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Master of Glass Art and Science

UNTITLED: FIGURATIONS OF MEMORY

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in Glass Art and Science

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ABSTRACT

The next pages will describe my experience and results of making connections between cognitive sciences and art; the transformations of my memories being the object of study and motivation for this process of self-discovery.

The human body reacts according to innumerable neural functions and external stimuli. Neurons respond to the evocation of experienced events, building virtual images, map-like constellations sometimes fulfilled by imagination, desires or knowledge promoting in this way their constant reshaping.

This document offers an insight into my recollections as matter. As matter these recollections take on different states and I hope to give you a better sense of my personal voice using my experience with glass to explore this transformation and accompanying my journey with lectures and scientific readings about the mind functions.

Keywords: Glass, art, memory, distortions, imagination, virtual, images, recollection, transformation.

RESUMO

As seguintes páginas descrevem a minha experiência e os resultados obtidos ao conectar ciências cognitivas e arte, sendo as transformações das minhas memórias o meu objeto de estudo e motivação para este processo de auto descoberta.

O corpo humano reage de acordo com inúmeras funções neuronais e estímulos externos. Os neurónios respondem à evocação de episódios do passado, construindo assim imagens virtuais, constelações que se desenham como mapas e que, por vezes, se concretizam pela imaginação, os desejos ou o conhecimento e estimulam assim a sua constante remodelação/reformulação.

Este documento oferece uma reflexão sobre as minhas recordações exploradas como matéria. Enquanto matéria, estas recordações assumem diferentes estados. Através do texto que se segue, espero dar uma melhor perspectiva da minha voz interior e pessoal, usando a minha experiência com o vidro para explorar esta transformação, ao acompanhar o meu percurso com palestras e leituras científicas sobre as funções da mente.

Palavras-chave: Vidro, arte, memória, distorções, imaginação, virtual, imagens, lembrança, transformação.

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I. INTRODUCTION

*Scientific research is the most powerful way to find out how memory works,
but artists can best illuminate the impact of memory in our day-to day- lives.*

Daniel L. Schacter

*The artist is the opposite of the politically-minded individual, the opposite of the reformer, the opposite of the idealist.
The artist does not tinker with the universe; he recreates it out of his own experience and understanding of life.*

Henry Miller

As individuals, our interests in specific issues of the world are influenced by our personality and sensibility, attributes that also affect the language we choose to learn, and the ideas and feelings we chose to explain and share. In this sense, I think Art and Science are different languages, using specific symbols and methods to reach their goals. Consequently, Art and Science are also unlike fields. They nevertheless share the same obstinacy of their respective fields in the specific methods of exploring and presenting their intuitions and conclusions about the world. These characteristics of opposing fields make them, I think, opposite poles of what could be considered a circuit to understand the universe from the general to the most specific considerations. This idea is one that I widely embrace in my thesis.

“Cognitive science is the interdisciplinary field of study of the approach systems and processes that manipulate information” [1]. It is devoted to the study of attention, perception, memory, reasoning and of the emotional processes. (ref. Figure 1) Cognitive sciences are an example of how to consider different points of view in the understanding of the same topics in order to reach more accurate results. In finding this field of study, I chose to accompany my art making process with lectures and scientific readings about the mind functions in order to perceive further in my investigation on memory.

Memory is a complex process. In order to study and comprehend this process, one must embrace the relative importance of mental, biological, and social processes. In order to understand my own personal memory, I chose to approach the topic from the perspective of Psychology alongside art making in order to reach some conclusions about how my memory changes over time.

II. EXPERIMENTAL DESIGN

*Because objects of art are expressive, they are a language.
Rather they are many languages.
For each art has own medium is especially fitted for one kind of communication.
Each medium says something that cannot be uttered as well or as completely in any tongue.*

John Dewey

This experiment was constructed and implemented as a personal search into the mechanics of memory. It represents an attempt to arrive at my most personal artistic voice, aided by a serious investigation into the mechanics of memory and thoughtful studio art practice. In this process I took on the role of both the experiment and the experimenter.

The investigation into the mechanics of memory was undertaken at the Faculty of Psychology of the University of Lisbon. For one semester I attended lectures in a course entitled, *Perception, Attention and Memory*. The focus of these lectures was on describing the mechanisms involved in the development of the cognitive processes of perception and memory and the study of the interaction and dependence on one another. Additionally, we reviewed case studies and experiments on the subject.

The studio art making portion of this experiment involved a systematic approach to glass blowing and combined hot and warm glass techniques. This investigation took place at the Faculty of Science and Technology of the New University of Lisbon in the VICARTE research unit. Activities in this part of the process included exploration of glass color application in hot glass, fired glass enamels, and repeated shaping and reshaping of the originally blown forms at high temperatures in kilns.

The time and the constant traveling from one faculty to another became the unexpected elements in my research. The multiple commutes began to define the nature of my work, where being part of the everyday life of Lisbon turned my challenge into a daily enjoyment.

Finally, since my background in conservation of photographs was the foundation of the idea of memories aging as physical objects, I decided to avoid directly recognizable imagery (i.e. pictures, photos) as well as to forgo looking at the work of other artists to ensure a sort of “control”, and thus avoiding any possible interference in this introspective and personal search for art through memory.

III. RESULTS AND DISCUSSION

Yo vi siempre el mundo de una manera distinta, sentí siempre, que entre dos cosas que parecen perfectamente delimitadas y separadas, hay intersticios por los cuales, para mí al menos, pasaba, se colaba, un elemento, que no podía explicarse con leyes, que no podía explicarse con lógica, que no podía explicarse con la inteligencia razonante.

Julio Cortázar

In order to begin, I wish to state that my research is a personal one and is an attempt to offer a glimpse into my art making process and the investigation that ultimately culminated in my thesis exhibition. I first started questioning myself about the capacities of my memory and of memory in general. I perceived a problem between the recollection and its veracity, a feeling of insecurity about my memories which make me question their nature and versatility. This was particularly evident in my personal recollections of past events, images, and the emotions connected to them. This apparent disconnect between the recollection process and the memories brought me to also question the relationship of my past work in photographic restoration and would ultimately lead me to some very important art process choices that I will return to later.

