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The cosmonaut: A Digital Creation

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ABSTRACT

The cosmonaut, by Alckmar Santos, Wilton Azevedo and Adir Filho, like any digital artistic work, has to deal with the increasingly rapid obsolescence of techniques and technologies. In this case, the entire creation process lasted for about four years and was subject to a number of substantial changes in the programming strategy as well as in the tools and programs used. In our case, along with the story we wanted to tell — an epiphanic experience experienced by a cosmonaut —, several elements became part of the navigation environment of *The cosmonaut*, associating to this the difficulty of dealing with the time that passes and never fails to imprint its marks, either in the creation itself, or in the way in which it can be read. In short, if our creation intends to tell part of the life of a cosmonaut culminating in his epiphanic experience in outer space, it also intends to provide the readers with an epiphanic experience that they will build with their own memories and their strategies of understanding and interacting within the digital work. We intend to describe this process of creation, as well as analyze this work.

KEYWORDS

digital literary artwork; temporality; epiphany; digital technologies.

RESUMO

O cosmonauta, de Alckmar Santos, Wilton Azevedo e Adir Filho, como qualquer obra artística digital, tem de lidar com a obsolescência cada vez mais rápida das técnicas e das tecnologias. Nesse nosso caso, todo o processo de criação durou por volta de quatro anos e foi sujeito a uma série de alterações substanciais na estratégia de programação, tanto quanto nas ferramentas e nos programas empregados. Com isso, a par da história que se quer contar — uma experiência epifânica sofrida por um cosmonauta —, vários elementos passaram a fazer parte do ambiente de navegação d'*O cosmonauta*, associando a este justamente a dificuldade de lidar com o tempo que passa e nunca deixa de imprimir suas marcas, seja na própria criação, seja na maneira como ela pode ser lida. Em suma, se nossa criação pretende contar parte da vida de um cosmonauta culminando com sua experiência epifânica no espaço sideral, pretende também proporcionar ao leitor uma experiência epifânica que ele construirá com suas lembranças e suas estratégias de compreensão e de interação, dentro da obra digital. É esse processo de criação que se pretende descrever e, em parte, analisar neste trabalho.

PALAVRAS-CHAVE

obra literária digital; temporalidade; epifania; tecnologias digitais.

I. THE TECHNOLOGY OF COMPOSITION

The first idea for *The cosmonaut* came from a suggestion made by Wilton Azevedo, to work on the history of Ed Aldrin, adapting it to the digital medium. One must stress that I was not interested in the philosophical or anthropological perspectives, but rather in the possibility of fictionalizing a history of a religious conversion. Generically, one only knows that Aldrin, having remained alone in the Lunar Module, while Neil Armstrong made his historic journey (one *small step for a man, one giant leap for mankind...*), had a kind of religious epiphany. From this event, he became (or came to be anew) a convicted Christian. Then, we proposed to change the location of the epiphany, which became a spacecraft in outer space, orbiting the Moon. The astronaut, on the other hand, would be called cosmonaut, because of the etymological implications of this term.

Afterwards, the creation of the literary work took two directions: one concerning the verbal re-creation of the epiphany, by means of verses, and, at the same time, the other one — the writing of poems in which the life of the protagonist was narrated from childhood to maturity, from a religious education in childhood to the juvenile atheism, in order to reveal its relations with the religion. Thus, in what relates to his life, it was necessary to imagine a biography that, from his hesitations concerning the religious experience, could present and explain his conversion by the epiphany. In general terms, I thought of a very common situation, that is, of someone who receives from the family some kind of religious education from an early age, accepting it without hesitation. Then he goes through the rebellious phase of adolescence, when he moves away from religion and adopts atheism. At the end, we have the unexpected and surprising episode of the religious conversion, the epiphany.

