnerian concept of Total Opera, with the difference that its characters identify with their audience.” In this metacontext, the evolution and transformation suffered by the interface concept, at the metaverse we are taken to consider it as digital life forms (Petry 2009). From that perspective, the digital universe can be thought in one continuous line with the daily life, like an extension or prolongation or, in a word, a metaverse.

The importance of an ontological look over the objects that conduct a more refined attention to the world that constitutes the metaverse conducts us in the direction of understanding the opening to this aesthetic experience, or else to a metaverse experience in its total, in this world of infinite worlds (Merleau-Ponty, 2006). This occurs in *Myst*, in various versions, in different levels of experience. *Myst* online – URU¹³ – opens opportunities to the phenomenological sense of sharing with the other the experience: the “being-with”. Being an experience with them, communicating internally with the world, with the body and with the others (Merleau-Ponty, 2006), designates the necessity of engaging in transforming attitudes and activities, of being in movement being with them instead of just being next to them. Like Heraclitus would say, “everything flows, everything changes”; so occurs with the digital universe, in constant metamorphosis. With that we can say that the metaverses constitute themselves in our projections of something more fundamental, something unique, something singular, in other words, transcending the material reality to the digital representation plane, we

are equally taken in *Myst* to face our fundamental incompleteness and, from this finding, put ourselves in the condition of being capable of accomplish our transforming experiences. To reach a differentiated link to conscious, in which reciprocity is beyond the mere exchange, the simple feedback.

Online *Myst*, *URU*, is a game in the multiplayer line, a game in which the explorers, like in other types of metaverses, have the possibility of creating their own avatars, selecting its characteristics that provide them a digital presence (*Digital Anwesenheit*). Among other adventures, we are invited to rediscover, restore and rebuild the ancient D’ni civilization and learn their story. The environment of *URU* live allows the possibility of your modification as time goes by. The *Myst* community analysts organize a list of characteristics of the *URU* live metaverse. The first consists in the fact that the metaverse organizes itself in navigation worlds with surreal environments that encourage the exploration. In second place, the high level of gameplay, due to the fact that there aren’t any rules at first, levels, maps to be memorizes – only the navigation and the encounter with the community members that are inserted as data. The third element is the non-violence and the impossibility of having a user dying or being killed by another player. The fourth element is, and maybe here the most important one, the possibility of volunteer interaction with other players, different from the offline versions, in which solitude was the game’s trademark. In fifth place and of equal important, we find the progressive introduction to the puzzles; to a group of them is reserved the task of supplying the necessary information to the digital inhabitants of the metaverse about the mysterious civilization D’ni; to another group of puzzles is reserved the role of inserting enigmas that must be solved so that the Argonaut deciphers the functioning of the worlds, its structures and mechanisms, enables passages to places in other Eras not yet explored. It will be at this fifth group, the puzzle group that we aim here, in which we will be questioning around its ontological constitution.

Myst online put us in a kind of a new never-ending story¹⁴, with the story being continuously being renewed, with new possibilities in the story being inserted, by new members, by modifications in the environments, in new plots that are the product of collaboration – the essence of a new kind of digital economy that is powered with the advent of the metaverses: the online cooperation economy.

It is in the aesthetic communitarian experience context, committed to the online puzzle resolution that emerges in the collective construction of the D’ni metaverse, going by the individual consideration and looking for dialogues with others and with the digital source. By being capable of exposing its line of thought, before it used to be inner and blurred, the Argonaut finds in the metaverse the possibility of sharing its ideas and theories with its journey fellows.

A brave new World of educational metaverses: the narrative and the discovery context

The enigmas of Kadish Tolesa are among the most difficult ones in *URU*. Not only we have to imagine how to solve them, but we should also imagine how to interpret the clues. All the evidences are in this gallery – Kadish Tolesa – the question is, then, to study the panels, make detailed notes and sketches or even to examine the possible relation between them.

Here, the ontological investigation strategy indicates that at the phenomenal observation lets the Argonauts community fill the blank spaces in the proposed narrative. If we think that the blank spaces in the narrative must be completed, for example an x element, which will have a function of structure the sense deeply and profoundly, we can refer this narrative strategy ontologically to the developed tradition from, at least two developments: while Frege’s logic

teaches us that an empty space in a proposition comes to be filled by a logical object or a function to consequently obtain a sense and a denotation, on the other hand the hermeneutics phenomenology shows us that this very same process of logic meets its function of an reversed blackout that was submitted to the sealing of organization conditions of the world. It will be on this specific sense that we will introduce and discuss here the three telescopes puzzle in the Kadish metaverse.