The study of the technology of photographs was the first step in understanding the temporal adaptability of images and my perception. This was not only a personal investigation, but was also my occupation for some time before entering the Master of Glass Art and Science. After a time of introspection, I decided that making art, and not just conserving and restoring the work of others would be an important next step in my life. It followed that I would try to make sense of my changing memories and the metaphoric link that I saw in the deterioration mechanisms of photographs.

For several years I have been absorbed in the study of image apprehension systems, intrigued by the reproduction phenomenon, curious to understand the analogies between the original and the copy as well as its technology, permanence and constant reformulation. I like to think of the material changes as a transformation more than a deterioration.

The decision of study memory was triggered by my need to understand the variables considered in the creation and recalling of images as a metaphor of opening an album and reviewing the photographs, which are “active” no matter how often are consulted.

My fascination with photographic images led me to an encounter with glass. I was working with collodion negatives. It didn't take me long to become fond of the expressive power of the material. Perhaps because of the way I discover it, I found glass worthy of exploration in its own right.

During the first year of the master, my science project was devoted to recreating the technique developed by S. D. Stookey, called photosensitive glass, using one of its two variants, opal sensitive glass, in which the image is translucent or opaque and consists of microscopic nonmetallic crystals.[2] At the same time I worked on my first glass exhibition, *Desvanecer*, where I explored the optical properties of glass and mirrors to exalt some effects I found related to the photographic image decay. (ref. figure 2).

Today, I realize I was building the bases for my thesis investigation and also connecting my work, abstract conceptual ideas linked to reproduction, memory and imagination with the multifaceted behavior of glass.

Since my questioning started with the idea to make sense of memory and brain faculties, I looked for answers in Biology. However, after reading many books and finding only technical descriptions of brain systems, I redirected my research towards Cognitive Psychology. The next step was to present a paper to the head professor of the Master Program in Cognitive Sciences taught at the Faculty of Psychology of the University of Lisbon. As a result I got permission to attend classes on Perception, Attention and Memory. Just as with my work in photographic restoration, my initial goal was to understand the mechanics of memory in order to move forward with my art making.

As a consequence of the psychology readings and lectures, I gathered a tremendous amount of information. But because the classes were not designed for an art student interested in the technology of memories, I spent quite some time selecting information in order to create a logical process chain according to what I wanted. This active selection process was used to avoid creating more confusion and acted to clarify the formers, or parts of the chain. This creating of patterns echoed that which I was studying about the nature of glass, with its own networks, formers, and modifiers.

At this point I feel it necessary to summarize the information I took in during the investigation of the mechanics of memory, studied through the eyes of psychological science. Please keep in mind that this was based on my personal desires to explore the changes of my memories over time and does not explain my memories, but helped me to make sense of the mechanisms involved in order to be able to cast my ideas in art.

APPREHENSION, ENCODING AND RETRIEVAL

*Matter, in our view, is an aggregate of images.
And by image we mean a certain existence which is more than that which the idealist calls a representation,
but less than that which the realist calls a thing,
an existence placed half-way between the thing and the representation.*

Henri Bergson

The sensorial experience is the first step of a complex process to understand the world, where sight, smell, taste, touch, and hearing are the most known organs in charge of collecting and recording outer data in order to make sense of our internal and external universe.

Our senses provide specific receptors corresponding to different sensations and at the same time protect us and define us individually and culturally speaking. The same stimulus affects people differently and being aware of this sensitivity can determine in the nature of our relationships with all the subjects and objects around us.

“The sensory apparatus consists of (1) the senses organs or receptors situated outside the central nervous system, many of them, such as those for pain or touch, placed under the skin; (2) the conducting elements made up chains of sensory neurons terminating in (3) a localized area of the gray matter on the brain surface which is the final receiving centre” [3].

The ability to retain impressions of sensory information after the original stimuli have ended is called Sensory Memory. “It acts as a kind of buffer for stimulus received through the five senses, which is retained accurately, but very briefly” [4]. For some scientist this phase is considered as part of the perception process. I think of it as the equivalent of the latent image formation in photography, which can have an invisible permanent life until being developed.

Perception [5] is part of the one three main processes of memory: encoding. Encoding is followed by the storage and retrieval processes, stages that are necessary for the correct function of the different types of memory. (ref figure 3)

New memories are formed during the encoding process to be stored in the short or long term memory, which constitutes neither a shelf nor a virtual album. Using a scientific language it seems memories look like. In my understanding, stars light up in our brain creating invisible paths that become visible where evoked or called; they form an image, represent one, but they don't permanently live like this in our brain. Magnetic Resonance Imaging (MRI) and Positron Emission Tomography (PET scanning) have allowed characterizing and visualizing of the brain in action while people are remembering, showing brain activities as activation patterns, which sometimes can easily cross each other, confusing their original path and consequently altering their content.

DISTORTIONS AND FALSE MEMORIES

Qué desgracia saber tu nombre aunque ya no conozca tu rostro mañana.

Javier Marías

The term “distortions” is used in psychology to refer to memory failures or changes as a result of omission or commission errors. The formers occur when we fail to bring to the mind a desired fact, event, or idea; the latter, when some form of memory is present, but it is either incorrect or unwanted. These mistakes are influenced by our perception and affected by internal (feelings) and external (social) factors simultaneously. Consequently, it is possible to create false memories. *(see appendix 1)*

False memories have been studied by cognitive psychologists to prove that it is possible to implant false episodes in memories, including biographic memories. “Tests have shown it is possible to construct memories by combining actual memories with the content of suggestions received from others” [6]. Experiments guided by psychologist Elizabeth Loftus, conclude there are at least three possible ways to create false memories in adults, i) social demands to individuals to remember; ii) memory construction by imagining events can be explicitly encouraged when people are having trouble remembering; iii) individuals can be encouraged not to think about whether their constructions are real or not.

Facing the question: “are there any scientifically based criteria that allow us to distinguish memories of events that actually occurred from false recollections? The answer, unfortunately, is no” [7].

IMAGINATION AND MENTAL IMAGERY

Beloved imagination, what I most like in you is your unsparing quality.