With respect to the epiphany, it was necessary to create poetically an experience that I had never experienced directly by myself. Initially, I sought, in my own memory, situations that more or less approached it. It was necessary to perform like an actor, who puts in action his affective memory to fictionalize the character he must represent (in this case, I was meant not to represent but to write something). And I also searched other people's experiences, fictional or not. A narration that always causes a striking impression is what is told by Pedro Nava in his memoirs (*O círio perfeito* [The perfect candle]) about some events that happened to the poet Murilo Mendes, at the funeral of their friend, the painter

Ismael Nery. It is well known that the boundaries between memory and fiction in Nava's writings are rather tenuous. In this case, that would be an advantage, for we had to create a fictional epiphanic experience, from a few facts (that is, what happened to Ed Aldrin in the Moon). The episode narrated by Nava deserves to be read, not only because it is short, but mainly for its intensity:

Suddenly a speech began to be noticed. It seemed at first a lamentation, then a chain of tumultuous phrases in the excitement of a lecture, which then rose as in a quarrel, grew, took over the courtyard as an uproar of strife, a clamor as in a speech and shouts. Murilo was shouting in the dark. It was a kind of harangue, with waves flowing — now receding and lowering, now advancing, rising and filling the night with its deep rumbles and its more evident echoes. The people at the front door were approaching showing the curiosity of a stunned and silent group at which center Murilo, pale by an astonishment or by an illumination, gestured and thrashed as if he was possessed by invisible shadows. Only he saw them, and also the angels and arch-angels which he announced by the impenetrable names they have in the Chest of the Eternal Father, but hidden for all the common people. And he pronounced a chain of phrases that, at first, had been only a rush that had taken shape and had arrived to that hallucinatory howl. José Martinho immediately whispered to Egon:

— This is a nervous breakdown. Let's give him some Gardenal and force him to rest quietly a little. Where have you left the little glass?...

— It is here, with me, in the pocket ... Let me get some water.

The doctor ran, but when he came back with a glass and a tablet already in his hand, he was so stunned by Murilo's expression that he did withdraw, put the canister and the medicine on a sill, and returned to follow the drama which unfolded inside our friend and took his soul as an avalanche. Now his eyes flashed, and all the brightness produced by the lightning that touched Murilo emerged from him. And he did not stop the stack of words, all elevated and august, as if he were overwhelmed by the prophets and sibyls that are mixed in the firmament of the Sistine chapel. First, he said how long he felt penetrated by the essence of Ismael Neri and his religious spirit. He spoke of the angels who were there with him — no longer as the poetic images that inhabited his verses, but of those who incorporated in him, who also received in his soul the soul of his dead friend. Finally, he cried out louder — GOD! - and with the right hand closed he punched his own chest and, harder, his heart. No — Egon thought — this is not a case for taking Gardenal. José Martinho is wrong. Murilo is not nervous. This stuff is more complex... Indeed he is being raptured in ecstasy and what I see is what the companions saw on the road to Damascus, when Paul fell down of his horse and was struck by the supreme light. (Nava, 1983: 318-319; *my translation*)

The poem of the epiphany, then, was written firstly, since the other ones would be created from and about it. In short, these ones would build their deeper senses from the first one. To do so, I went after poems or verses that poetically re-created, somehow, something close to an epiphanic experience. There is a poem which is practically a synonym of poetic epiphanic experience: Cesário Verde's "O sentimento dum occidental" [The sentiment of a Western citizen]. In this magnificent work, Cesário transforms a mere walk through Lisbon into an almost expressionist perception of the urban landscape, placing in the same

level the concreteness of the things seen and the uncertainty of feelings and memories. In the first verses, one reads:

Nas nossas ruas, ao anoitecer,
 Há tal soturnidade, há tal melancolia,
 Que as sombras, o bulício, o Tejo, a maresia
 Despertam-me um desejo absurdo de sofrer.¹

The emotional landscape of the lyrical self already mingles with that of the city, and from there on, it opens the way to this desperate epiphany of modernity. In our case, it is not an epiphany of (and in) the immanent, in a collectivity, but a religious transcendence, experimented in a state of solitude and even claustrophobia. In any case, “The sentiment of a Western citizen,” along with the episode of Nava’s memoirs, was also an important reference for the writing of the epiphany poem of our creation *The cosmonaut*. Among other things, I used the form of Cesário Verde’s stanza: a quartet composed of a decasyllable followed by three alexandrines. However, in the final part, when the epiphany is already evidently established, these regular strophes disappear, and Latin passages of the Tridentine rite intersect with the verses.

From then on, in the writing of the other poems, I perceived that four poles have appeared: religion, atheism, reason, and emotion. In other words, the invented biography of the protagonist was based on four movements: religious conversion by emotion; religious conversion by reason; conversion to atheism by emotion; conversion to atheism by reason. This means that the poems were written following these themes, taking into account some differences due to the age of the protagonist. The poems that deal with conversion to atheism by reason lie mainly in his youth. Religious conversion by emotion, on the other hand, are more linked to childhood. In turn, the conversion to atheism by emotion is linked to his adolescence. Finally, conversion to religion by reason occurs in its maturity and precedes, a few weeks perhaps, the epiphanic experience.