Each telescope has three buttons in its base and each click in one of the buttons rotates the associated parts in the telescope – rings about 1/8 of the circle circumference.

With the objective of establishing properly each circuit, you need only to push the buttons you have the correspondent configuration in one of the panels (see the images below). In case there weren't any alteration in the device configuration (telescope 1), the correct alignment is reached, pressing the left button 4 times, the central button once, the right button five times, and resulting in the configuration exemplified by the following image:



Figure 1: In order telescope 1, 2 and 3 and its respective scope unsolved; Kadish Gallery clue; scope solved

On the second telescope, look through the scope display to see three keys that control the rotation of the device. From the initial state, press the right key three times for the correct alignment of this device (image 2, above). You do not have to touch the other keys. Now being at Telescope three, look through your display. From the initial state, the proper adjustment is reached by pressing the left key three times, the central key seven times and the right key three times (image 3, above).

If telescopes 1 and 2 are adjusted correctly, we can see the movement in the back when this third telescope is adjusted and, when we step behind the display we can see that the door in the tree ahead was opened: the three telescopes puzzle is solved.

The key to the images is in the exploration of the blank spaces of the scope. So when visualizing the image in the Kadish Tolesa gallery, we should relate to the telescope, however considering only linear formations. That is the reason why we advice to make notes or draw whatever is necessary from the gallery, or else, to return there as many times as necessary. Summing up, we will have the following combinations:

	<i>Left</i>	<i>Center</i>	<i>Right</i>
<i>Telescope 1</i>	4	1	5
<i>Telescope 2</i>	0	0	3
<i>Telescope 3</i>	3	7	3

Table 1

4	1	5	10
0	0	3	3
3	7	3	13
7	8	11	26

Table 2

The three Telescopes puzzle of Master Kadish can be analyzed, not only in logic but also mathematically. The analysis, on the other hand, has incidences and ontological basis and, from the metaverse point of view, it allows the organization of the take over of the epistemological conscious, allowing that the knowledge acquired inside the *aesthetic-logical experience* in the metaverse, obtains more global potentials in the lives of the members of the D'ni community. Such as a preparation for a resolution to other problems inside the metaverse, and also as ostentation of the groups' own personal reflexive abilities. Even that no member of the group

comes to accomplish a logical-mathematical formalization of the puzzle, the developed steps in the problem resolution takes them to the situation that Piaget (1977) designs as the *conscious take over*: to know how to do something is just like knowing how to explain something to someone else – or else, in a *wittgensteinian* language, I know how to play this game, so I understand this game.

From the table above, at the mathematical point of view, we have verified that this can be compared to a square matrix of an order of three, and with that we focus on the particularities of the mathematical structure involved in the resolution of this puzzle. The values of the table, that represent the circular movements present themselves as odd prime numbers even between 3 and 7, in other words, just the figure 4, compound number derivative from the only even prime, the number two, occurred only once. This reveals the nature of the movements in this game, the movements as being primary, movements that generate movements, like in this case, the opening of the door, as action and reaction. Elements of the Fibonacci' sequence are also revealed as present in the table (1, 1, 2, 3, 5, 8, 13...) what values even more the question of natural movement. Another relation that becomes the focus of our observation is the sum of the lines and columns of this table, because adding lines and columns; in the intersection we will have the same value, 26, which is composed by 13 multiplied by 2, in other words, two prime numbers between themselves (Table 2 above).

Conclusion

The mathematical characterization of a puzzle is not only about the number conversion of the events, but in its ontology it constitutes exactly in the thinking exercise.

It is due to these characteristics that the frontiers between mathematics and logic become tenuous. According to Russel (1960) such separation became too delicate due to the nature of the logical demonstration with the usage of algebra and algebra resolutions from the conception of initial assumptions or even deductive structures. If from one side, there exist classes more than things, what results in a paradox, the logical organization of a puzzle (as referred), tends to structure the analysis and the reasoning centered in formal conditions and procedural actions. In the sayings of Putnam (1988) the formalization does not have as a task the solution of the real problems or other things, but the task to serve as a sound instrument to enlighten the difficulties that can become clearer and operative from its systematic.