André Breton

IMAGINATION

As knowledge, imagination plays an important role in the recollection of memories but also in the assembling of false ones. Sometimes it is difficult to recognize if something was perceived or created by the mind.

“Memory, reduced to recall, thus operates in the wake of imagination. Imagination considered in itself, is located at the lowest rung of the ladder of modes of knowledge, belonging to the affections that are subject to the connection governing things external to the human body” [8].

According Henri Bergson, there are two memories, “The first records, in the form of memory-images, all the events of our daily life as they occur in time; it neglects no detail; it leaves to each fact, to each gesture, its place and date. Regardless of utility or of practical application, it stores up the past by the mere necessity of its own nature. By this memory is made possible the intelligent, or rather intellectual, recognition of a perception already experienced; in it we take refuge every time that, in the search for a particular image, we remount the slope of our past. But every perception is prolonged into a nascent action; and while the images are taking their place and order in this memory, the movements which continue them modify the organism, and create in the body new dispositions towards action. Thus is gradually formed an experience of an entirely different order, which accumulates within the body, a series of mechanisms wound up and ready, with reactions to external stimuli ever more numerous and more varied, and answers ready prepared to an ever growing number of possible solicitations. We become conscious of these mechanisms as they come into play; and this consciousness of a whole past of efforts stored up in the present is indeed also a memory, but a memory profoundly different from the first, always bent upon action, seated in the present and looking only to the future. It has retained from the past only the intelligently coordinated movements which represent the accumulated efforts of the past ; and it recovers those past efforts, not in the memory-images which recall them, but in the definite order and systematic character with which the actual movements take place. In truth, it no longer represents our past to us, it acts it ; and if it still deserves the name of memory, it is not because it conserves bygone images, but because it prolongs their useful effect into the present moment. (...) Of these two memories, of which the one imagines and the other repeats, the second may supply the place of the first and even sometimes be mistaken for it” [9].

"Imagination, in the psychologist's meaning, might be called the consciousness of objects not present to sense. Stated in the more usual way, imagination consists in the reinstatement of previous sensory excitations. Speaking broadly, both perception and imagination would evidently involve the consciousness of objects, and their primary distinction from one another would be found in the physiological fact that one arises immediately from a sense organ stimulation, while the other does not" [10]. Even though, there are other definitions of Imagination where other possibilities are considered. An example of this is the Leslie Stevenson proposal, which enumerates twelve connotations of the concept.⁽¹⁾

Thanks to imagination we are able to build images very similar to real visual stimuli, without the stimulation of the retina.

MENTAL IMAGES

*The image is a pure creation of the mind.
It cannot be born from a comparison but from a juxtaposition of two more or less distant realities.
The more the relationship between the two juxtaposed realities is distant and true,
the stronger the image will be -- the greater its emotional power and poetic reality.*

Pierre Reverdy

According to António Damásio, there are two kinds of mental images: Perceptual and recalled images. Perceptual images are formed of varied sensory modalities while the recalled images occur when evoking the past or planning a future activity. He says, "it appears they are concocted by a complex neural machinery of perception, memory, and reasoning. Sometimes the construction is paced from the world outside the brain, that is, from the world inside our body or around it, with a bit of help from past memory. That is the case when we generate perceptual images. Sometimes the construction is directed entirely from within our brain, by our sweet and silent thought process, from the top down, as it were. That is the case, for instance, when we recall a favorite melody, or recall visual scenes with our eyes closed and covered, whether the scenes are a replaying of a real event or an imagined one" [11].

¹ (1) The ability to think of something not presently perceived, but spatio-temporally real. (2) The ability to think of whatever one acknowledges as possible in the spatio-temporal world. (3) The liability to think of something that the subject believes to be real, but which is not. (4) The ability to think of things that one conceives of as fictional. (5) The ability to entertain mental images. (6) The ability to think of anything at all. (7) The non-rational operations of the mind, that is, those explicable in terms of causes rather than reasons. (8) The ability to form perceptual beliefs about public objects in space and time. (9) The ability to sensuously appreciate works of art or objects of natural beauty without classifying them under concepts or thinking of them as useful. (10) The ability to create works of art that encourage such sensuous appreciation. (11) The ability to appreciate things that are expressive or revelatory of the meaning of human life. (12) The ability to create works of art that express something deep about the meaning of life.

Regarding to the formation of perceptual images, (perception of the world, pain, etc.) Damásio says, the first step is the conduction by neurons, of signals from specific body sectors to the brain, and delivered to the early sensory cortices, while the recalled images arise from the transient synchronous activation of neural firing patterns largely in the same early sensory cortices where the firing patterns corresponding to perceptual representations once occurred.

Recalled images are reconstructions. Each time we remember something it is different and this characteristic of memory was proposed and explained by psychologist Frederic Bartlett, whose experiments proved the reconstructive nature of memory and the influence of cultural factors in the filling of the holes in our recollections.

“Remembering is not the re-excitation of innumerable fixed, lifeless and fragmentary traces. It is an imaginative reconstruction, or construction, built out of the relation of our attitude towards a whole active mass of organized past reactions or experience” [12].

THE MOURNING WORK OF MEMORY

No está; ese lugar que ocupa en el aire de la habitación ha quedado vacío; lo que creo encontrar de ella en mi memoria pertenece a la imaginación. [13]

Juan Carlos Onetti

I believe, somehow, every work of art is related to memory, with the excitement, fear, frustration, or any other response from the artist to an experienced event. I also believe this relationship is more reciprocal than dependent, since memory also needs art to be release, at least my memory does.

In two years of working with glass, I witnessed the creation and sudden destruction of a lot of pieces. This fact that made me aware of the need to accept the unpredictable life span of my work as well as the importance of considering any committed mistake made as the first step for my next creation, thus using the art making process as a mourning work. This is a concept used by Paul Ricoeur, according to the definition of mourning presented by Sigmund Freud, which sets that “Mourning is regularly the reaction to the loss of a loved person, or to the loss of some abstraction which has taken the place of one, such as one’s country, liberty, an ideal, and so on” [14].