II. THE DIGITAL ENVIRONMENT

In a certain way, one can identify two types of relation of the reader with the digital creation. The first requires more abstraction, that is, the reader must pursue a logic of reading or using the application that is not given directly because it is not immediately available and evident. This is the case, for example, in video-games, when, in order to advance or gain points, strategies of actions that are not part of the explicit elements of the environment are required; they must

¹ By the city, on our streets, at dusk, wandering,
 One feels there such a gloom, such a melancholy,
 That shadows, hustle, Tagus river, winds of sea,
 All that gives me an absurd desire of suffering. [*my translation*]

be inferred, for example, from a trial-and-error process. On the contrary, a second type of relation is precisely one in which abstraction is reduced to the maximum. Taking again the example of video-games, it would correspond to action directly on elements of the environment (objects, people, instructions, etc.). In this case, it is a question of manipulating concretely and directly elements of the environment, of putting into use logics of action which are described and even expected or explicitly demanded by the creation. We can associate the first type with the way we relate to the software of the machines; the second type would correspond to the way we use their hardware. Thus, there would be a software-type reading, which is based on immersion, and a hardware-type reading, which is close to interactivity. In this way, one emphasizes the active and creative dimension of reading, as it has always occurred to any textuality, except that now this active and creative reading takes place in two dimensions. Hence, the reading we do of a digital work (of any digital work!) will always be a composition between these two possibilities: software-type and hardware-type readings, immersion and interactivity. This can either be consciously constructed by the creators, or be postulated, also consciously, by the readers.

From there, we can think, for example, of the movements of the cursor, commanded by the reader. What do they express, what can they mean in terms of reading? It is no exaggeration to propose that these movements, their rhythm, their comings and goings, their momentary stops, all this is an indirect, but almost immediate, physical manifestation of the reader's space of thought, that is, of its expression, with its deviations, their misunderstandings, their hesitations, their discoveries ... Through this, reading becomes an experience of extension of the own body, through the manipulation of objects and the immersion in them. It becomes a hereafter, a body constantly being filled with signification, that is, displaced, extended, compelled to re-signify. A body in which desire and pleasure are immanent and defined together with lived experience, both individual and collective, and without that there is, in fact, no poetic communication. In *The cosmonaut*, this fulfillment results from experimenting sensations and feelings awakened by the digital performance. In the digital environment, the experimentation involves the use of peripherals (reader / machine). Thus, moments and movements of reading, signification and re-signification can exist only in the instance of the lived world, that is, of the reality.

In fact, if we think of the merleau-pontyan notion of phenomenological body, we can say that my body is only defined as a body by being indefinite in the lived world. Put in another way, to have a body is to occupy with it some indefinable, but immediately clear, evident part of the world, compelling both (body and world) to mean. Unlike the reading of the objects of the printed tradition, the reading of digital objects refers to this primordial experience, allowing us to revive it in a restricted, partial, but obvious way.

And how would memory (that of the reader, of course, not of the machine) enter into it? *The cosmonaut* is a creation that clearly chooses to be based on fictionally constructed memories of the protagonist and on the reader's memories.

Even though I cannot know what memories this will bring to the reading space, the creation of this work was done in such a way as to always leave an empty space to be occupied by them. In fact, *The cosmonaut* was conceived, from his project (in the writing of the poems, in the images and videos used, in the sounds and songs created), so that readers were led to place and manipulate their own affective memories in the immersive environment, by means of interactivity. It is as if each element of reading, on the screen, were a conjunction of the fictional memories of the protagonist with the reader's memories. So far, there is nothing new: every *Emma Bovary* reader also dreams of their own dances, as the character of Flaubert's novel sees these images in her memory. However, in the case of a digital creation, a layer of technology is placed precisely between the images on the screen and the body of the reader. Thus, he experiences a double experience: at the same time he approaches those fictional memories, he moves away from his own memories (after all, they ceased to be just immediate mental images, to become concrete, manipulable elements). However, paradoxically, it moves away so that one can touch them, concretely!, through the peripherals used in this creation: mouse, joystick, keyboard, webcam. In a sense, something of the strategy of a puppet theater is reproduced here. However, it is a special puppet, for it is manipulated by readers themselves: they will bring out their memories for themselves, but no longer immediately, for the threads, as they link the reader to the puppet, put also an evident and irreducible distance between them. The same happens with the digital interface in works like *The Cosmonaut*. We can say that it is precisely because he is outside the immersive environment that readers can enter there partially. Being outside is just what allows them to be in.