The topological alignment of the three telescopes results in the opening of the door, the missing on this puzzle, can be compared to the interdimensional portal in Stargate¹⁵. Here we have the dialogue between the Web's digital metaverses with the filming metaverses. The procedural schemes that are functioning, not only in the Kadish telescope but also in the Stargate portal are formally identical: solar rotations around a central axis determine the conjunctions (alignments) of symbols (logical positions) that determine the triggering of unrevealed mechanisms at first.

From the metaverse experiencing point of view, the puzzle resolution implies in cognitive processes that result in comprehensive schemes. From the formal and phenomenological point of view the *understanding* precedes the *explanation* (Von Wright, 1979). If the comprehension generally comes by means of a leap in the total vision of things and of the world, the relating, introducing and letting registers to the society movement is accomplished inside the explanation scheme. Our purpose in the present article sought the valorization of the aesthetic-ontological experience inside the metaverses and, by accomplishing the presentation and analysis of the URU metaverse in a modular puzzle. Our intellectual action does not have as a purpose to give

the last word on the proposed theme. On the contrary, it seeks to route of questions that are situated in the range of our academic research. It occurs that, however, with the present article we could reach to demonstrate some elements of the logic-mathematical structure resident and alive in the *play the metaverse game*, having as a result the opening of a line of dialogue between new worlds and new possibilities.

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Notes:

- (3) The hypermedia concept has many definitions, since its context inside the computer science, going through the Design, and arriving at the culture and information theory. On the side of culture and semiotics theory, we have Santaella (2000) telling us that: “far from being just a new technique, a new mean of preexisting content transmission, the hypermedia is, in reality, a new language in pursuit of itself”.
- (4) *Not free* means that those mutations are supported by a historicity that is revealing from a dialogue that crosses and trespasses a number or regions. *Not planned* points to the fact that they do not constitutes in the result of a unique and monolithically program of work and research, but they could be seen previously as an phenomena in which we have the multi determination of forces that reciprocally feed themselves.
- (5) Link to *Doom*. See also: David, K. (2003): Masters of Doom: How Two Guys Created an Empire and Transformed Pop Culture. At Wikipedia we have a very interesting description in <<http://pt.wikipedia.org/wiki/Doom>>.
- (6) Nowadays, the base site for the worlds or metaverses of Myst is: <<http://www.mystworlds.com/us/>>. The game creation was directed by the Rand and Robyn Miller brothers. This game was one of the most famous among the adventure games, helping to

disseminate the genre. From <<http://pt.wikipedia.org/wiki/Myst>>.

(7) J.C. Herz is the author of *Joystick Nation: How Videogames Ate Our Quarters, Won Our Hearts, and Rewired Our Minds* (1977). Brown. Little. and of *Surfando na Internet – uma Aventura On-line* (1996). São Paulo. Domínio Público.

(8) Lorna Dannan is the nickname of an autonomous researcher of games and ciberliterature that maintains the biggest reference site about the Myst themes, in <<http://www.grandecaverna.com>>.

(9) It is at this aspect that, from Huizinga (1938), the own game conception is redirected to its fundamental aspects. According to the thinker, the game and the play constitutes themselves into absolutely primary life categories and, in this sense, as essential as reasoning – *Homo sapiens* – and the objects factoring – *Homo faber* – making it appear the denomination *Homo ludens*, in which means before any other hypothesis that the playful element that is present in the basis of the civilization appearance and development.

(10) It is equally the case of Freud (1914) and Lacan (1953) studies that have identified the pre-linguistically stages in the anticipation of the human subjectivity.

(11) The real knowledge, different from opinion. The knowledge of causes that is necessarily true. A mixture of science and knowledge, by what it differs from the so called empirical sciences. A rational effort to substitute the opinion, lets, the knowledge around the quota. It is divided into praxis, technè, e theoria.

(12) It is our modest understanding that Dilthey (1910).

(13) The users that had the opportunity of navigating through the preliminary version of URU live have commented that the visual-graphic sensation is similar to waking inside a film. From <<http://www.coolwind.ws/esdni/htmls/esuru.html>>,

(14) *The Neverending Story* is a cinema adaptation, of 1984, from the homonym book of Michael Ende. (Wikipedia, available at <http://pt.wikipedia.org/wiki/The_Neverending_Story>).

(15) The term Stargate refers to the American science fiction productions (of the “Space Opera” genre) that started with the motion picture *Stargate*, in 1994. The plot in all the productions goes around the Stargate premise, a superconductor device that allows time travel through the “subspace”. (Wikipedia, available at <<http://pt.wikipedia.org/wiki/Stargate>>).