“Mourning is different from sorrow. It is the acceptance of the loss of loved ones and of all that shall never be returned to us. We must accept that there is irreparableness in our possessions, irreconcilableness in our conflicts, indecipherableness in our destinies. A successful mourning is the condition for a pacified memory, and in that sense, a happy one” [15].

RIGHT TO IMAGE

“In old days in Rome it was decreed the *ius imagimur* as a right for nobility. This practice consisted in the permission to publicly stroll a double of dead ancestors” [16]. The right to image was considered a privilege in many cultures. During the second part of the XIX century, a common practice between rich people was the postmortem portrait, in which the deceased was painted without being represented as dead. This custom responds to a need to idealize some circumstances, mostly the ones related to extreme feelings or emotions. With the birth of photography the right to image became more democratic and the postmortem portrait was accessible to everyone. Octavio Paz, wrote “The will of life is the will of shape. Death is its most noticeable expression, it is immediate, and it is the disintegration of the shape (...) Because of this, one of the oldest expressions of will of life is art” [17].

Art is my way to get along with the past, understanding and celebrating its occurrence with personal homages, using the art making process as a palliative for the soul.

FIGURAÇÕES | *Making Process*

*By controlling our interaction with objects that cause emotions we are in effect exerting some control over the life process
and leading the organism into greater or lesser harmony.*

António Damásio

My final show called Figurações explores the universe of images hidden in my mind in the form of memories, exalting their capacity to be retained by memory as well as their natural vulnerability, fragility bordered by the oblivion, and represented by the plasticity of glass. Forgetfulness appears generally as a phantom of the past, a specter setting traps for the present. Memory is retention, and in order to recognize itself intact, it uses imagination to fill the gaps caused by the uncertainty.

The five pieces that made up the exhibition are my personal responses to readings and coursework in psychology and also to my memories; the ghosts, affections, but moreover, to the awareness of distortion as a very personal and irrefutable feeling that only through the language of art am I able to explain.

Unidade Múltipla | Multiple Unit

*To call up the
past in the form of an image, we must be able to withdraw ourselves from the action of the moment,
we must have the power to value the useless, we must have the will to dream.*

Henri Bergson

- 70 glass balls

This installation was comprised of seventy cracked glass balls hanging from the ceiling by a thin transparent thread crossing in between their fissures which projected numerous arbitrary patterns.

(ref. figure 5 and figure 6)

Memória impedida | Impeded Memory

It is possible that every need is basically spatial, that somewhere the image, the touch, and the voice of those who are no longer alive must still exist (nothing is lost...) [18]

Bioy Casares

- Glass piece
- Cotton fabric
- Rope

This work was an irregular structure made from the fusion of powder and fragments of different glass pieces. The making process involved the blowing of several different color glass spheres, followed by smashing and arbitrarily rearranging them in a kiln to be fused together once again. This technique was repeated until the piece reached a size large enough to be supported under its own weight and internal stress.

The fabric was secured by rope all along its perimeter and hanged below the piece as a way to catch the glass should it break, ensuring the possibility of continuing the re-melt process and the life of the work. *(ref. figure 7)*

Inscrição móvel | Movable Inscription

I try to ask myself and inquire about that particular moment when the ink touches a surface, if it will become a document. It is metaphorically speaking, the moment when we affix a memory in our mind. In that place where memories are created or consolidated.

Oscar Muñoz

- 250 rectangular glass plates
- Metal frame

250 different small size glass plates distributed along 25 rows of metal wire fastened on the longer side of a metal rectangular frame.

The plates were cut, polished and individually painted using low fire glass enamels. *(ref. figure 8)*.

Universos | Universes

The shock was too great. So, having failed repeatedly, the experimentors began selecting subjects given to strong mental images. Having a memory of a certain time, they might be able to reinhabit it. This man was chosen because of his obsession with an image from the past.

The man [19]

- 3 old television screens
- 8 speakers

Installation designed with three different size television screens, including an internal light that allows one to make out the engravings on the interior of the screen accompanied by a sound record relating three different sorts of stories in three different languages, english, spanish and portuguese. (see appendix 3)

The televisions were disassembled and adapted to work as a light shadow boxes. The drawings were created by the partial elimination of the internal coating layer. (ref. figure 9 and figure 10)

Espuma | Foam

El camino subía y bajaba: 'sube o baja según se va o se viene. Para el que va, sube; para El que viene, baja'

Juan Rulfo

A 37 second video documenting foam moving on top of water created by the transit of boats on the surface of a river. The video was projected in a slow motion loop which creates an image that at first appears static but with enough time and attention is actually moving. It was conceived of during my multiple commutes from one school to another. (ref. figure 11)

IV. CONCLUSIONS

*You have heard me saying this thousands of times, I hate man talking like books
and I love books talking like man [20]*
Miguel de Unamuno

*I must admit that I feel slightly uncomfortable when the images brush against me
(especially if I happen to be thinking about something else); but I shall overcome that, too;
and the very fact that I can think of other things indicates that my life has become quite normal again.*
Bioy Casares

The experiment brought confusion and questions; lectures created internal confrontations; the making process made me feel an enjoyable pace and the exhibition itself is now a great memory.

Through this process I learnt the real meaning of the Aristotle sentence, “memory belongs to the past” [21], although it will always remain the experience and the conscious and unconscious traces. There is no reason to trying to permanently fix anything or alter its natural aging, but while the memories still hurt and are meaningful to my present, I will enjoy my mourning process being aware of the new experiences involved.

Mnemosine, is personification of memory in greek mythology and mother of the nine muses of inspiration. However, during the development of my experiment I learnt that inspiration (the having of ideas) doesn't appear in one's life if there is not real work involved. In this sense I believe Memory is for certainly the mother of any creation, although as Chuck Close said, you don't have to invent the wheel every day. Today you'll do what you did yesterday and tomorrow you'll do what you did today. Eventually you'll get somewhere. (...) If you're going to wait around for the clouds to open up and lightning to strike you in the brain you're not going to make an awful lot of work.

Science meant so much for my research, which I believe it was what Andre Breton defined as a *Hasard objectif*, where different fields converged as a response of my personal interest.

Science and Art, being different languages are impossible to merge, but I believe they could be referents of the same investigation, but as parallel lines, they never meet.