In short, the immersive and interactive environment of *The cosmonaut* was divided into three parts: the opening (which gives indications of the protagonist and his life situation); the narrative of different episodes of his biography, even before the space adventure; and finally, the epiphany in outer space. The opening was conceived as a presentation of rhythms and fundamental images of the cosmonaut's life, but without any interference of the readers. One imposes to them an attitude of passivity, for they just see and hears what appears on the screen. The second part already implies immersion and interactivity, with the reader being able to choose what and how to read the episodes of the protagonist's life, from childhood to maturity. Although the final part — the epiphany — is interactive and immersive, it is also reactive, that is, readers have there more obvious opportunities to confront the technological logic of using a digital reading device, as they experiment, even distantly, the protagonist's epiphany. A more detailed description of each of these parts will further clarify all these issues.

In the opening image, we tried to create an atmosphere of suspense, making the Earth, in its rotation, to interact with the Moon — for this satellite is the most important place in the whole digital creation — in a movement in which,

in the first take, the Moon appears behind the Earth and, when its orbit is completed, it appears in the foreground, in the final take.



Figure 1. The opening of *The cosmonaut*.



Figure 2. The opening of *The cosmonaut*.

At that moment, we used the speeches of the Apollo XI astronauts Neil Armstrong, Edwin ‘Buzz’ Aldrin and Michael Collins — communicating with each other and with NASA technicians in Houston — but technically transformed in such a way that one could not understand them. The result was a kind of noise, a mix of voices with the sound of the Saturn V rocket turbines. As the rocket enters into orbit, one begins to listen to a poem in which the protagonist, as a boy, is associated with Werner Von Braun, the main scientist of the American space program in its beginning.

From there, the image of the Earth-Moon system is replaced by another, that of the formation of a galaxy which is acquiring colors as one listens to the audio of the first poem. This last video animation was programmed in *Processing* and, after that, recorded while running in real time:



Figure 3. The opening of *The cosmonaut*.

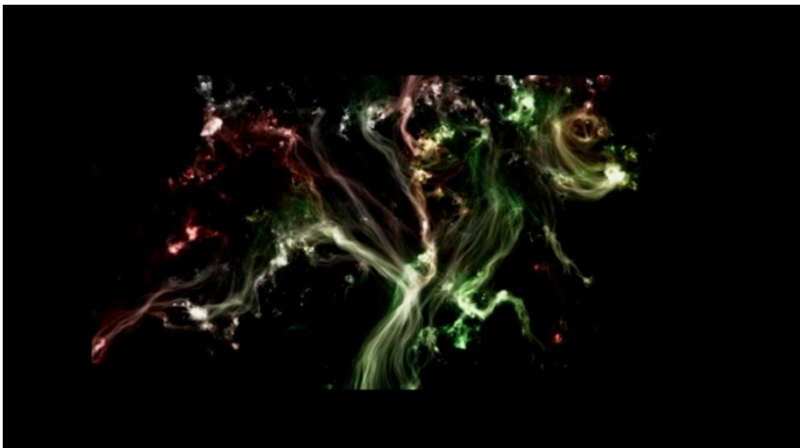


Figure 4. The opening of *The cosmonaut*.

In the second part of the digital creation, the reader finally enters into the space of immersion and interactivity. It was, of course, more demanding in terms of design and execution, not only because of the number of elements involved (verses, sounds, images, videos), but also because of the variety of operations we wanted to make available to the reader. However, these difficulties have allowed us to feel and realize how digital literature gains strength when sound, imagery and verbal codes are integrated into a single narrative, giving readers the possibility of choosing a coherent path of reading without losing a variety of options. They are led to opt for one of the four possible combinations between the poles of Reason, Emotion, Atheism, and Religion, by associating each one of these combinations with videos, sounds, and poems. In this case, this was made possible by the way in which, by clicking on a part of the Moon's relief, the reader deals with an element of interactivity that is associated with a given poem related to one of the four combinations mentioned above. The following images show a first conception of this interactive and immersive strategy:

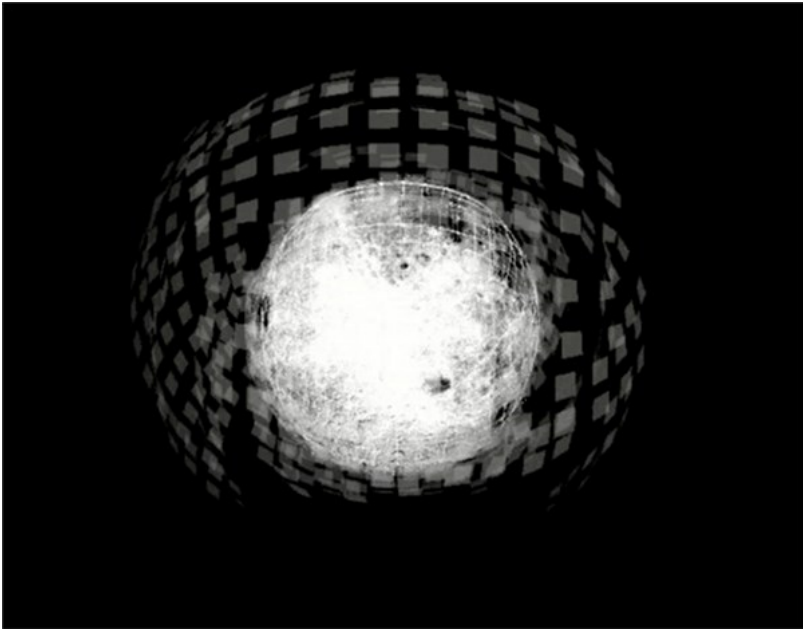


Figure 5. The Moon and the immersive elements.

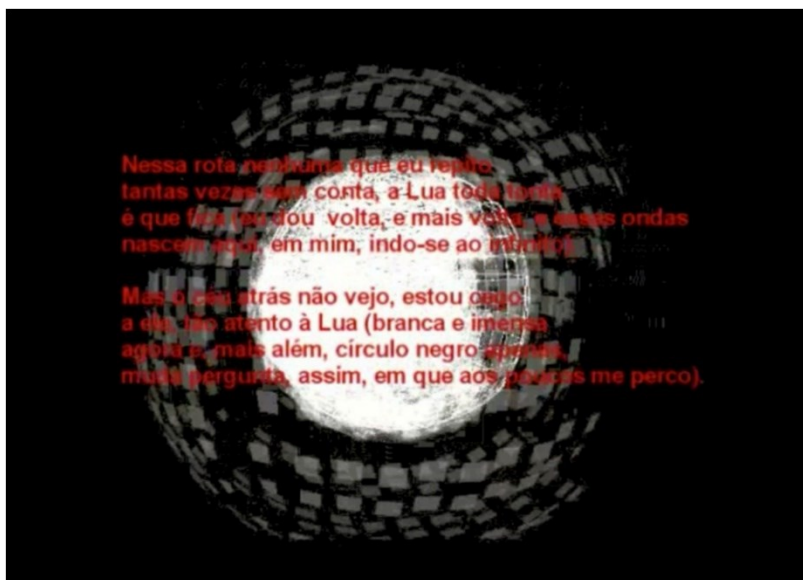


Figure 6. The Moon and the immersive elements.

Each one of these interactive elements leaves the surface of the Moon and allows the reader to choose one of four parts to click on. By doing so, one will have access to:

1. Video and sound (he will see images and hear the poem being declaimed);
2. Only video;
3. Only sound;
4. Only verses to be read (in a window that opens inside the screen where the Moon is).

As an example, two images of the videos corresponding to the poems “Sin” and “Blasphemer”:



Figure 7. Poem “Sin.”

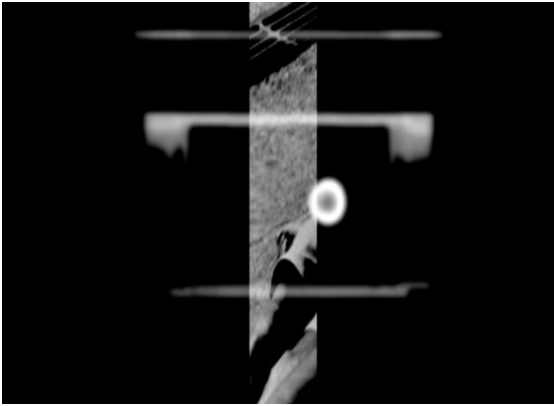


Figure 8. Poem “Blasphemer.”