The exercise to talk about art as if it were science, I believe, diminishes the value of the artistic works. I believe they do not require any further explanation. “When the artist is forced to enter the immediate present, he loses his own peculiar perspective which enables him to connect and relate past, present, and future” [22]. (see appendix 2)

To summarize my most valuable acquisition from this process, I must rely on someone else's words, as I learned that writing is not the best way to express myself.

ABSENCE

For the longest time I thought that absence meant lacking something.

And I, ignorant, lamented this missing.

Nowadays I don't feel the same

There is no missing in absence.

Absence is a being within be

And I feel it, white, so attached, snuggled in my arms,
that I laugh and dance and create joyful exclamations,

Because absence when assimilated,
cannot be taken from one.

by Carlos Drummond de Andrade

A1. TABLE AND FIGURES

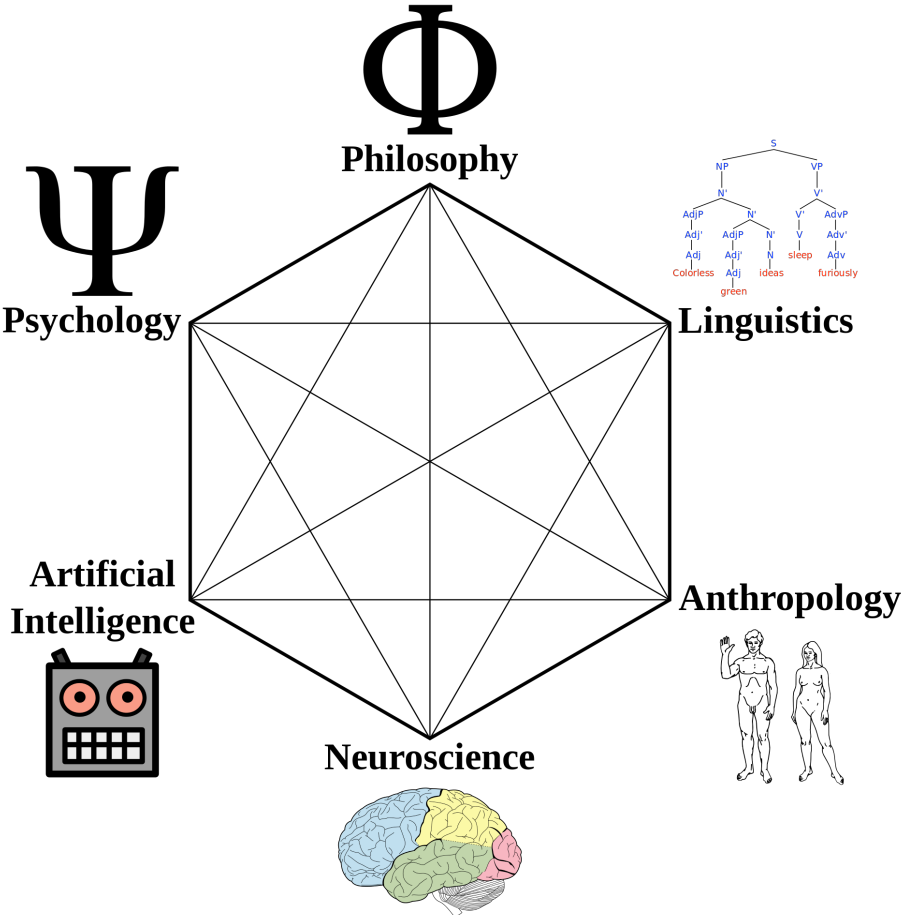


FIGURE 1. THE COGNITIVE SCIENCE HEXAGON



Desvanecer
María del Carmen Alcalá Torres

25-29 Junho, 2012
Inauguração 17:00

Biblioteca da Faculdade de Ciências e Tecnologia,
UNL, Caparica, Portugal

Arte e Ciência
do Vidro

Figure 2. DESVANECER -First Glass Exhibition-

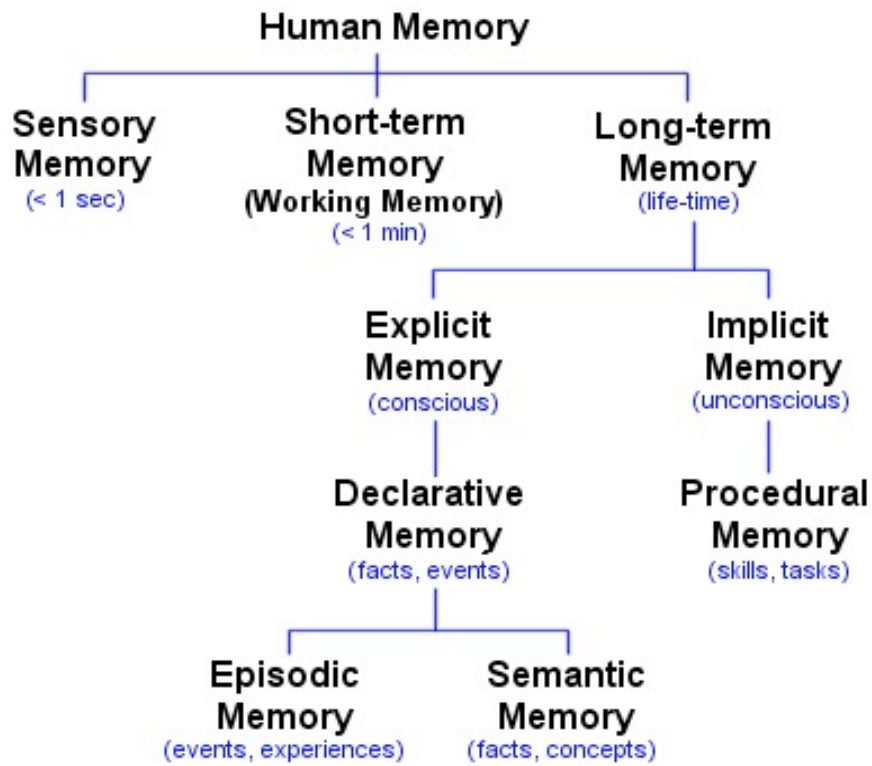


FIGURE 3. TYPES OF HUMAN MEMORY -Diagram by Luke Mastin-



Embaixada do México em Portugal
Estrada de Monsanto.78
Lisboa

19-30 Setembro.2013
Inauguração 19 Setembro
18:30 hrs.

Às vezes pergunto-me
se certas recordações
são realmente minhas,
se não serão
mais do que lembranças alheias
de episódios de que eu tivesse sido
actor inconsciente e dos quais só mais tarde
vim a ter conhecimento por me terem sido narrados
por pessoas que neles houvessem estado presentes,
se é que não fariam, também elas,
por terem ouvido contar a outras pessoas.

José Saramago



“Sometimes I wonder if certain memories are really mine or if they're just someone else's memories of episodes in which I was merely an unwitting actor and which I found out about later when they were told to me by others”

Figure 4. INVITATION TO FIGURAÇÕES -Solo thesis Exhibition-

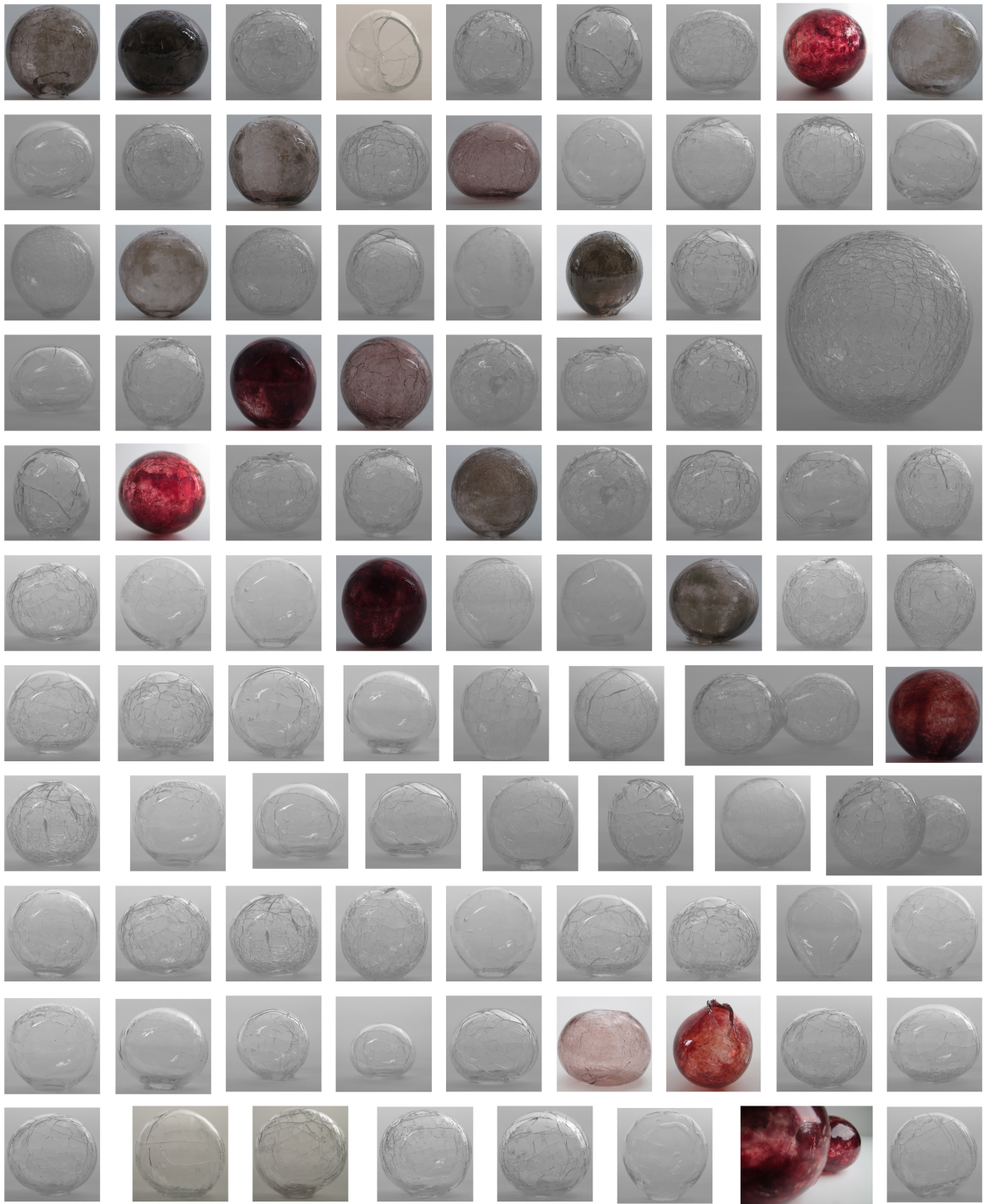


Figure 5. UNIDADE MÚLTIPLA -The units -

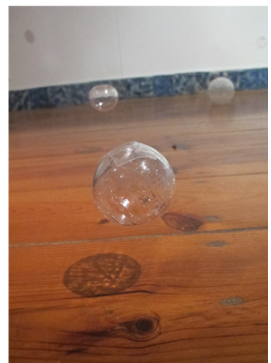
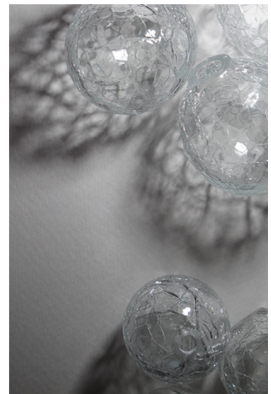