To do that, these videos were previously edited and hereafter programmed in *Processing*, so that the sound, the images or the poem could be chosen, according to the reader’s will.

Finally, after readers have passed through at least one of the four parts of a certain number of interactive elements, they are taken directly to the last part, in which the epiphany of the protagonist (as well as a sort of epiphany of the own reader) occurs. In this last part of the work, the reader’s computer webcam will capture their live image and put it directly on the screen. In this case, readers are metaphorically placed in their own epiphany. At this point, they don’t only hear the epiphany poem, the longest of them, but also see themselves within the space of immersion and interactivity. That is also when they can appeal to reactivity. This means that they are allowed not to follow the usual logic of the reading device, which, in this case, would require us to discreetly move our heads to see our processed and changed image on the screen. If readers put any object in front of the screen, or even if he simply removes his face from the field of the webcam, they will also make their corporeal space join together to the immersion and interactivity space, even though oppositely or, if you want, reactively. In the picture below, we have examples of how the image of the reader is placed into the reading space of *The cosmonaut*:

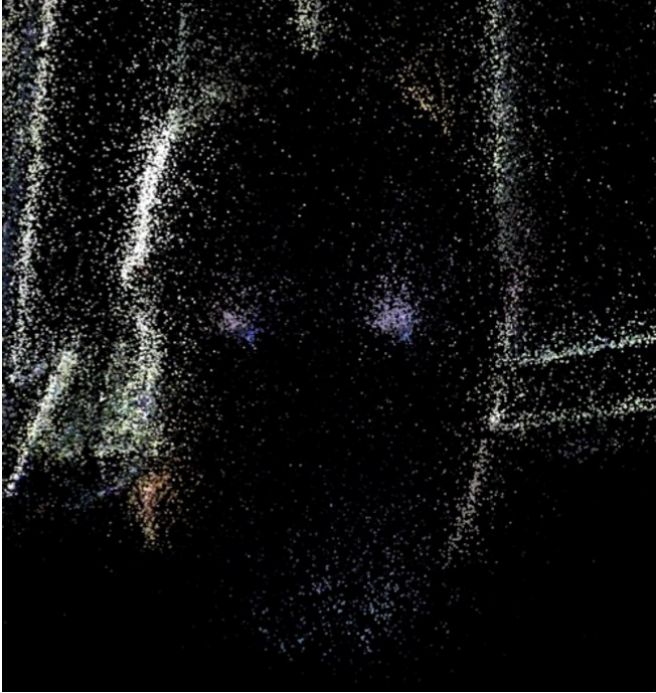


Figure 9. Webcam epiphany.



Figure 10. Webcam epiphany.

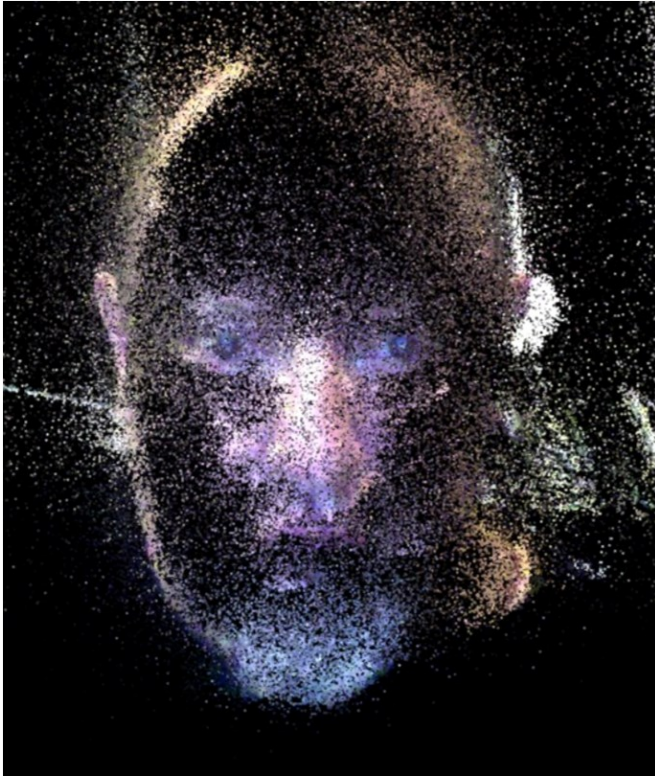


Figure 11. Webcam epiphany.