Figure 6. UNIDADE MÚTIPLA



Figure 7. MEMÓRIA IMPEDIDA

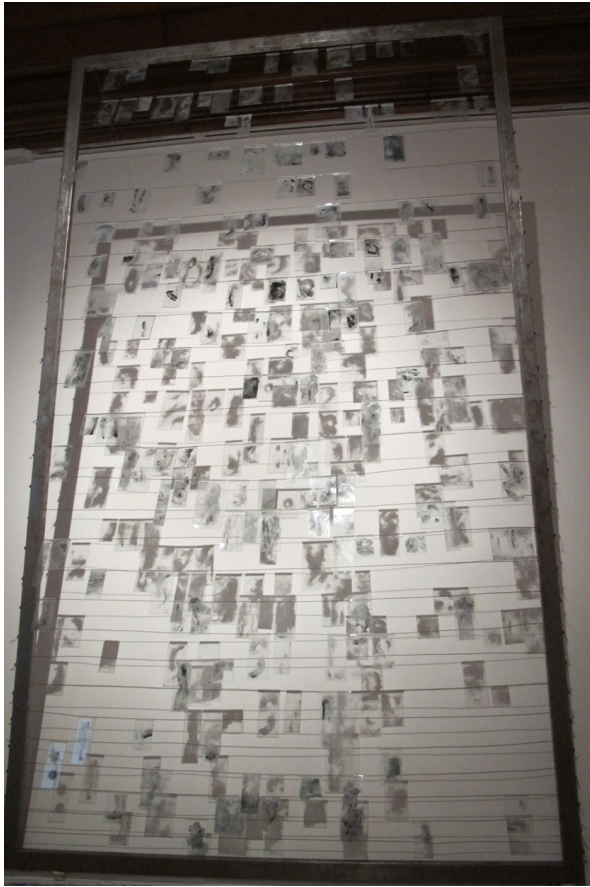


Figure 8. INSCRIÇÃO MÓVEL



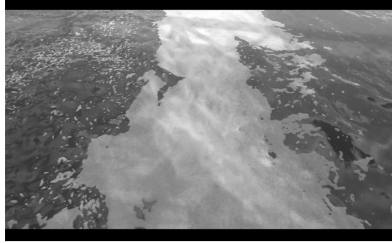
Figure 9. UNIVERSOS



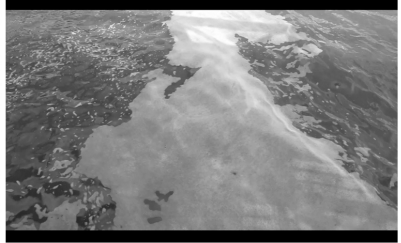
Figure 10. UNIVERSOS -detail-



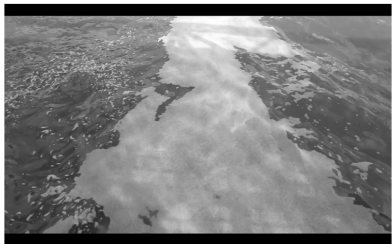
At 0 s



At 1 s



At 2 s



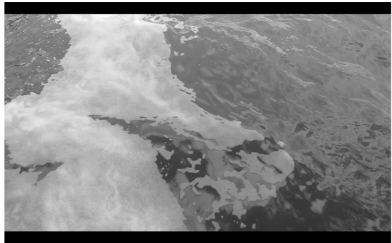
At 4 s



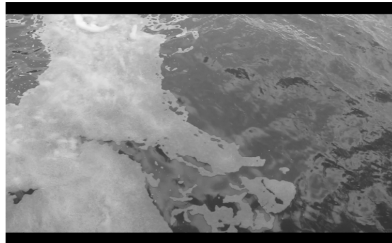
At 7 s



At 16 s



At 28 s



At 34 s



At 37 s

Figure 11. ESPUMA -frame shots-

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⁵ "Perception: an entirely new product created in the brain, in part out of the raw materials of the signals sent in by the senses organs, and in part modeled by the total ingoing and outgoing activity within the central nervous system at the time, together with what has been learned from past experiences" ⁵ Wyburn, G. M.; Pickford, R. W.; Hirst, R. J. *Human senses and Perception*. Ed. Wyburn, G. M. Edinburg and London : Oliver & Boyd, 1964, p. 3.

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¹⁸ Personal translation of “*Asimismo, no es imposible que toda ausencia sea, definitivamente, espacial... En una parte o en otra estarán, sin duda, la imagen, el contacto, la voz de los que ya no viven (nada se pierde...)*”

¹⁹ *La Jetée*. Dir. Chris Marker. Perf. Hélène Chatelain, Davos Hanich, Jacques Ledoux. Argos Films, 1962.

²⁰ Personal translation of “*Me lo has oído mil veces, aborrezco los hombres que hablan como libros, y amo los libros que hablan como hombres*”

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APPENDIX 1 | DISTORTIONS OF MEMORIES THEORIES

I. DISTORTIONS OF MEMORIES

by *Henry L. Roediger and Katherine B. Macdermott.*

According to the authors, there are six sets of factors that cause memory distortions by commission errors. It is important to emphasize that “memory errors” should not be considered as a limitations or failures of our cognitive system but as a collateral effects of its global harmonious function. Most of the times, these “errors” come from the own benefits of memory as inferring, being focused in the most provable information needed, etc.

RELATEDNESS EFFECTS. They refer to a group of circumstances in which, if people experience a series of items that are strongly related, they will tend to remember other (non-presented) items as having occurred if these non-presented items are strongly related to those that did occur. There is a tendency to fill memories with knowledge.

INTERFERENCE EFFECTS. The interference theory of forgetting sets that events happening before and after some event of interest may later be retrieved as belonging to the original event.

EFFECT OF IMAGINING. Tendency to imagine events and believe they actually happened when remembered.

GUESSING. The act of guessing about possible events cause subjects to provide their own misinformation which they later come to retrieve as memories.

EFFECT OF SOCIAL CONTEXT. Social manipulations influences the memories at the point to make us remember unexperienced events.

INDIVIDUAL DIFFERENCES. It is the study the vulnerability of some groups to create false memories, considering specially the effect of age and some illnesses, as for example, Alzheimer.

II. DISTORTIONS OF MEMORIES

by *Daniel Schacter*.

This categorization divides the study of memory's errors in seven categories, that he calls the seven sins of memory:

Due to omission errors:

TRANSCIENCE. Refers to a weakening or loss of memory over time.

ABSENT-MINDEDNESS. Involves a breakdown at the interface between attention and insufficient attention to a stimulus during its encoding.

BLOCKING. Entails a thwarted search for information that we may be desperately trying to retrieve.