III. SOME CONCLUSIONS

As one can easily understand, all digital creations exist in a cultural environment where fragmentation spreads and ceaselessly affects all objects. This situation is accentuated by virtue of a technological precariousness process and constant changes. That is why it seems to me very important, and even more and more necessary, in current readings of many digital works, to try to resume some semblance of totality, from scattered fragments (some of them being even lost and unrecoverable). As I claimed elsewhere with regard to fragmentation in digital literary tradition, we can take as an example works as Sophie Calle's *Vingt ans après* or Shelley Jackson's *Patchwork Girl*; if we take the printed tradition, we can mention Milorad Pavić's *The Khazar Dictionary*, or Cortázar's *Rayuela*.²

Regarding this contemporary process of fragmentation, I could mention the discussion I make in an essay published in 2003 (Luiz dos Santos), where I tried to understand that through the image of bottles of castaways. In other words,

² And we could also, metaphorically, mention Mary Shelley's *Frankenstein* (evident inspiration that Shelley Jackson admits).

the significations we can read in art objects we create by means of digital environments and digital media, are still based on the dialectics between fragments and totality. If, in our readings, we take into account nothing but the fragments, we will lose any possibility of understanding what could be behind these partial messages hidden in bottles arriving randomly with the waves. And it is not important if there is not any unique and whole message which would have produced all these fragments. What matters is the possibility we have to propose a totality of our own, even if it did not exist before. Among many other possibilities, that is what I meant by the epiphany in *The cosmonaut*. Traditional printed literature can always help us understand the ways we can deal with this more and more pressing contemporary fragmentation. It can be understood pessimistically, as did Mario de Sá-Carneiro³, in his *Dispersion*:

I am lost within myself,
 For I was a very maze,
 And, now, when I note my days,
 I do miss, indeed, myself.

Or, optimistically, as claimed another Mário, Mário de Andrade⁴:

I am three hundred, I am three hundred and fifty,
 Sensations revive from themselves ceaselessly,
 O mirrors, O Pyrenees! O trawlers!
 If a god dies, I' ll search another one, in Piauí!

If we choose not to lose ourselves, we can understand that the death of a god can allow us to become... god. At least, in the space of a digital work of art. Here is one of the meanings I did want to give to our readers in *the cosmonaut*.

Finally, some words about the enjoyment on the part of the reader, which occurs not only in the traditional way, that is, by associating affective images, memories, analytic judgments, to what is seen and what is done on the computer screen. It also occurs by manipulating the semiotic elements (images, sounds, texts, etc.) by means of the peripherals, in an action, by the reader, that is also performative. To better understand what we are trying to explain here, let us examine the actor's performance on a stage: it points to a perspective of vision outside the stage itself, favoring the position of the audience. This establishes a clear separation between *performing*, that is, the direct expression of the actors' bodies, and *abstracting*, that is, the indirect attribution of meaning to what is seen and heard (this task is exclusively related to the audience). If we can speak of a performance of the readers of the digital work, it is due to the immersion and the interactivity through which they re-present to themselves, in their own

3 Portuguese writer, 1890-1916.

4 Brazilian writer, 1893-1945.

way, the semiotic elements mentioned above, without neglecting the mechanisms and strategies of interactivity. Thus, this digital reader becomes, at the same time, actor and public. This implies that, in this case, performing and abstracting, that is, interacting/immersing and thinking do not radically distinguish themselves. The resulting fruition is mainly active, directly linked to the manipulation of its object thanks to the indirect entering of the body in the digital environment, that is, thanks to an extension of the phenomenal body.

Thus, there is a kind of presence of the reader's body in the digital environment, although it is partial, indirect. It is like that, in this situation, that he acts and interferes directly in the conditions of existence and reading of the digital work. In the case of reading a digital work, as our *The cosmonaut*, it seems that this distance between performing and thinking does not occur. Interactive interfaces provide immersion that, when the digital work is well performed, leads to a total, but now unique, bodily experience. Thus, the experience of fruition, which is no longer necessarily based on the direct presence of an otherness, is radically altered. This will be experienced by the readers themselves, who, starting by a process of self-estrangement, must pull out the alterity from within himself. "Je est un autre," Rimbaud would also say of this fruition that can be produced in the digital medium.

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