Due to commission errors:

MISATTRIBUTION. Involves assigning a memory to the wrong source: mistaking fantasy for reality, or incorrectly remembering where we heard certain information. It always exists a source confusion.

SUGGESTIBILITY. Refers to memories that are implanted as a result of leading questions, comments, or suggestions when a person is trying to call up a past experience. Refers to an individual's tendency to incorporate misleading information from external sources -other people, written materials or pictures- into personal recollections. Suggestibility is closely related to misattribution in the sense that the conversion of suggestions into inaccurate memories must involve misattribution. However, misattribution often occurs in the absence of overt suggestion, making suggestibility a distinct sin of memory.

BIAS. Reflects the powerful influences of our current knowledge and beliefs of how we remember our past. The result can be skewed rendering of a specific incident, or even of an extended period in our lives, which says more about how we feel now than about what happened then.

PERSISTENCE. Entails repeated recall of disturbing information or events that we would prefer to banish from our minds altogether: remembering what we cannot forget, even though we wish that we could.

APPENDIX 2 | On the artist

By forcing the artist to become aware of his responsibilities as father, son, citizen, they take the same attitude as the bourgeoisie who insist that he share the burdens from which the artist sought to free himself, in order to perform another service, as impersonal, as necessary to the world as other services. The artist is tutoring the soul, civilizing the savage in us, necessary to humane society. The artist may be obliged to reject the Communist pressure to use him in jobs for which he is not fitted.

When the artist is forced to enter the immediate present, he loses his own peculiar perspective which enables him to connect and relate past, present, and future.

There is a confusion here about the nature of the service he can render. To say that the artist is not serving humanity is monstrous. He has been the eyes, ears, and voice of humanity. He was always the transcendentalist who X-rayed our true states of being.

Here he is given an inferior status, because he is not obviously and directly useful. Proust made a deeper study of a servant, Françoise, than any dedicated proletarian writer. Mike Gold, in the *Daily Worker*, calls any poem born of revolutionary struggles great. Man is forbidden to concern himself with anything but the struggle for bread. If his capacity for dreaming, imagining, inventing, and experimenting is killed in the process, man will become a well-fed robot and die of spiritual malnutrition. The dream has its function and man cannot live without it.

October, 1940
Anaïs Nin

APPENDIX 3 | UNIVERSES (the voices)

"In 2011 I received what is called the ECT that is the acronym from the Electroconvulsive Therapy. I don't own my 2011. From me 2011 is a time constructed by my relatives and my friends so it could be said that my memories of 2011 are based in someone else memories...that year belongs to someone else. But now, I can remember the year due to the memories of others and in some way, I have an idea of what I lived... It is not easy to have a bad memory, it is not easy to study, to interact, not if you can not record details or something is just going to get lost in your mind, however the things are get in my mind they get just so precise so sharp... when you have a truly lost memory you can really see the magnificence of your mind and the need that you have to own your own memories, to recall your moments because at the end, we are just living in an instant everything else is just a prediction of our future or a memory of our past, even though the future we don't know it and our past is in some ways what define us so if you can not remember it you will feel a little bite lost. I might not have the best memory now...however this is who I'am now".

"Hace tiempo tuve un sueño, estaba en un cuarto, al salir me encontraba en los patios de la primaria, no había gente, pero reconocía el lugar; pasaba las escaleras y me encontraba con mis amigos de la secundaria, estaban todos ahí felices, todos tenían entre 12 y 14 años, recuerdo que nos divertíamos y reíamos, ellos me invitaban a nadar a una alberca que estaba ahí enfrente. Originalmente la alberca no existía en la escuela, sólo en el sueño, recuerdo que nos íbamos y nos divertíamos mucho pero yo no sabía exactamente lo que estaba haciendo ahí, por que ya no tenía ni la edad de estar en la primaria y hacía muchos años que no veía a mis amigos de la secundaria, sabía que tenía entre 20 y 21 años, que recién había salido del trabajo de medio tiempo para irme a la universidad. No sabía que estaba haciendo pero reconocía todo y a todos. Me acuerdo que desperté y pensé que había olvidado ese sueño hasta hace unos días que, regresando del centro comercial, me vi caminando por la calle trasera de la secundaria, entonces recordé muchas cosas y muchas imágenes vinieron a mi mente, al pasar por esa calle vi el patio trasero que ahora está enrejado con plantas y árboles muy grande. Recuerdo que hace muchos años la maestra de ciencias naturales nos llevó ahí para plantar árboles y plantas muy pequeñas. Recuerdo que yo no quería plantar y entonces hice una travesura y me castigaron, mientras mis amigos sembraban árboles yo me la pasé corriendo al rededor del patio, pero eso me gustaba, correr me daba una sensación de libertad, además yo era el más veloz en la secundaria, de mi salón y toda la generación. Difícilmente podría saber si esos árboles y plantas que ahora crecen son los mismos que mis compañeros plantaron, no sé si alguien lo sepa, ni tampoco sé porqué volví a recordar ese sueño, no sabía que hacía en ese lugar ni que hacía con todos ellos pero no importa, porque recuerdo que me divertí mucho".

"Não me lembro nada do meu pai...nada. Depois quando cresci, tinha ainda sete anos, chorava muito porque não tinha pai, os outros tinham pai e eu não tinha e eu chorava e ainda hoje tenho muita pena de não ter conhecido o meu pai, eu conheci mas não me lembro de nada do meu pai, nada, nada, nada... tenho muita pena e sofria um bocado, quando era pequena não sabia que o meu pai tinha morrido, não compreendia e depois punha-me a chamar o meu pai, pai, pai! e o pai não respondia porque o pai tinha morrido e as pessoas depois tinham muita pena de me ouvir a chamar pelo meu pai e hoje vou á minha terra e sou adorada lá por muita gente, porque recordam aquele momento que eu o chamava e hoje ainda choro e tenho muita pena de não ter conhecido o meu pai, até o conheço em fotografia... Numa ocasião sonhei com o meu pai, estava vendo o meu pai, comecei a gritar pai, pai! depois acordei e não... não era o meu pai. Esse sonho nunca mais me esquece".